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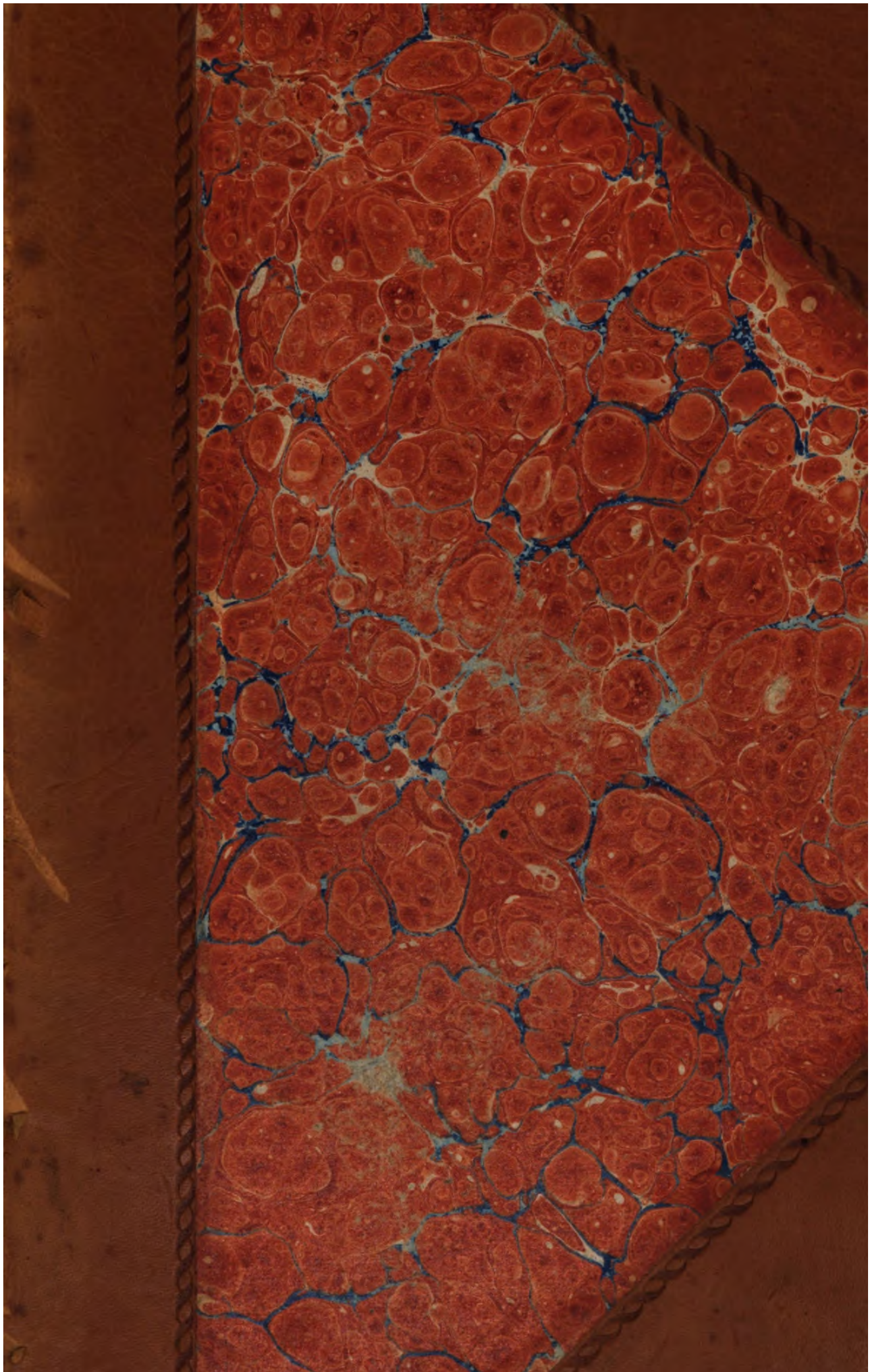
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39.

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THE
VEGETABLE CULTIVATOR:

CONTAINING
A PLAIN AND ACCURATE DESCRIPTION
OF
ALL THE DIFFERENT SPECIES AND VARIETIES OF
CULINARY VEGETABLES;

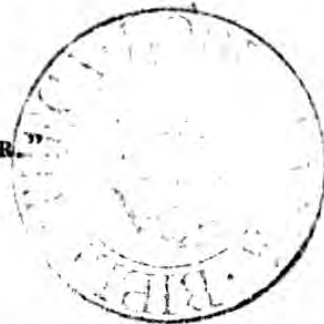
WITH
THE MOST APPROVED METHOD OF CULTIVATING THEM
BY NATURAL AND ARTIFICIAL MEANS,
AND THE BEST MODE OF COOKING THEM;

Alphabetically Arranged.

TOGETHER WITH
A DESCRIPTION OF THE PHYSICAL HERBS IN GENERAL USE, &c.

ALSO,
SOME RECOLLECTIONS OF
THE LIFE OF PHILIP MILLER, F.R.S.
Gardener to the Worshipful Company of Apothecaries at
Chelsea.

BY JOHN ROGERS,
AUTHOR OF "THE FRUIT CULTIVATOR."



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INTRODUCTION.

Few will deny how essentially necessary the kitchen-garden is to the comforts and conveniences of civilised life; indeed, scarcely a day in the course of the year passes away without our being reminded of its utility by the many varieties of nutritious and wholesome vegetables with which our tables are supplied. This being the case, it cannot be disputed that next in importance to the actual possession of such a garden must be the knowledge of its most profitable management, for it is notoriously the fact, that for want of possessing this knowledge many gardens are quite unworthy of the name, and prove rather a source of vexation and loss to their possessors, than a means of pleasure and advantage. To supply this desideratum to the young horticulturist or amateur gardener, the present work is intended; its particular objects being to furnish the best information on the most approved methods of

cultivating the various vegetables by natural and artificial means (to which pursuit the author has been devoted for upwards of half a century), and to supply what further information on the subject he conceives likely to prove interesting and useful. For these latter purposes he has been induced to follow the products of the garden beyond their cultivation, and after treating of their nutritious qualities, he has added, in many instances, the best modes of cooking them. If in so doing any one should be disposed to remark that the author has gone away from his proper subject, he has only to reply, that in thus digressing he has not lost sight of the *cui bono*; and if this utility, which has been his object, shall be attained by the information thus afforded, he shall not regret the time and labour expended on his task. It will be unnecessary for the writer to speak of the many advantages attending the cultivation of the garden, and more particularly as this work is not intended to instil a taste for the pursuit, so much as to direct that taste (previously acquired) into the best and most advantageous channels.

That gardening is a healthy occupation no one will deny; and that, while it bestows health

on the body, it is calculated to give serenity to the mind, will be equally undisputed. It has afforded in all ages a pleasing relief from the troubles and anxieties of the world to some of the busiest actors on the stage of life; and when ambition and its objects have lost their zest, and wealth has ceased to please, or disappointment has produced disgust, the pursuit of gardening has become the chief attraction of retirement, and in numerous instances has gilded the evening of life with the blessings of health and contentment. Among its lovers and practical admirers it can boast of many of the most honoured names in the departments of literature and science. In all ages, indeed, the successful cultivation of the garden has been coeval with a nation's greatest prosperity; and in the present day, the country in which it is most perfectly managed, is that most highly distinguished for its wealth and science. The British nation is indeed pre-eminent in this respect, and the British garden is superior to all others. This, however, was not always the case; for not only are we indebted to the Continent for the first introduction of the greater number of our culinary vegetables, but down to the reign of Queen Elizabeth it was cus-

tomary to procure salads and other vegetables for the tables of the queen and nobility, from Flanders and Holland.

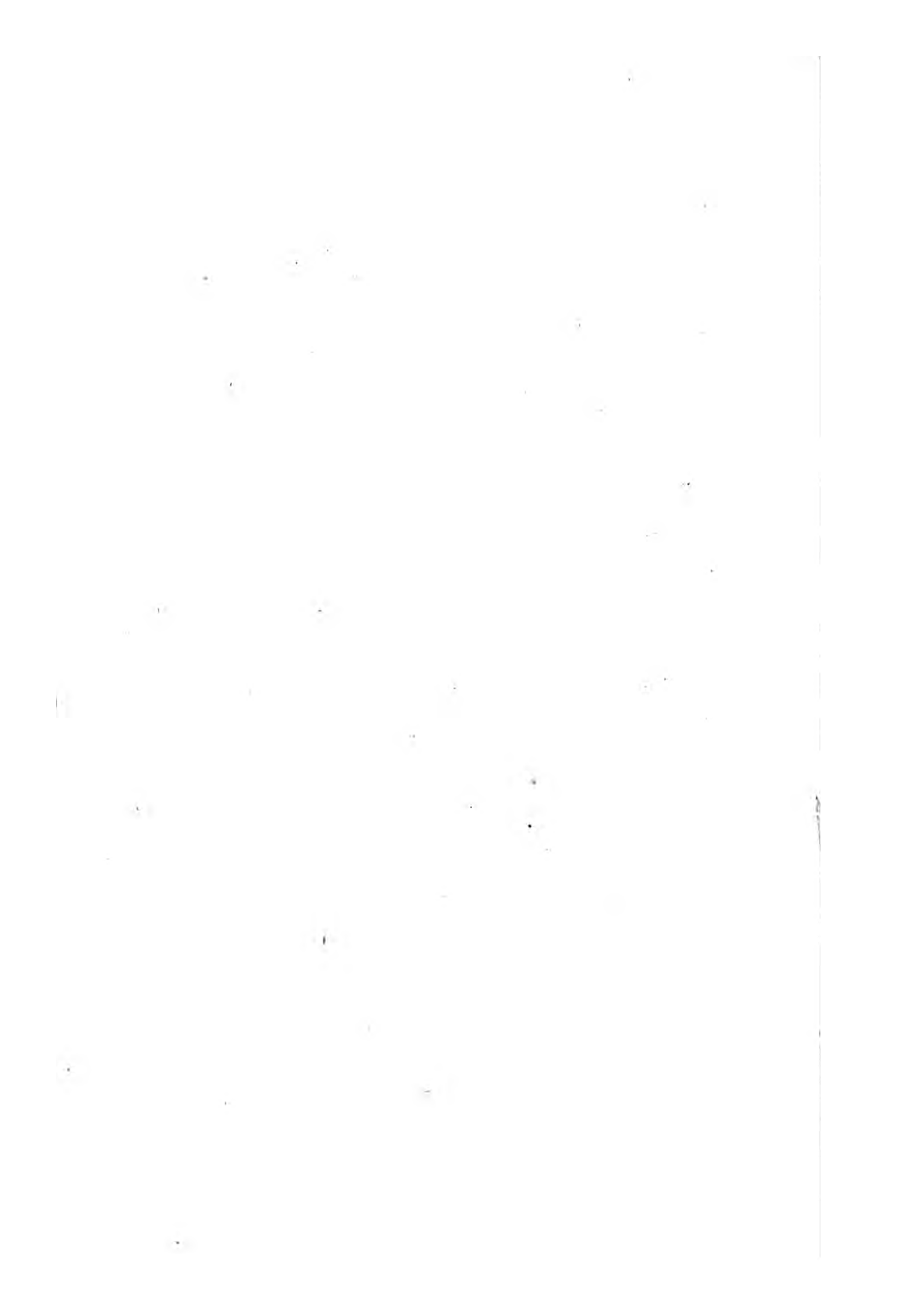
Since that time, however, the improvement of the kitchen-garden has been progressive, and the combination of British industry and skill has raised it to its present superiority. In reaching this pre-eminence, it has been greatly assisted by the talents and writings of Quintinie of the French school, and Miller of the English; but there still remains great room for improvement, and an ample field for the exercise of the ingenuity of horticulturists.

Emboldened by the success of a former work on fruits, which has reached a third edition, the author offers the present to a discerning public, in the hope that a similar success may attend it; and while he would not attempt to undervalue other horticultural writings, he would yet venture to call attention to the circumstance that few, if any, will be found to contain an equal amount of practical information, condensed in the same compass, and at the same price.

In arranging the present work, utility has been the principal object of the author, and in seeking it, he has paid but little attention to

elegance of diction or ornament of any kind, his chief wish having been to make himself understood. If the writer has succeeded in his purpose of imparting, in a clear and comprehensive manner, a body of useful and practical information to the amateur horticulturist, his object will have been accomplished, and he doubts not that a fair success will attend his work.

Whether he shall himself survive long enough to find reason to be gratified with such success, his great age renders somewhat doubtful; but if so, it will be pleasing to him to find that he has been useful in his day and generation; and at any rate he may be allowed to indulge in the reflection, that this has been his object.



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THE
FORMATION OF A KITCHEN GARDEN.

It may not, perhaps, prove unacceptable to the amateur gardener, if, in this place, and before entering into the necessary details of the work, the author gives some general directions as to the best method of preparing and laying out a kitchen-garden, which in all cases requires much consideration; since, next to a badly designed, ill-placed house, a misplaced, ill-arranged, and unproductive kitchen-garden is the greatest evil of a country residence.

The situation most suitable for the purpose should, if practicable, have a gentle declination towards the south, so that it may at all times have the full advantage of the sun; it should be well sheltered by plantations, but by no means shaded or confined; nor should the trees be planted too near the wall or boundary fence, as the roots are apt to run into the garden, thereby impoverishing the soil.

In selecting the ground, it is of considerable importance to have the soil of a good and healthy quality, being sufficiently dry, mellow, and capable of being easily worked with the spade: the best is that of a rich, friable, and dark loamy texture; the worst, that of a light, sandy, and stiff clayey description.

Where the nature of the subsoil is retentive, great

care must be taken to have it well drained; for unless this be effectually accomplished, healthy and good vegetables can never be produced.

In forming a new kitchen-garden, the first thing to be done is to have the land well trenched to the depth of two feet and a half, if the soil will admit of it. A greater depth is never necessary, — indeed, with proper management, a depth of eighteen inches has been found sufficient, and has produced excellent crops. Care and attention are necessary in trenching, as, on the proper working at first, the after-good will chiefly depend; and whatever be the depth, whether thirteen or thirty inches, the following method may be pursued: —

When the first trench (which is generally two feet wide) is thrown out, let the bottom be well picked up to the depth of several inches, and the top spit of the next trench thrown in upon it, breaking and levelling the whole as the work is proceeded with, and taking care that the bottom of each trench is always carefully broken up, otherwise the subsoil, if hard or much trodden upon, as it must necessarily be, will form a sort of trough for the detention of moisture.

The too deep trenching of land, particularly if it be not good, is attended with ill consequences, as many years will elapse before the buried top spit can again be brought to the surface.

There are many other ways of trenching land, but the author has always experienced this to be the best, and most economical in the end.

As to the shape or figure of the garden, this is a point of little consequence, — though the square, or

that approaching nearest to it, is certainly the best and most convenient.

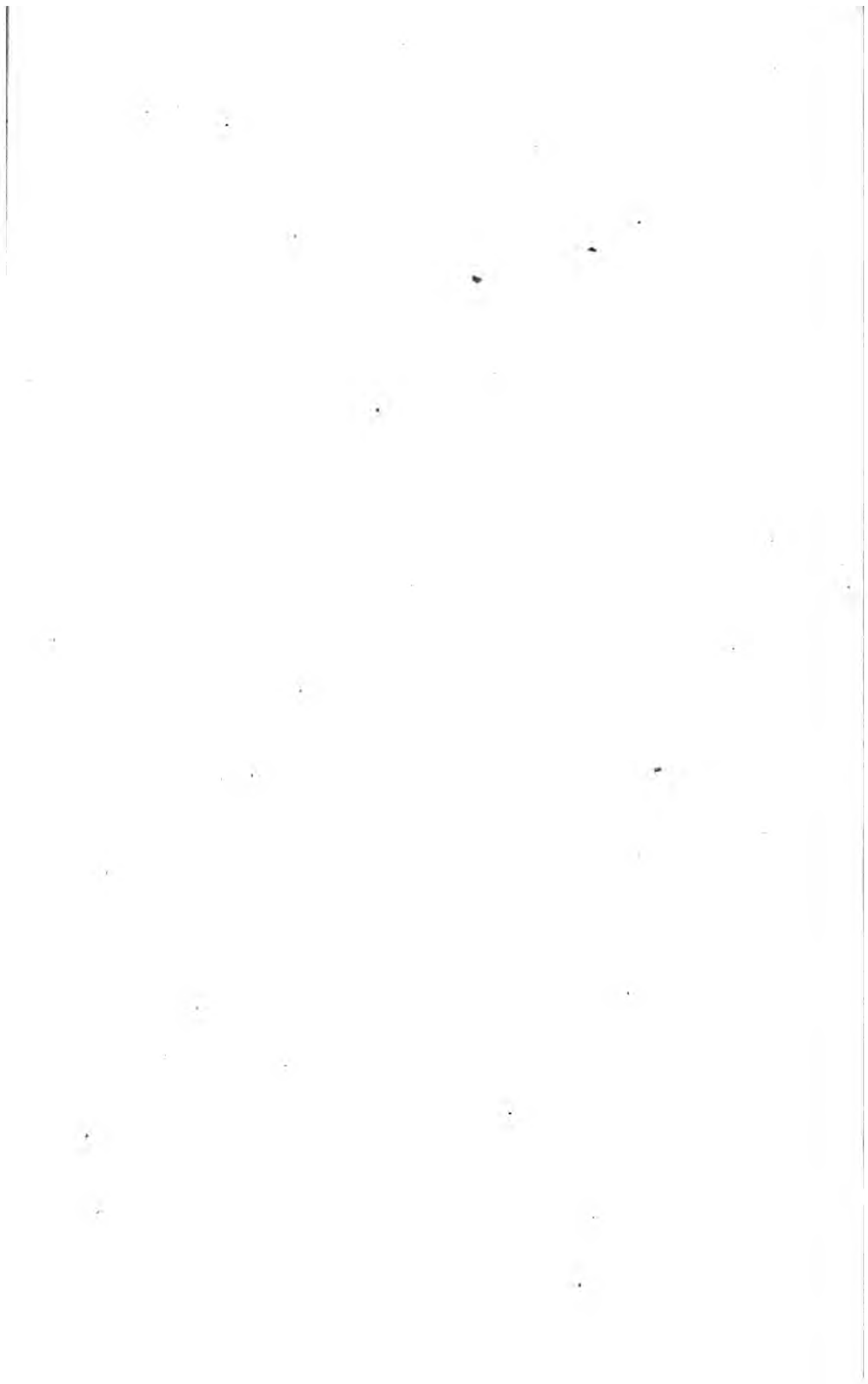
With regard to the size of the garden, that, of course, must vary according to circumstances.

Too much ground should not be taken up with walks: these are generally about three feet wide, quite straight, and placed at equal distances, and composed of fine red binding gravel. Little attention should be paid to ornament in a kitchen-garden, but utility should every where predominate.

The succession of crops is a matter of considerable importance in culinary gardening, as the growth of wholesome and healthy vegetables in a great measure depends upon it.

The main principle to be kept in view is that of never over-cropping the ground, or growing exhausting crops in succession; for it is well known that, under such circumstances, they become deteriorated in quality, and diminished in quantity.

The author cannot quit this subject without cautioning the young gardener against allowing the kitchen-garden to get overrun with weeds; thereby occasioning not only much unnecessary labour to himself, but great exhaustion to the soil. It is by neatness, cleanliness, and assiduity in every department connected with the kitchen-garden, that it can be rendered alike a source of pleasure and advantage to himself or his employer, and an object of just admiration to others.



THE

VEGETABLE CULTIVATOR.

1. ARTICHOKE. — CYNARA.

THE generic term cynara is supposed to have been so called by the ancients, on account of its ash-coloured leaves; and the word choke is no doubt taken from that part of the head which is left after the bottom part of the scales is eaten, and which, if accidentally swallowed, produces a sensation similar to choking.

This vegetable, which affords a pleasant and nourishing diet, is a native of Africa, and also of some of the warmest parts of Italy, whence it was first brought to this country in the reign of Henry the Eighth, in the year 1548; and, from the moisture of our climate, and the attention bestowed upon its cultivation, the size and flavour were so much improved, that the Italians sent for plants from England, supposing them to be of another variety. They were, however, mistaken, for the plants soon returned to their original size and quality, upon being restored to their native climate.

The artichoke is principally cultivated in the gardens of the higher classes, by whom it is much esteemed; and it is considered more as a luxury than a profitable esculent.

The heads, in their immature state, and before the flowers open, are boiled in salted water, till all such parts of them become soft as are capable of being so. The scales are then plucked off one by one; the lower part, or bottoms, as they are called, are dipped in a mixture of melted butter, well seasoned, and the fleshy substance sucked from the rest. But there is generally so little to be obtained, as almost to justify the observation of a raw country servant, who, having waited at supper, when artichokes made one of the dishes, was eager, on his return into the kitchen, to taste a kind of food which he had never seen before; but, to his great disappointment, finding little more than a kind of horny substance, which equally defied his tongue and his teeth, declared, with great naïveté, that gentlefolks seemed to him to have strange fancies, for, as far as he could discover, one leaf would do as well to lick up the butter as a thousand.

On the Continent, artichokes are more generally used than in England; they are eaten by the French and Italians in a raw state, as a salad, but are preferred after having been boiled, and they form a standing dish at a French breakfast.

Artichoke bottoms are also dried in the sun for winter use, forming an agreeable side dish throughout that season.

There are three varieties of the artichoke, but

two only are cultivated, the third being very small and indifferent.

1. The globe, so called from its globular head, of a dusky purplish tint; the scales are turned in at the top more than in any other variety: it is generally preferred for the main crop, as the scales or edible parts are thicker, and possess the most flavour. It is, however, a much more tender sort; and, in the severe winter of 1739—40, was nearly lost to the country. Previously to that time, it was the only kind in cultivation; and, on account of its superiority on that occasion, our gardeners were supplied from Guernsey with the French kind, until the globe variety could again be propagated.

2. The French is known by its greenish head, which is oval; the scales are more open, and not turned in on the top so much as in the globe; though it has not the same thickness of flesh, it is much hardier, and very prolific, and deserves cultivation in every garden: both sorts continue producing the heads from July to November.

3. This variety I call the Italian, which I should not have noticed, had I not seen it creep into many gardens, producing small conical heads, and very thin pointed leaves or scales. It is of no use for the table, and should be entirely excluded.

Culture.—The artichoke is propagated by rooted suckers or young shoots, rising in the spring, from the roots of the old plants: these are fit to slip off for planting at the end of March or beginning of April, when from eight to ten inches high.

For a new plantation, select an open compartment, with a light, rich, and rather moist soil, of good

depth : let it be well dug and manured ; then plant the sets with a dibble, four feet between the rows, and two feet apart in the row ; give some water to each plant, and occasionally, if the weather continues very dry, till they have taken root.

This method of planting in single rows will be found superior to the triangle system, which forms too great a mass, and causes the plants to become weakly, besides occasioning more labour to the gardener. They must constantly be kept free from weeds by means of the hoe, which likewise prevents the surface from getting hard ; and I have fully proved, from observation for a number of years, that the more frequently the ground is disturbed with the hoe in dry seasons, the more moisture it retains.

In the autumn, remove all the large decayed leaves ; then dig and well manure the ground between and along each row. In severe weather, artichokes require more or less protection, and may be covered with the earth taken from between the rows ; but if the severity increases, the globe kind, especially, must have an additional covering, with plenty of dry litter from the stable.

In the spring, the litter and earth must be removed. In March, according to the weather, the stocks are examined, and about three of the strongest left to grow and produce heads ; the rest are removed by pressure with the thumb, or by a knife. These shoots or suckers are used for the new plantations. Dig the whole ground level, and close up to the crown of the root of each plant, using at the same time plenty of good rotten dung,

or sea-weed, if it can be procured. The latter is one of the best manures for artichokes. Nothing more requires to be done, during the summer, than to keep the ground free from weeds.

Artichoke plants will continue productive for many years, though after six or seven they begin to degenerate, the heads becoming smaller and less succulent; it will then be necessary to renew the bed with young plants. It is a good plan, after the second year, to keep up a constant succession. The bed will then always contain strong, young, healthy plants in a bearing state.

If the heads are wanted fine and large, all the lateral ones growing on the same stalk, should be removed in their young state; and when the entire crop on a stem is taken, be careful to cut it off or bend it down close to the ground, in order to give the plant more strength for new shoots.

2. ASPARAGUS.—ASPARAGUS.

The name of this plant is of Greek origin, signifying a young shoot before it unfolds its leaves. It is evidently a native of this country, being found wild in Essex and Lincolnshire. It is also found on the borders of the river Euphrates, in Asia, where it grows to a very large size.

Asparagus is said to promote appetite, but is not considered to afford much nourishment, and is comparatively a vegetable of luxury. It occupies a large proportion of a gentleman's garden, and is seldom seen in that of the cottager. The young

shoots are boiled a few minutes, until they become soft; they are principally served to table on a toast with melted butter; seasoned, they also make an excellent soup.

This vegetable is cultivated very extensively for the London markets; and it must appear almost incredible to those who have not witnessed the loads of this article daily heaped on the greenstalls of the metropolis for the space of three months, that forty acres are under asparagus in the neighbourhood of London at one time. Willmott, a great grower, at Deptford, has had eighty acres entirely under this crop.

Until towards the end of the seventeenth century, a large quantity of remarkably fine asparagus was exported from Holland, the deep, rich, moist soil of that country being genial to its growth.

Asparagus is propagated only by seed, which, as well as one and two or three-year old plants, may be purchased of the nurserymen or seedsmen; when a new plantation is formed, the latter practice is generally adopted in order to save time.

There are three varieties of the asparagus named in the seedsmen's catalogue, but there is a great similarity between them, and I doubt if these supposed varieties were cultivated in the same soil and atmosphere, whether there would be found any difference between them, except, perhaps, in the colour. The following is a description of them:—

1. Battersea is famed for producing fine asparagus, the heads being large, full, and close, and the tops tinted with a reddish green colour; this is the sort generally cultivated by market-gardeners.

and a half feet deep. Before planting, it should always be trenched to the depth of two feet, and plenty of dung buried at the bottom, as no more can be applied there after the beds are planted. The ground can scarcely be too well manured; for, although the plants naturally grow in a poor, sandy soil, it is found that the sweetness and tenderness of the shoots depend very much on the rapidity of the growth, which can only be promoted by the richness of the soil.

The ground being well trenched, manured, and levelled, the quarter must now be divided into beds four feet wide, with two feet alleys, as being the most convenient for cutting the shoots and weeding, &c. The work should all be done in fine weather, as the ground can be more easily worked, and the planting better performed, than if the ground is wet and cloggy. It is also a good plan to prepare and trench the ground a month or six weeks beforehand. After the beds are marked out, and before the planting commences, a layer of rotten dung should be spread over the beds, and regularly dug in with the spade, taking care to reject all the stones which appear, as they are hurtful to the plants, and occasion inconvenience in cutting the buds.

The beds being prepared, and a strong stake driven in to the depth of two or three feet at each corner; about the middle of March, if the weather is dry, commence the planting. Take up the plants carefully with a fork from the seed-bed, and expose them to the air as short a time as possible; and, at

the time of planting, place them in a covered basket, with a little sifted earth mixed with them.

The distance at which they are commonly planted is nine inches in the row, and one foot between the rows; so that, if the piece of ground to be planted is perfectly level, and the rows quite straight, every fourth row can be left to form the alley. The crowns of the plants are generally covered two inches with mould.

The method of planting is as follows:—Stretch a line lengthwise along the bed, nine inches from the edge, and with a spade cut out a small trench, about six inches deep, turning the displaced earth to the other side of the trench, on the bed; and, having the plants ready, set a row along the trench, nine inches apart, with the crown of the roots two inches below the surface, drawing a little earth upon them, just to fix them as placed. Having finished planting the row, cover them directly with the earth taken from the trench, raking it back regularly an equal depth over the crown of the plants. Proceed then to open another trench, a foot from the first; plant it as above; and in the same manner plant three or four rows to each bed. Then lightly raking the beds lengthwise, draw off any stones or hard clods, and dress the surface neatly and evenly. Let the edges be lined out in exact order, allowing two feet to each alley. If the weather at the time of planting is very dry, water them occasionally, till the plants are established.

An asparagus quarter should not contain less than a rod of ground, as it often requires that quan-

tity to furnish a single good dish. For a large family, about twelve or sixteen rods are generally kept in a productive state.

Nothing further will be required, during the summer, than to keep the beds perfectly clear from weeds; and the following winter to cover them with some rotten manure, to preserve the crowns from the frost; if, in the spring, the earth is found to have settled in any part, which in new-made beds is often the case, the deficiency must be made up with more mould.

The crop is permitted, the two first years and a great portion of the third, to run up to stalks, the beds being kept free from weeds, and the surface stirred. It is a common practice to sow onions, lettuces, or radishes upon the beds; but the author considers this practice injurious to the asparagus, especially after the first three years, as it must necessarily rob the ground of a large portion of its nourishment.

If very large heads of asparagus are required, they may be produced by planting them twelve or fourteen inches apart in the rows, and fifteen or eighteen inches between the rows. The ground must also be very rich and highly manured. The author considers this to be the method by which the Giant asparagus is produced, as in the course of his practice, by pursuing the same plan, he has met with the same results.

After the beds are arrived at maturity, which is generally the third year after they are planted, they will require the following systematic mode of treatment: —

From about the middle of October to the latter end of November, is the time to give the asparagus beds their winter dressing. This consists in cutting down the decayed stalks of the plants, close to, or within, an inch of the ground, and clearing the beds from weeds, drawing them off at the same time with a rake into the alleys to be buried, and spreading some of the earth upon the beds, which is called *landing up*. Then proceed to line out the alleys, the stakes that are placed at the corners of the beds forming a guide: the alleys must be dug one spade deep, and a good portion of earth spread over each bed, two or three inches thick, and then nicely levelled with the rake. It may be supposed by some, that in annual landing up the beds, they may in several years be considerably raised; but by the spring forking and raking, together with the repeated hoeings and clearing off weeds in the summer, and at the time of preparing for landing up in the autumn, a considerable portion of the earth is annually drawn off again into the alleys.

About the end of March, or towards the middle of April, before the buds begin to advance below, proceed to loosen the surface of the beds; introducing the fork slanting two or three inches under the surface, turn up the top earth near the crown of the roots, with care not to wound them. Then rake the surface of the beds level, and draw off the rough earth and hard clods into the alleys; also trim the edges of the beds, and surface of the alleys regularly and even. Loosening the bed in this manner enables the shoots to rise in free growth, admits the air, rains, and sunshine, into the ground,

and encourages the roots to produce buds of a handsome, full size.

In general, transplanted asparagus comes up but slender the first year ; it is larger the second ; and the third year a few shoots may be fit for gathering ; and the fourth, the crop will be in good perfection.

The best method of cutting them, is to scrape away a little of the earth from each shoot ; then with a sharp-pointed knife, made on purpose, with a narrow blade, six inches long, and finely sawed at the edge, cut off the shoot slantingly, about three inches below the surface, taking care not to wound the younger buds ; advancing below in different stages of growth. Asparagus is in the best condition for cutting when it projects three or four inches above the ground, and while the top bud remains close and plump.

The cutting season usually commences towards the latter end of April, and should seldom be continued beyond midsummer.

Asparagus beds, with good culture, will continue to afford plentiful crops for twelve or fourteen years, after which the stools usually decline in fertility, and the shoots in quality ; but the author has known instances of beds producing large and fine asparagus for a much longer period.

I have frequently observed in many gardens the depth of the alleys, which should always be kept filled up to within eight inches of the surface of the bed, as the roots of the plants extend as well as descend ; if the alleys are left deep, by cutting down the sides of the beds and deep digging, the plants are materially injured.

The following hints may be useful to the young horticulturist. A bed twenty yards long, with four rows of plants, at one foot apart each way, will take 240 plants, which at four years old will produce above 100 shoots daily throughout the season ; and the quantity will increase every year. The author has had more than fifty buds in the season, produced from one single root, the bed being in a high state of cultivation, according to the method previously advised. From the above statement, a calculation may be made as to the quantity of land required to be planted to supply the wants of the family.

Where asparagus beds run east to west, or north to south, and the alleys are well filled up, they may be planted on the warm side, with a row of kidney beans of an early kind, which will not interfere with the cutting of the grass, and will produce sooner by a week or ten days than if sown in the open ground ; or, occasionally, where ground is scarce, a central row of early spring-sown cauliflowers may be planted, at thirty inches apart. The author has grown them remarkably fine, in such situations, without any detriment to the beds.

Asparagus beds should be enriched with an addition of good rotten dung, once every two or three years at farthest ; the benefit of which will be evident in the quantity, as well as the size and quality, of the produce. The dung for this purpose should be completely rotted, like that of old cucumber or melon beds. It should be applied after the stalks are cleared off, and spread two or three inches thick over the surface of each bed, and a double portion in the alleys ; the beds being then slightly

fork-digged, to bury it; after this dig the alleys in the usual way, and spread a portion of the earth evenly over the beds. In this way the enriching quality of the manure will be washed to the roots of the plants by the winter rains.

Artificial Culture.—As asparagus is frequently required in winter, and early in spring, another method must be practised for obtaining it in these seasons. This is effected by planting the roots in substantial hot-beds, covered with frames and glasses. When it is intended to have a constant succession of asparagus during the winter and spring, a new hot-bed must be made, and planted with fresh plants every three or four weeks. As these roots, when forced in hot-beds, do not continue to yield any tolerable produce after that period, being then quite exhausted, and unfit for that or any other purpose afterwards; a fresh quantity of plants must be in readiness for every new hot-bed. These are raised in the open ground, from seed, as directed for the natural culture of asparagus; and when they are one year old, transplanted into beds of rich earth, in rows a foot apart, and nine inches in the row. The beds may be five or six feet broad, with only two feet alleys, to allow of hoeing and weeding, which must be carefully attended to. They do not require any landing up in winter, as in the natural cultivation. When the plants are two years old, and the ground is rich, they will be fit for forcing; but they will be in much greater perfection if permitted to remain three or four years. During the time they remain in the natural ground, very few, if any, buds should be gathered, the whole

being allowed to run to stalk each summer. It is also necessary, when it is intended to force asparagus annually, that some seed should be sown every spring, and a due quantity of plants transplanted, as before directed, by this practice. After the three first years, an annual succession of plants, fit for forcing, may be procured. But where only a small quantity of buds is required, and it is inconvenient to wait for the raising of the plants from seed, they may always be purchased at a reasonable price from any respectable nurseryman, who generally grows them for this purpose, and also for the natural ground plantations.

Asparagus is usually forced on bark or dung hot-beds, prepared on the open ground ; but latterly flued pits have been held in much estimation for this purpose, as they force with greater success, and with much less labour, than dung hot-beds. In preparing the dung for hot-beds, more attention is necessary than is generally given, especially to those made throughout the winter.

For the bed, a quantity of good, long, fresh horse dung is requisite, which must be thrown together in a heap, for four or five days, to ferment ; after that time it should be regularly turned two or three times, that its rancidity may be evaporated ; then select a convenient spot, and make it up into a bed three feet six inches high, and ten or twelve inches larger, all round, than the size of the frames which are to be set upon it.

Hot-beds for asparagus are generally made on level ground ; but a better way would be to dig a trench about a foot deep ; and, if the earth thrown

out is light and rich, it will serve to cover the bed preparatory to the planting. When it is made, set on the frame and glasses, leaving the latter a little way open, that the rank steam may more readily pass off; when that is subsided, which may be known by the smell, the bed should be made level, and the top beaten down with the back of the spade. Some good, rich, light, and garden mould is then spread on the surface of the bed, to the depth of six or eight inches; it will then be in a fit state for planting, care being taken that there is no cavity caused by the sinking of the bed, so as to allow the heat to escape.

The frame should be made of well-seasoned deal, one inch and a half thick, ten feet seven inches long, two feet deep at the back, and one foot three inches in front; the lights can be about three feet six inches wide, with two iron bars placed across each for strength. It should have three coats of paint previously to using; and in glazing, the glass must lap over about the eighth of an inch; such a frame will not only be useful for forcing asparagus, but for other vegetables, as potatoes, cucumbers &c. When the burning steam has subsided, and the bed is finished ready for planting, take up and prepare the necessary quantity of roots from the natural ground; then begin at the back, or one end of the hot-bed, and raise a small ridge of earth (the author advises extra mould to be used for this purpose, otherwise too much will be taken from off the dung) crosswise upon the surface, five or six inches high, against which lay the first row of roots: when that is done, place another row against these in the same

manner upon the surface of the bed, with the crowns upright and as close to one another as you can conveniently place them; draw a little earth to the lower ends of the roots as each row is placed, or insert the ends a little into the earth. They are often planted without either drawing any mould about the fibres or inserting them therein; but this is not so good. Proceed by placing one row against another till the whole bed is completed. Care must be taken to place all the crowns of such an equal height that the whole may form a level surface. Then cover the crowns all over evenly an inch deep with some finely broken or sifted light vegetable mould, working it in among the buds with your fingers, which finishes the operation until the buds appear. As soon as the beds are made and planted, in order to judge of the temperature of the heat, it is proper to thrust some sharp-pointed sticks down between the roots into the bed; and by drawing them up daily, and feeling the lower part, you will be able to judge of the degree of heat, and be regulated accordingly.

The roots will soon begin to send forth fresh fibres into the earth, and in about a fortnight the buds of the asparagus will make their appearance, when they are to have their final additional covering of four or five inches of fine, light, rich earth.

The bed being now finally earthed and the heat become moderate, the lights should be kept constantly upon the frames till the buds appear, and during the night should be covered with garden mats, which must be removed every morning, except in uncommonly severe weather; for it is of importance.

when the asparagus shoots begin to advance, to admit as much light and sun as possible, to produce a green colour in the top of the buds; if the heat is moderate, the glasses need only be opened a little way in fine days, so as to allow any steam to pass off, especially if the plants are required to be drawn up quickly. By admitting a larger portion of air, the buds will rise slower, but will acquire a larger size, better flavour, and greener colour; hence you may sometimes, in the spring-made beds, take the glasses off entirely for a few hours on a warm dry day, particularly when the heat of the bed is considerable, on the first appearance of the buds after the bed is planted.

After the bed has been made two or three weeks, and it is observed not to heat kindly, or rather to decline, it will be proper to line the outside with some fresh warm dung, which will forward and revive the heat more effectually.

When the asparagus bed is planted, and the heat has begun to warm the roots, give the plants a good watering from out of a pot with a rose on it; let the bed have enough to moisten the mould well and to wash it in among the roots. Repeat the watering occasionally; it is, however, advisable to be sparing in the use of water at this season of the year.

The asparagus is generally fit for cutting about five or six weeks after the planting of the beds, or when the shoots are advanced four or five inches above the surface of the earth.

In gathering the buds in hot-beds, it is best to break them off as close to the bottom as possible,

by thrusting the fingers and thumb down into the bed; it is less likely to injure the young shoots rising below than by cutting them, as in the open ground.

The forcing of asparagus in fluid pits is by far the most eligible method, as these may answer many other purposes; besides, the grass is of a much better colour and higher flavour than that produced on a dung hot-bed. As it frequently happens that this esculent is wanted in a hurry, in large families, where much company is kept, the conveniency of a pit will be found a great relief in this respect. A pit twenty-five or thirty feet long and six wide, and which one small fire can perfectly command, is large enough to force sufficient asparagus for a large family from November to May in a constant and regular succession; after which it may be advantageously employed in raising a late crop of cucumbers or melons, or in striking young pine-apple plants, &c. The consumption of fuel necessary for this purpose is so trifling, even where it is most valuable, that it ought not to deter any one who requires asparagus, French beans, and salads, at an early season, from building so useful a compartment in the forcing garden. If a scrupulous attention is paid to the general design, and particularly to the construction of the fire-places and flues, this expedient will give more satisfaction to the gardener than any other hot-bed whatever, and in the end will prove a saving to the proprietor. The construction of this kind of pit is very simple, and can be built by any bricklayer at a small cost. We are indebted for the invention to M'Phail, an

eminent Scotch gardener, who treats of it fully in his work called "The Scotch Forcing Gardener." If the pits are from twenty to thirty feet long, it will be sufficient to plant one half at a time; and, to keep a constant succession, the other half may be filled in about fifteen or twenty days afterwards, that they may begin to come up before the first is used; after which, once every month or six weeks, according to the size of the pit and consumption of the family, may be sufficient till the time for cutting in the open ground commences. The roots are planted in the same manner, and require the same treatment, as on the dung hot-bed, only, instead of dung, bark is usually substituted to fill the pits. Air must be admitted every day, to allow the steam to pass off; and more freely, as the weather will permit, when the buds begin to appear, for the sake of the colour and flavour of the plants. The heat of the bed can be much better regulated by this kind of pit, and all the work done with much greater nicety and less toil to the gardener than by the old and common method of dung hot-beds.

3. BASIL.—OCYMUM.

This plant is supposed to owe its Latin name to the strong scent for which several species of this genus are remarkable. Some derive it, with great probability, from a Greek word signifying *quickly*, with reference to the rapid germination and growth of the plant after the seed is sown, especially if the weather is hot and dry. They are, for the most

part, of East Indian origin, and are also found in some parts of Africa. There are two varieties in cultivation: —

1. *Ocymum basilicum*, the sweet or large-leaved.

2. *Ocymum minimum*, the small-leaved or bush basil.

The former is principally used for culinary purposes; the latter is much smaller, being a compact, dwarfish, bushy plant, and used more for ornament; but the scent and quality are the same.

Both varieties are annuals, and flower in June and July; they were introduced into this country in the year 1573, but were very partially used till the beginning of the last century.

The French are now so partial to the flavour and qualities of this plant, that its leaves enter into the composition of almost all their soups and sauces. The leaves or leafy tops are the parts gathered for use, and, on account of their strong flavour of cloves, are often used in highly-seasoned dishes. A few leaves are sometimes introduced into salad, and very frequently into soups.

Culture.—Both sorts are raised from seed, and should be sown on a gentle hot-bed in March. When the plants are two or three inches high, they may be transplanted into a warm border of light rich earth, in rows of six or eight inches' distance apart each way, and must be watered occasionally till they have taken root.

Sometimes both varieties are sown in the open ground: but with this treatment they come up very late and small.

They are very tender plants, easily cut up by the early autumn frosts; they should then be pulled up by the roots, tied in small bunches, and hung up in some airy room to dry, when they will continue to retain a great portion of their aromatic qualities.

4. BEAN. — VICIA.

The original Latin name of the bean was *fabæ*, but of late botanists have made it a specific to the vetch.

The bean is a native of the East, and particularly of Egypt; but it has been known in this country from time immemorial, and was in all probability introduced by the Romans.

The seeds are the only part used in cookery; which, after being boiled, are considered a very wholesome aliment. They are seldom eaten in this country in their dried state, but when sent to table young are generally admired, particularly as an accompaniment to bacon.

There are many varieties of the bean at present under cultivation; the following are selected as the principle and most distinct sorts: —

1. Early Mazagan, so named from a settlement of the Portuguese on the coast of Morocco. It is one of the hardiest and best flavoured of the small and early sorts; but is but partially planted at present, on account of the introduction of other superior varieties.

2. The Lisbon is next in point of earliness: it is much like the Mazagan; but the seeds are rather larger.

3. Early Long-pod ; so called from the shape of the pod, and its earliness. This is a most prolific variety, and is consequently a great acquisition to the cottage gardener. Some of the principal seed-growers have of late considerably improved the long-pod variety, with regard to its earliness and productiveness. The author can prove this from actual observation ; having seen every variety of the bean growing last season, in the nursery grounds of Mr. William Rogers of Southampton, who is in the habit of annually testing the merit of every new production of culinary seeds before offering them for sale.

4. Sword, or Turkey Long-pod, is an excellent bean, being very prolific and well-flavoured : it is very like the common long-pod, with only a slight difference in the growth of the pods.

5. Mumford.—This variety is not so often cultivated now, in consequence of its resemblance to the Toker. The beans sold under these names are a smaller kind of Windsor ; the several sizes being divided by a sieve made for the purpose.

6. Sandwich Broad-bean. — A very good kind, formerly in great repute : it is now superseded by the Windsor ; but, being harder, is commonly sown a month earlier : it is a plentiful bearer ; but not very delicate for the table.

7. Broad Windsor is allowed to be the best of all the sorts for the table. When they are planted in a good soil, and allowed sufficient room, their seeds will be very large and in great plenty ; and, when gathered young, they are the sweetest and best tasted of any. This sort of bean is seldom planted before

Christmas, because it will not bear the frost so well as many of the other sorts : it is generally planted for the main crop to come in June and July. There are several sub-varieties ; such as the broad Windsor, Kentish Windsor, and Taylor's Windsor. The latter is the best and most generally cultivated.

8. White-blossomed Bean, so called because the black mark on the wing of the blossom is wanting. This sort, from its having less of the peculiar bean flavour, when young, than any of the others, is in much esteem with many persons : it also boils very green ; it bears abundance of smallish, long, narrow pods ; and the seeds are almost black when ripe.

9. Green Nonpareil, a delicate and fine-flavoured variety, is now generally planted for a late crop, for which purpose it is admirably fitted.

10. Dwarf Fan, or Cluster Bean, grows about a foot high, throwing up three or four stems from each root : it is usually planted for curiosity ; but may be cultivated in a small garden.

11. Green Windsor is a very delicate bean, and is planted at the same time as the white Windsor.

12. New Dwarf Prolific is a good new sort, having the excellent qualities which its name implies.

Culture. — To procure an early crop of beans, the author recommends an early sort to be sown towards the end of October, in a warm border, exposed to the sun : they must be set in rows, two feet asunder, and three inches apart in the rows, and about two inches deep.

To obtain a very early crop, a successful method is to sow the beans thickly together in a

bed of light earth, under a warm aspect, with the view of protecting them from the severe frost, and of transplanting them to warm borders in the spring. The width of a garden-frame will be found sufficient ground for planting the beans. If there is a frame to spare, place it over them; and in frosty weather the lights can be put on and otherwise protected with garden mats and dry litter: on no account omit giving a supply of fresh air in mild weather, or the plants will be drawn up weakly, and spoiled. They remain in the bed till February or March, when, as soon as the weather admits, transplant them into a warm south border, in rows two feet apart, or by the warm side of the alleys between the asparagus beds, which, with care, will not interfere with the work necessary to be done to them in the spring. In removing the bean plants from the seed-bed, ease them out with all their roots, and with as much mould as will adhere to them. Their after-culture only requires a little earthing up, and their tops to be pinched off when in bloom.

By the above mode of treatment the fruiting of the beans will be accelerated at least ten days or a fortnight before any that are planted in the open ground, let the weather be ever so favourable; besides, in severe weather, there will be a certainty of a crop.

For a succession, any of the early kinds may be planted at the end of November and in December. A new early variety of the long-pod, raised by Messrs. Field and Child, of Thames Street, London, is a most excellent one for the purpose. The Mazagan

bean is now generally planted for the very early crops.

For the first principal crop of beans, any of the sorts may be sown in drills; the large beans, two feet and a half apart between the rows, and three inches in the rows, and the same depth: the smaller varieties are not planted quite so far apart, and not so deep; two inches being sufficient. If the weather is mild, the latter end of January or the beginning of February will be a proper time for planting them, in some good, rich, mellow ground.

For the next principal and full-succession crops, plant again in March and April, and so continue till June and July, when the small early kinds again become the most proper, as their hardiness fits them for standing late as well as early. For late productions, the green nonpareil, toker, and early long-pods are the best: the white-blossomed bean is also a very desirable sort for secondary crops, both in the general and late planting season. For the main summer crops, adopt principally the broad Windsor, long-pod, and green nonpareil varieties.

In planting late crops in June and July, if the weather is dry, the beans may be soaked in soft water for several hours previous to being planted; or the drills can be watered, and the beans put in and covered up directly, while the earth remains moist.

The following expedient is sometimes resorted to in order to obtain a late crop: — Select a few rows of beans planted at the usual season in March, and when the flowers appear, cut them down to within a few inches of the ground. New stems will spring from the root, and produce a very late crop of beans.

Nothing is required to be done, after the beans are three or four inches high, but to hoe up some earth to the stems, on both sides of each row, and to clear away the weeds. Repeat the hoeing as future weeds arise, both to keep the ground about the plants clear, and to loosen the earth in order to encourage their growth.

As the different crops come into full blossom, pinch off the tops, in order to promote their fruiting sooner, in a more plentiful production of well-filled pods: this is also a preventive against the black blight, which so often attacks this crop, especially in confined situations. The pods are fit to gather for the table when they attain about half the size which they should possess at maturity. If left longer, they become black-eyed, tough, and strong-tasted, and very inferior for use.

5. BEET. — BETA.

Beta takes its name from the shape of its seed-vessel, which, when it swells with seed, has the form of the letter so called in the Greek alphabet.

The beet is a native of Sicily and of the sea-coast of the south of Europe. It was introduced into this country, with many other culinary plants, in the year 1548.

There are six varieties of the beet in cultivation for culinary purposes, but some are much more extensively used than others. The following list gives the name, merit, and use of each:—

1. Red Beet.—This sort is highly valued for its large red root, which often grows twelve or fifteen

inches long, and three or four inches thick. The roots being tender, sweet, and palatable, are boiled, then sliced and eaten cold, with vinegar, &c.; they are also sliced and scraped in salads, both as an eatable ingredient, and by way of garnish; they also make an agreeable pickle. A beet-root, sliced up with a Reading or Portugal onion boiled also in soft water, will be found a very nice condiment with cold meat, if mixed with spices and vinegar, and an egg or two boiled hard. The root itself, if eaten alone, affords but little nourishment; it is, therefore, generally used as a luxury.

2. Turnip-rooted Beet is an earlier variety, and much shorter and thicker than the former, but is equally good in every respect for use: in both sorts those that are of the largest growth and darkest red colour are the most valuable.

3. White Beet (*Beta Cicla*) was brought to England from Portugal in the year 1570, and is in much esteem for the stalks and ribs of the large leaves, which, being divested of the leafy part, and peeled, are great improvers of soup, and useful also for stewing, and to be dressed and eaten like asparagus: the leaves themselves are fine pot-herbs. The above three varieties are mostly cultivated for culinary use.

4. Green-leaved Beet is much grown in Scotland, and is used for the same purposes as the white; but it is not so much esteemed, being smaller and less delicate. It is fit for use all the winter.

5. Yellow or Mangel Worzel Beet is principally grown as a valuable agricultural plant, for feeding cattle, and making sugar. The roots grow to a large

size, but are greatly inferior, for culinary purposes, both to the red beet and most other of our esculent roots. They are sometimes dressed like carrots or parsnips, sliced and served up with melted butter, but are generally mawkish and unpalatable. The leaves, however, are of most value; and, if the plants have room enough, they will grow twelve or fifteen inches broad, and to a considerable length: the young, thick, fleshy stalks, divested of the lamina of the leaf, peeled or scraped, and then boiled and served up with butter, are tender and agreeable to the taste. The green leaves are also occasionally dressed as spinach, which it much resembles.

6. Silver or Sea-kail Beet.—This sort is considered by some to be superior to the *Beta Cicla*: it is much cultivated in the neighbourhood of Southampton, on account of its large midribs, which, when cooked, resemble sea-kail. The author saw some fine improved specimens of this variety growing in Mr. Rogers's nursery a few weeks since; he also tasted the stalks and leaves cooked, both of which he considers very palatable and wholesome.

A large quantity of sugar can be obtained from the beet-root; and it has of late been extensively cultivated for that purpose, especially in France and Germany.

Culture.—Little art is required in the cultivation of the beet; all the varieties are raised from seed sown annually in March or April, in the place where the plants are to remain; for it will not do to transplant them, if a large, clean, well-grown root is wanted.

The soil in which it grows best is a deep, rich,

light, sandy earth, in an open situation. After the ground has been dug, manured, and well broken, the seed may be sown either broad-cast, and raked well into the ground, or, as the author considers far preferable, in shallow drills, at the distance of a foot apart : sow the seeds thinly, and rake the earth over them smoothly, about an inch deep. The plants come up in a month ; and when they are advanced into leaves an inch or two broad, they require to be thinned and cleared from weeds, which may be performed either by hand-weeding or with a small hoe : the plants, when properly thinned, remain at the distance of ten or twelve inches each way. The turnip-rooted sort is rather less. The red beet-roots will acquire their full growth by September or October, and can then be taken up for use when wanted. Towards the end of November all the remaining roots should be taken up on a dry day, and divested of any soil hanging to them ; the leaves must then be cut off within an inch of the crown, and care must be taken that the roots are not in any way cut or broken, as they bleed much. After the roots are well dried, they may be laid in a box or bed of dry sand or earth, and placed in a cellar or shed, where they will remain good throughout the winter and the early part of spring.

The chard beet is raised in the same manner as the other sorts ; but the seed should be sown in drills, eighteen inches apart, and afterwards thinned to the distance of twelve inches, to allow of the expansion of its large succulent leaves. They are commonly in perfection in June and July. In gather-

ing them, take the large outward leaves, allowing the others to come in for use in their turn, as an abundant successive supply rises from the root.

6. BORECOLE. — BRASSICA.

Borecole is classed under the head *Brassica* (Cabbage) in the Linnæan system; but it is distinguished from that variety by the addition of *sabellica* to that of *brassica*, the meaning of which is a plant with curled or jagged leaves.

The latter part of the word borecole is obviously the *kohl*, or principal winter cabbage, of the Germans: but the origin of the first part is uncertain.

This variety contains several sub-varieties which are of a peculiarly hardy nature, resisting severe frosts, and retaining their green appearance throughout the winter.

The following are the principal sorts in cultivation: —

1. Tall green or Scotch Kail. — This sort, if genuine, may be known by its bright light-green leaves, which are deeply lobed and curled: it is equal to any other sort either in producing sprouts or in withstanding the severe weather.

The parts used are the crown of the plant, and the side shoots. It boils well, and is tender, sweet, and delicate, especially after having been exposed to the frost; it is almost impossible to find a plant of greater excellence for the table, or more easy of cultivation: hence it should be largely cultivated in every garden, especially in that of the cottager.

2. Dwarf-green, or Canada Kail, grows to a less size than the former, but is of the same quality, and proper for a small garden.

3. Purple Borecole, or Brown Kail, differs from the others, in the leaves and entire plant being of a deep purple colour. It is more hardy than the green, but of less delicate flavour. When it is boiled, the purple colour disappears.

4. Buda, or Russian Kail, is not only very hardy and well-flavoured, but continues to produce sprouts much longer than any other variety.

5. Jerusalem Kail, or Ragged Jack, is known by its long serrated leaves; it is extremely hardy, and when the taller winter greens have ceased to grow, the shoots of this are ready to take their place at table; it is principally grown in the cottage gardens.

6. Thousand-headed Cabbage grows to the height of four or five feet, and throws out numerous shoots from the main stem. It is chiefly extolled as an agricultural plant, but may occasionally be planted in gardens, because it will survive the severest frosts, and be useful when every other sort is destroyed; but its flavour is inferior to all other winter greens.

There are many other varieties of the borecole, but they are not fit for culinary use, being only cultivated for ornament or curiosity, and for agricultural purposes.

Culture. — All the varieties of borecole are raised from seed, which should be sown early in April; the plants will then grow tall and afford an abundance of sprouts; a little seed can also be

sown in May and August to produce a late crop, but the plants will be much smaller.

The seeds can be sown thinly in a small bed of dug ground in any part of the garden, and about the middle of June, if the plants are four inches high, they can be finally transplanted to an open compartment, in rows two feet and a half apart, and eighteen inches in the row; the smaller kinds can be planted at a less distance; and they must be watered occasionally, if the weather is dry, till they have struck root. It is a good plan to prick out some in another bed about four inches apart, especially if the plants come up very thick in the seed bed; as by this means they will become stronger and better rooted for the final transplanting in May or June. In their advancing growth, hoe the plants once or twice to clear them of weeds and to draw the earth about the bottom of the stems, by way of encouraging their growth in the production of large full heads in proper season.

7. BRUSSELS SPROUTS. — Var. BRASSICA.

There is no particular or specific name for this vegetable, but it is supposed to have originated from the Savoy.

Of this famed vegetable, there is but one variety, which has been of late years in great repute in this country. Near Brussels, and other large towns in Flanders, the Choux de Bruxelles, as they are there called, are very extensively cultivated; and both

there and here form an agreeable, wholesome, and delicious dish, at the table both of the peer and the peasant.

This plant produces an elongated stem, about three feet high, which sprouts out shoots, and forms small green heads like cabbages in miniature, each being from one to two inches in diameter. The crown of the plant is not unlike a late planted savoy, and is cut off for use before the sprouts.

This delicate vegetable can be cooked in several ways; but the following method, communicated to the author by a gentleman many years resident in Brussels, will be found to produce, as old Gerrard used to say, "a dainty dish." After the sprouts have been frosted, a process which renders them more tender and sweet, they may be gathered; (the more close and compact they are the better.) Immerse them in clear soft water for an hour or two, to cleanse them from any dirt or insects; then boil them for about twenty minutes rather quickly, using plenty of water; when soft, they must be taken up and well drained; they are then to be put into a stew-pan, with cream, or with a little fresh butter thickened with flour, and seasoned with pepper and salt, and stirred until they are thoroughly hot. They are served up to table with a little tomato vinegar, which greatly heightens their flavour.

The higher classes in Flanders use them with almost every sort of meat, and often stew them in rich gravies.

Culture. — It requires nearly the same treatment as the borecole, only it need not be planted at more than eighteen inches each way, as the head

does not spread wide, and the large side leaves generally drop off to make room for the sprouts. It is advisable to sow the seed as early as the weather will permit in April, so as to forward the plants for transplanting to the beds. In saving the seed of this variety and every other of the brassica tribe, care should be taken that the plants of each sort be kept distinct, so that the farina may not get intermixed; otherwise they are apt to sport and rob each other of their best qualities.

8. BROCOLI. — Var. BRASSICA.

In Miller's Dictionary, under the article BRASSICA, the few brocolis then known are supposed to have proceeded from the cauliflower, which was originally imported from the island of Cyprus, about the middle of the sixteenth century. Miller mentions the white and purple brocoli as coming from Italy; and it is conjectured, that from these two sorts all the subsequent kinds have arisen, either by accidental or premeditated impregnation. There is no culinary plant so apt to sport as brocoli; hence new varieties are continually coming into notice. In their growth, habit, and eatable parts, they greatly resemble the cauliflower, all of them forming roundish heads in the centre of their leaves, composed entirely of a compact collection of numerous buds or ends of advancing shoots.

The brocoli is cultivated principally for autumn, winter, and spring use, these being the seasons of its production in the greatest perfection. They are very hardy and resist the cold of an ordinary

winter, but very severe frosts will affect and sometimes kill them, as was the case in the extraordinary winter of 1838.

The chief sorts and varieties in general cultivation are as follow : —

1. Early Purple Sprouting. This sort grows to a moderate height, and produces smallish purple heads, and comes a fortnight or more earlier than the others. It is proper for the first crop, which, if sown the latter end of March or beginning of April, and again in May, and planted out in June and July, comes in for use from Michaelmas till Christmas.

2. Large Late Purple is a robust and growing sort, and produces a large purplish head like a cluster of buds, and is very delicate eating; but as it grows tall, and is more likely to be injured by the frost, it is now generally superseded by the

3. Dwarf Late Purple, which seldom rises above a foot in height, and is an excellent late and hardy variety, being in perfection throughout April and the greatest part of May. When the heads of the above three varieties are gathered, the stalks produce plenty of fine sprouts terminated by small heads, which are as sweet and tender to the taste as the principal ones.

4. Early Cape is a very useful variety. It produces rather large heads with many shades of colour, but principally a reddish brown. As this sort comes very early, it is an acquisition; the heads, if genuine, are close, firm, and compact, but in general they are not of first-rate quality, though a considerable improvement has been made in them

within the last forty years, at which time this variety was first introduced.

5. Early White. The author recollects seeing this variety very fine above sixty years ago. The heads are white and of a close texture; the plants are hardy, and grow about two feet high. This sort has of late been greatly improved, especially by Mr. Grange, of Piccadilly and Covent-garden, who introduced the following variety, now extensively cultivated:—

6. Grange's Early Cauliflower Brocoli, which produces large, fine, compact, white heads, of a conical shape. The leaves nearly cover the heads, and thus afford protection in frosty weather. This sort is, without exception, one of the very best both in colour, size, and flavour; if the seed is sown at three different times, from the beginning of May until the end of June, the plants will produce in succession from Michaelmas to Christmas.

7. Invisible, or Cup-leaved, derives its name from the long hollow leaves which cross each other on the top of the head and render it invisible, and greatly protect it from the severity of the weather. As it is a late sort, this natural protection renders it a great acquisition. The heads are of middling size and a beautiful white colour.

8. Sulphur-coloured or Portsmouth Brocoli. There are many other names attached to this fine variety in the seedsmen's catalogues, but from twenty years' practice and observation, the author pronounces them to be derived from that stock, which for a number of years has been largely cultivated in the vicinity of Portsmouth, the Isle

of Wight, and Southampton, where perhaps they are produced larger and finer than in any place in the world. This variety is grown also by the London market-gardeners, but not with such success. The late Mr. Matyear, of Fulham, who had above 100 acres of land under spade cultivation, obtained from Mr. W. Rogers some of the genuine seed from Portsmouth for trial, but after two or three seasons, the heads greatly decreased in size and quality. The author considers the soil near London as too rich and light for growing this sort in perfection: the soil round Portsmouth is not so highly manured, and is rather of a strong loamy kind; the climate, too, is perhaps more genial. It is a valuable sort, being hardy and exceeding all others in size. The heads are a buff or cream colour, and very firm and compact; they come in principally from the end of April to the beginning of June.

9. Late Dwarf Tartarian. This sort approaches nearest to the cauliflower than any other; it is quite as delicate and very white. It has but lately been introduced, and is a valuable acquisition; the plants can be planted at the distance of eighteen inches each way, as they do not grow to a large size, and seldom more than one foot in height; they are very hardy and the latest variety of brocoli in cultivation. Many gardeners who have plenty of spare ground grow them for early spring cabbages or borecole; and they are found very delicate and wholesome winter greens after Christmas. The author would strongly recommend the cultivation of this sort in every garden as a superior and delicate vegetable.

10. Early Malta White is a good sort, and pro-

duces heads of a middling size and white ; it is not unlike the Tartarian, but it comes much earlier.

11. Green-headed Winter Brocoli is a variety from the purple cape, and closely succeeds it in coming into use. The plants are dwarf ; the heads grow exposed and do not obtain a large size. The greatest care should be taken in saving the seeds of this variety, as they are apt to sport and degenerate. This remark applies generally to all the sorts.

12. Miller's Late Dwarf White is also an excellent variety ; it comes late, and is of great delicacy. There are also many other white sorts, but they greatly resemble one another ; the best and most distinct are named in the above list, and these will be found quite sufficient for cultivation in any garden.

Culture. — All the different sorts and varieties are raised from seed sown in the open ground at various times. Brocoli in general succeeds best in a fresh rich loamy soil, where it comes more true and hardy ; but if this cannot be procured, deep digging, with plenty of manure, is the only alternative to obtain good crops.

The principal seasons for sowing the main crops are March and April for the autumn and winter productions, and May and the beginning of June for the principal successive crops to come in for the spring supplies : some may occasionally be sown as early as February, or the beginning of March in a warm situation. But if the weather should prove very severe, some protection will be necessary, such as a spare frame, or (what is very good) some dried fern, as this is of a light nature, admits of a circulation

of air, and prevents the plants from being drawn up. The white cauliflower, and purple sprouting brocoli are generally the first sown, in order to obtain an earlier autumn production, in the beginning of September and October.

The cape is sown about the latter end of May, and will produce heads early in the autumn; a succession may be continued in nearly all the sorts by a second and third planting from such as remain in the seed beds.

If the large late purple is sown about the end of March, fine heads may be expected about that time twelvemonth. The proper time for sowing the Portsmouth brocoli is the second week in April; and should the plants come up too thick, they may be hoed with a two-inch hoe, or thinned out with the hand.

The Tartarian variety should be sown between the 1st and 10th of April; they will then produce their milk white heads about the end of May and beginning of June.

The seed of the different varieties of brocoli should be sown in an open exposure, where the plants grow much stronger than on narrow borders under walls. Each sort must be sown separately, moderately thick on the surface, and raked in slightly; if the weather at the time of sowing is very dry, water the bed occasionally with a rose watering pot, until the seeds appear, which will be in about ten days or a fortnight. The time of finally transplanting them is June, July, and August, and the beginning of September, according to the time they were sown, or are desired for use. The plants delight in

a rich loamy soil in an open situation. After the ground has been well dug, and well manured for a previous crop, they may be put in ; if the weather is moist at the time, so much the better. They are to be planted in rows two feet and a half apart, and two feet distant in the rows ; but for some of the small dwarf varieties, such as the Tartarian and white Malta, eighteen inches each way will be found sufficient. As soon as they are planted they should be watered, and if the weather is dry this process should be continued every other day, until they have taken root. Their further culture is to keep them clear from weeds, by hoeing the ground occasionally, and when they have advanced a little in growth, to draw some earth about their stems, which, if repeated now and then, will be of advantage in promoting their growth.

In gathering brocoli for use the heads should be cut while they remain close, and before they begin to divide and assume a seedy-like appearance, and with about six inches of the main stalk to each head.

Various methods have been advised for the protection of this vegetable in winter, which, if it proves severe, destroys a number of plants, especially if the early part has been mild and open.

The most secure way is, if there is the convenience of a shed or cellar, to take up such plants as are the most forward in flower, and set them nearly upright in moist sand or light mould, where they will continue to vegetate, and come to perfection sufficiently to answer the purpose intended.

Another method is practised by some of the

market-gardeners round London, which is to raise the plants with a fork, and lay them slopingly, with their heads towards the north, and only a few inches from the ground. By this means the plants are soon covered and protected by the snow, which generally falls previous to long and severe frosts. It also renders the plants hardier, by the check received in their partial removal.

9. BURNET. — POTERIUM.

Burnet is a hardy, indigenous, perennial, plant; and is found growing wild on the chalky lands and heathy commons of England. Its Latin name, *Poterium*, signifies a cup.

The parts made use of in culinary purposes are the young leaves, which are put into salads, and occasionally into soups, to which it gives a pleasant and somewhat warm taste. When slightly bruised, the leaves smell not unlike cucumber. It was formerly in much greater repute than at present, and was a favourite herb for cool tankards, a name which is now almost obliterated from our memory. The French are very partial to this herb, and consume great quantities of it in their soups. The plants continue green through the winter, when many other salad plants are cut off, or in a state unfit for use.

Culture. — As the young leaves of the herb are always most preferable, a small quantity of seed should be sown annually, in the spring or early in the autumn, in shallow drills, in a shady situation, and may afterwards be transplanted into rows, or a

bed, at six inches, plant from plant. They are also readily propagated by parting the roots early in the spring.

10. CABBAGE. — BRASSICA.

We are now come to the head of a most widely-cultivated genus, from which the varieties of *brassica*, before and hereafter named, are supposed to have proceeded.

The cabbage is one of our most ancient and salubrious vegetables; and as an esculent, it stands in the highest estimation.

Brassica is supposed by some to be derived from a Greek word, signifying to devour, because it is eagerly eaten by cattle. Linnæus derives it from the same word, and, rightly rendering it to boil, supposes the plant was so called from its being a common pot-herb.

The word cabbage, by which all the varieties of this plant are now improperly called, means the firm head or ball that is formed by the leaves turning close over each other; from that circumstance we say the cole has cabbaged, the lettuce has cabbaged, or the tailor has cabbaged, which last means the rolling up pieces of cloth, instead of the list and shreds, which tailors claim as their due.

Like all other cultivated plants, the cabbage has gradually undergone so many changes, and assumed so many permanent varieties, that it is not easy to form a description which will apply to the whole. Great improvements have been made in this excellent vegetable since the beginning of the last

century, principally by the skill and industry of the Battersea and other market-gardeners round London.

Cabbages were a favourite vegetable with the Romans, and must have been known, in some of their varieties, to our Saxon ancestors, since the month of February was called by them *sproutcale*.

The principal varieties in general cultivation are the following, all of which the author has cultivated more or less for a number of years : —

1. Early York. This has been a most valuable early cabbage since its introduction, which took place above 100 years ago. It was first brought to this country from Flanders by a private soldier, named Telford, who was there many years in the reign of Queen Anne. On his arrival in England, he settled as a seedsman in Yorkshire, whence the name and celebrity of this cabbage. Its earliness and delicate taste and flavour still retain it in estimation ; and on account of its small dwarf growth, a great many can be planted in a small compass.

2. Battersea is a roundish, oval-headed, and middling-sized cabbage, that heads quick, and comes in early, and is excellent for use while moderately young, and before it becomes very hard. It is a valuable sort for the cottage-gardener.

3. Early Nonpareil. This sort is quite new, and the very best in cultivation. It comes in and heads quicker than any other ; and is also of a good size, and of very delicate flavour. Though at present it is not generally known, the author makes no doubt, from what he has seen of it, that it will become a leading variety.

4. **Early Sugar-loaf.** This sort was in high estimation fifty years ago, being mostly cultivated in gentlemen's gardens; and the author has doubts if the true sort (which should be perfectly conical) is now in existence. It was a superior cabbage in respect of its keeping hollow much longer than any other early sort.

5. **Paignton or Penton** is a favourite cabbage in Cornwall and Devon: in these counties it is called early, though it is fully a month after the earliest about London. It grows to a largish size, and the flavour and taste are excellent.

6. **Vanack.** This variety was introduced many years ago by a wealthy Dutch merchant, of the name of Vanack, who inhabited a house at Putney, near London. It was in his time, and for many years afterwards, in much repute as a sweet and delicate variety; but of late the author has heard but little of it.

7. **East Ham, in Essex,** is famed for producing a fine early cabbage, which, in some places, is extensively cultivated: it is not unlike the

8. **Early Imperial Brompton,** which is a most excellent cabbage, being both early and delicate, and attains a good size. It is a very useful and profitable sort for the cottager and market-gardener.

9. **Early Russia** is a small roundish cabbage, that comes in about June and July, heads very fast, and soon grows hard; but if used while young and hollow, it is very sweet and tender.

10. **Early Emperor** is a good early cabbage; but the author is not aware of its superior qualities to merit so high sounding a name. There is another

similar variety designated in the seedsmen's catalogues as the early Wellington.

11. Fulham. This variety is one of the best in cultivation for every culinary purpose, being early, of a good size, and well flavoured, and not so liable to crack after forming the heads, as some of the others.

12. Flat Dutch or Drumhead is a very large spreading cabbage, generally very broad, and flat at the top, and pretty close and firm. It is in perfection in September, and will continue till Christmas, or longer. It is principally valued as a field-cabbage for feeding cattle, but is eligible also for occasional family use.

13. Red Dutch is a middle-sized, roundish, thick-leaved cabbage, heading very hard, and the whole of a red purplish colour; the darker the colour, and the more thick and fleshy the leaves, without any white in the ribs and veins, the more valuable. It is in perfection from autumn until the end of winter, as well as in all the spring months till May. This sort is esteemed principally as a choice pickle, and is sometimes sliced in salads in its raw state. All these sorts or varieties of cabbage are biennial, being raised from seed, and attaining perfection the first year, and the second shooting up into stalk, to flower and seed, and soon after wholly perishing.

Culture. — Fortunately the cabbage, one of our most valuable vegetables, can be cultivated by the most simple and easy means; it grows in most soils likely to nourish a plant, and produces its beneficial heads nearly all the year round. In land that has been previously well manured, they do best, espe-

cially if it is of a light warm nature, such soil producing the earliest cabbages.

When the land is naturally good, the less dung that is made use of, the sweeter and finer the vegetable; but where it is poor and indifferent, (the whole of the Brassica tribe being of an exhausting nature,) then and then only is a heavy coat of manure necessary. To produce a constant succession of cabbages, three different sowings will be necessary, that is, spring, summer, and autumn.

For the principal spring and early summer crops, the seed of the early York, nonpareil, or any other early sort, may be sown from the last week in July until the end of the second week in August. Each sort should be sown separately on a bed of light earth, broad cast, moderately thick, and raked in evenly and lightly. The situation must be open, whether in the seed-bed, or final plantation, as under the drip of trees, or in the shade, seedlings are drawn up weak, and grown crops are meagre, worm-eaten, and ill-flavoured.

If the weather is very dry at the time the seed is sown, occasional waterings will be necessary, or the beds can sometimes be shaded with a garden mat, or covered with fern, in hot sunny days, till the plants are well up.

Towards the end of October, the forwardest plants of this sowing, provided they have been properly thinned, will be fit to plant out for the first and principal crop in some rich well dug ground, in rows two feet apart; but the early and small varieties can be planted nearer — twelve or eighteen inches will be found sufficient.

In their subsequent growth, if any fail or run to seed, be careful to pull them up directly, and supply the deficiencies with fresh plants. As the crop proceeds, frequent hoeings, by destroying the weeds, loosening the ground between the plants, and drawing some earth round the stems, will strengthen and forward them considerably.

For a successional crop, the large and late sorts can be sown at the same time as the early; and with the same care and treatment, they will produce cabbages in succession, according to the lateness of the sort.

For a late summer and autumn crop, sow the seeds as before directed, the end of February or beginning of March. A few for early summer use, may be sown the third week of February on a slight hot bed, or on a warm border under glass. The plants will be suitable for transplanting in May, June, or July; their after-culture is the same as has been advised for the August sown plants.

For an autumn and winter crop of young cabbages, sow the Fulham, nonpareil, or any quick-hearting kinds, about the third week in May: when fit, plant them out at the distance of eighteen inches apart each way, and they will be found most acceptable about Michaelmas, and will continue in good order for use till the severe frosts set in.

After cutting the cabbages, never neglect immediately to pull up the stalks, and carry them off with the refuse leaves to the compost heap. This practice is enjoined, as well to prevent the stem from pushing out shoots, and needlessly exhausting the ground, as to promote neatness and order. It is

necessary, however, to make an exception with regard to removing the roots and stems of the late summer and autumn crop; as, by depriving them of their old and injured leaves and stirring the ground between the rows, they may be allowed to stand till the spring. Thus treated, the stalks in January and February abound in fine cabbage sprouts, and, after being boiled, will be found very tender and not inferior to young cabbages.

The original variety of cabbage, called colewort, seems to be lost, and is now succeeded by what are called cabbage coleworts, which at the present day are nearly as valuable as an early crop of cabbages. Many hundreds of acres are annually planted in the vicinity of London, and the author has known two crops cleared off from the same piece of ground, soon after Christmas; he therefore recommends the adoption of it not only to the gentleman's gardener, but to the market gardener and cottager.

The seed for raising this crop should be sown the last week in June and the middle of July, in beds the same as for cabbage plants; the forwardest will be fit for transplanting in about six weeks, in August, September, and October, and will amount to a continued provision of autumn, winter, and early spring coleworts. As it is intended to gather them when young, they may be planted in open compartments of ground, in rows twelve or fifteen inches apart and eight or ten inches in the lines. At the time of planting, if the weather is very dry and warm, a watering would be of advantage. In their subsequent growth, they require to be kept clear from large weeds by occasional hoeing, though

this is seldom necessary, as they come so soon, thus leaving the ground vacant for any other early crop, which not being ready, or too soon, another lot of coleworts can be planted; and from their coming so quickly, little nourishment is drawn from the ground. They should be pulled up as they are wanted for use, according to the quantity required, and when beginning to heart they will be found far superior in every way to the sprouts of the early cabbages, which have generally undergone the ordeal of the caterpillars and other insects.

The propagation and culture of the red cabbage are the same in all respects as for the white, excepting that the heads are never used when imperfectly formed, or as coleworts; but the plants should, in all cases, be allowed to stand till they have formed close, firm heads.

Two sowings will be necessary; the first and principal one in August, for a crop to stand the winter, and to come in at the close of next summer; the second early in spring, for returns in the following winter and spring.

11. CARDOON. — CYNARA.

The name of *cynara* is given to this plant from a supposition that it is allied to the artichoke: the word *cardunculus* is added to *cynara* from its thistle like appearance. The Italian name of *cardoon* is derived from that term. The cardoon is somewhat like the artichoke, but rises to a greater height: it also produces flowers like that plant in August and September.

The cardoon, of which the Spanish variety is the best, may be called one of the fanciful vegetables, and is almost exclusively raised for the higher classes, who must sometimes pay a high price for it, though certainly not more than the time and labour expended in its cultivation demand. At best it has but little nutriment. The tender stalks of the inner leaves of the cardoon, rendered white and tender by earthing up, are used by professed cooks for stewing, and for soups and salads, in autumn and winter.

On the continent, it is in considerable repute, as indeed are many of the salad and pot-herbs, which are comparatively neglected in this country.

The cardoon is a native of Candia, and was introduced into England in 1658, and is known in all the European languages under the same name.

Culture. — This is easily accomplished by sowing the seed about the latter end of April, in the places where the plants are to remain.

They are found to succeed best on such soils as are of the deep sandy loamy kinds, and which have not been much enriched by manure from long cultivation.

There are two methods of raising this vegetable from seed. The first is to sow in a bed of common light earth, moderately thin, and to have the seed raked in evenly. When the plants are well up, thin them to three or four inches' distance, to give them room to acquire stocky growth for transplanting, which will be done in about eight weeks, in the manner hereafter directed. The opportunity of a moist or rainy time must be taken to transplant them, for

in dry seasons it is very hazardous, and the plants will probably fail, unless well shaded and watered.

The following way is generally practised, and is by far the best, being unfailing and attended with less labour.

Prepare a trench about a foot wide, similar to such as is made for celery, and into which a small quantity of rotten dung has been previously dug. If one trench is not sufficient, more can be prepared, at the distance of four or five feet apart, which will be found little enough when the plants come to be earthed up, as they grow to a large size and five feet high.

In the centre of the trench draw a shallow drill, and sow the seed an inch or two apart, and when the young plants have grown about two inches high, they should be thinned out to the distance of ten or twelve inches, and gradually to a greater distance. During the summer they must be kept clear from weeds, and, in dry weather, frequently watered, as they require a good deal of moisture. In the middle of October, when the plants have attained nearly their full size, they should be prepared for blanching. For this purpose a dry day is to be chosen, when the plants are free from moisture. The leaves of each plant are carefully and lightly tied together with strong matting or small haybands, removing such as are at all damaged or decayed, keeping the whole upright, and the ribs of the leaves together. The plant is then bound closely round with twisted haybands, beginning at the root, and continuing to about two thirds of its height, the whole being covered so as to prevent

the earth coming in contact with the ribs of the leaves. If the cardoons are to be used early and before the frosts set in, the plants may remain thus banded without any earthing up, or with very little, and they will become sufficiently blanched for use; but if there is any danger of their being exposed to frost, then it is necessary that they should be earthed up in the same manner as celery, care being taken that this is done on a dry day, and the earth not raised higher than the haybands.

When the plants are blanched a foot and a half or two feet in length, or more, they may be taken up, as wanted, throughout the winter. In severe frosty weather some dry fern or litter may be spread over the plants as a protection; which will also render them more easy to be got at.

12. CARROT. — DAUCUS.

The word *daucus* signifies a sort of wild carrot, and its other botanical name, *carota*, means a root having a fleshy substance under a rind.

The carrot is a native of England, being found wild in many parts of the kingdom. The author has seen large quantities of it growing in some fields in Devonshire particularly.

Miller tells us that he could not succeed in obtaining good carrots from the seed of the wild sort, though it is alleged by others that, if sown in well manured ground, good roots can be produced the third year; and, perhaps, it is from the improved cultivation of the wild sort that our present fine carrots are derived.

By later authors carrots are said to have been introduced into this country by the Flemings, in the reign of Queen Elizabeth, and first sown about Sandwich, in Kent. The stock whence those imported carrots were produced, was most likely obtained from the Isle of Candia (formerly Crete), where the finest and most esteemed carrots were to be found.

Dr. James, an eminent physician, truly says, that the carrot is one of the most considerable culinary roots, that it strengthens and nourishes the body, and is very beneficial for consumptive persons.

Carrots are generally served to table with boiled meats; they make an excellent soup, and form an agreeable pudding. They are also an excellent agricultural root for feeding cattle, and are frequently cultivated for deer, which thrive amazingly on them.

Sugar is found in this root, but in less quantities than in the parsnip or the beet-root.

The following are the principal varieties cultivated for culinary purposes, and for supplying the kitchen regularly at all seasons of the year.

1. Early Horn.—This sort is of Dutch origin, and is the forwardest in ripening, and the best adapted for forcing. It grows much shorter, and requires less depth of soil than the other varieties.

2. Long Altringham (a town in Cheshire).—This is a very fine carrot, and in rich light ground will grow to a large size. It is one of the best for a general crop, and for preserving throughout the winter.

3. Long Orange, or Sandwich (a town in Kent). — The carrots grow remarkably fine in that part of the country, and many scores of tons are annually sent from thence to the London markets. This, together with the next, are cultivated as the two leading sorts.

4. Long Red Surrey is considered one of the best carrots, being of a good colour, size, and flavour. Large quantities of this variety are grown in great perfection in the midland parts of Surrey, where the land is a deep sandy loam, and very suitable for their growth.

5. Long Studley is also a good sort, and is extensively grown in many parts of the country.

6. Long White is but little known at present in our markets, and seldom grown, excepting by those who are fond of French dishes, for which it is much used, and especially for soups. It is certainly a very delicate root, but is best adapted for summer and autumn use, as it does not keep so well through the winter as the common red carrot.

Culture. — In the culture of this nutritious and useful vegetable a deep, light, rich, sandy soil should, if possible, be employed. The soil should be well manured the preceding year; for, if the manure is applied at the time the seed is sown, the roots are apt to be affected with the canker. If the ground is not of the quality above stated, it should be trenched to the depth of eighteen inches at least, and at the same time well broken; for, if this is not well done, the roots are apt to spread in a lateral direction, and become branched.

If young carrots are required early, the seed of

the Early Horn variety should be sown on hot-beds in February, or on a warm south border early in March. The hot-beds should be made the end of January; and after the rank steam has passed off, and the top of the bed has been levelled, lay on about ten inches of light rich mould, and sow the seed: then smooth it down with the back of the spade, and sift a little earth over the whole about a quarter of an inch thick; the glasses can then be put on, and air given occasionally, until the plants appear, when plenty of air must be given on every opportunity, otherwise the plants will be drawn up weakly and spoiled; a slight sprinkling of water will occasionally be necessary, and if the plants come too thick they must be thinned out with the hand.

The early sowing on the border will succeed those very quickly, especially if protected from the cold cutting winds and frosts by a covering of dry fern, straw, or any other light material.

To procure young carrots throughout the summer and autumn, seed must be sown of the Early Horn kind about every six weeks, from the end of February till the beginning of August; the last sowing is made for plants to stand the winter, and afford young roots early in spring. •

For the general and principal crop, the author has found the second or third week in March to be a good season, though he has known good crops produced from sowing at the end of April and beginning of May; this, however, depends entirely on the weather.

In sowing carrot seed a calm day should be chosen, as the seeds are very light; they should

also be rubbed between the hands, and mixed with some dry sand or wood ashes, to separate them as much as possible. The common method of sowing them is upon beds three or four feet broad, and afterwards raked in smoothly and evenly : the teeth of the rake ought to be wider than are generally used, as the seed is apt to be drawn up in heaps. The author considers that sowing the seed in shallow drills, nine or twelve inches apart, is a preferable way, as it admits of the hoe being made use of with greater facility in thinning, and cleansing them from weeds ; and, in a given space of ground, a greater crop and finer roots can be produced than by sowing broadcast in beds.

As soon as the plants are up, and can be well distinguished, a hoe about three or four inches broad should be used to thin and clear them from weeds. Thin from three to five inches' distance such as are designed for drawing young ; but the main crop, intended for large and good sized roots, must be thinned to six inches. The whole should be kept clear from weeds in their advancing young growth. Towards the end of October they will have attained their full growth, and in the beginning of November, as soon as the leaves begin to turn yellow, the roots can be taken up in a dry day, the tops being cut off within an inch or two of the crown, and can be packed among dry earth or sand in the store-house for winter use. They will keep well, pitted the same as potatoes. In either way, if frost be excluded, they will keep perfectly well until March or April of the following year.

13. CAULIFLOWER. — Var. BRASSICA.

The botanic term *brassica* is in accordance with the Linnæan system, as before observed; but Miller insists that the cauliflower is specifically distinct from the common cabbage, because, in the course of fifty years' experience, he could never find the least appearance of one approaching the other.

This most delicate vegetable was first called *coliflorie* and *colieflorie*, and is supposed to have been derived from *caulis*, a stalk, and *floreo*, to flourish. The French at present have no distinct name for this plant, but call it *chou-fleur*, viz. cabbage flower. It was first brought to England, from the island of Cyprus, about the year 1694; and in the course of the last century was so much improved in our kitchen gardens, by the skill and industry of the British gardener, that most parts of Europe are now supplied with English seed.

There are two varieties of the cauliflower, the early and the late, which are alike in their growth and size, only that the early kind, as the name implies, comes in about a week before the other, provided the true sort has been obtained. There is, however, no certainty of knowing this, unless by sowing the seed from the earliest sorts, as is the practice of the London kitchen gardeners. The early variety was grown for a number of years in the grounds called the Meat-house Gardens, at Millbank, near Chelsea, and was of a superior quality, and generally the first at market.

The late variety is supposed to have originated from a stock for many years cultivated on a piece

of ground called the Jamaica Level, near Deptford, and which produced uncommonly fine heads, but later than those at Millbank. Both soils are nearly similar, being a deep rich loam, on a moist subsoil, and continually enriched with dung.

Both the varieties are of a delicate nature, being generally too tender to resist the cold of the winter season without the occasional aid of glasses or other means; and the sight of many acres overspread with such glasses, in the vicinity of London, gives a stranger a forcible idea of the riches and luxury of the capital.

Culture. — The proper seasons for sowing the seed are, for the early summer crop, between the 18th and 24th of August (the early date for the northerly parts of the kingdom). The plants which rise in the same season are to be pricked out, and preserved through the winter under hand-glasses, frames, or other conveniences; and, being planted out in spring, arrive at perfection the ensuing summer, from May to July and August. For the late summer crop to succeed the above, the seed must be sown in February, or early in March, the plants being set out in May, to come in for use in August and September: and, for the Michaelmas or autumn crop, the sowing should be performed about the middle of May, and the plants, being set out in July, come to perfection gradually in October, but are never so large, white, or perfectly headed, as the summer crops.

For the purpose of raising cauliflowers in the greatest perfection, a bed of the richest light earth, in a free exposure, is to be prepared at the proper

period, by digging it well over neatly, one spade deep, and breaking the surface fine; then sow the seed, and rake it in evenly and lightly; or, before the seed is sown, gently beat and smooth the surface of the bed with the back of a spade; sow the seed and sift over it about a quarter of an inch of light mould.

When the weather is dry, gentle waterings in the evening are necessary, both before and after the plants appear; and if very hot dry weather, it is advisable to shade the bed with mats, or some light covering, in the heat of the day, but by no means let the plants be drawn up weakly. Should they rise too thick, or in clusters, they must be thinned out, so as to leave them single at a small distance apart. All the culture necessary afterwards is occasional watering and weeding, until towards the latter end of September, when their leaves will be an inch or two broad: a quantity of the best plants should then be pricked out in three feet beds of rich earth, in rows three or four inches apart, rejecting all crooked and, as we gardeners term them, black-shanked plants. As soon as they are planted, a moderate watering should be given, which, when the weather continues dry, may be occasionally repeated. The plants must remain there till about the end of October or beginning of November, when preparation must be made for transplanting them into their winter quarters, some being planted out under hand-glasses for the earliest crops, others into garden frames, to be occasionally protected by glasses till planted out in spring.

The plants intended to be wintered in frames may

occasionally be pricked out at once from the seed-bed into the frames to remain.

For the plants to be cultivated under glasses, a proper bed of the richest mellow ground should be provided, in the warmest and most sheltered part of the garden, in a free exposure to the full sun. The front of a south border, should there be one of sufficient length to spare, will be the most eligible for this purpose. If the soil is not considered of sufficient richness, it should be well manured with the best rotten dung, spread equally over the ground at least three or four inches thick, and trenched in a good spade deep, and buried equally. Then form the ground into beds three feet wide, with two alleys for the convenience of going in to raise the glasses and set them off and on. After the beds are properly levelled, a line should be marked out in the centre of the bed as a mark to place the hand-glasses, which should be three feet apart. The plants are then put in, four straight and healthy ones being selected for each glass — they are planted at about four inches apart; — a little water is afterwards given, and the glasses put on and kept close for a few days till the plants have taken root. This being observed, prop up the glasses about three inches high on the sunny side, to admit air; and if in the course of a fortnight the weather is dry and favourable, the glasses may be taken quite off in the day-time, but must always be put on again at night. During the winter the glasses should be kept almost constantly over the plants, but propped up during mild weather, on the warmest side, for the admission of air. When cutting winds or

frosty weather prevail, they should be kept as close down as possible; and for their more certain protection (especially in private and small gardens, where there is not a large quantity of glasses), on the approach of such severe weather as was experienced in the last winter of 1838, and which destroyed nearly all the cauliflowers in the country, some dry litter or fern laid down as close as possible about the lower part of each glass, and raised higher as occasion may require, would do much towards the effectual preservation of the plants.

Any further attention the plants will require till spring consists principally in giving air at all such times as the weather will admit of the picking off the decayed leaves; and a little lime and soot mixed, occasionally strewed lightly upon the surface, under the glasses, will greatly protect the plants from the depredation of caterpillars and slugs, &c.

With respect to the plants which remain in the frames, nothing more is necessary than to give them plenty of air in favourable weather; to protect them with additional coverings of garden mats when the frost is very severe, and to look them over occasionally, to pick off any decayed leaves, insects, &c. The author must caution the horticulturist against allowing the plants to be drawn up, as by so doing he runs the hazard of losing the crop by the plants becoming button-headed, or producing very small heads, while in the frames. This arises in general from over-nursing; therefore, the more hardy the plants are brought up the better.

When there is a want of frames, cauliflowers may be protected by planting them in three or four foot-

beds, and covering them with mats; or by planting them close under a south wall, and occasionally covering them with some dry litter in hard weather.

Previously to planting out the cauliflowers wintered in frames, the plants under the hand-glasses should be looked over, and if there is a deficiency of less than two, occasioned either by their prematurely running to flower or other causes, this deficiency should be made up with the strongest and best plants in the frames, which if carefully raised with the point of a trowel, to preserve the fibres of the roots, will receive but little check in their removal, and quickly succeed the more permanent plants.

In the spring culture of the plants under hand-glasses, they must be thinned out, and one or two stout plants left to each glass; the mould should be stirred up, and a little drawn up round their stems, and as the plants advance in growth, the earth should be formed into a sort of basin under each glass, the better to contain the necessary waterings both before and after the glasses are entirely removed. In proportion to the advanced growth of the plants, the benefit of the full air in mild days, and that of warm showers, by occasionally setting the glasses wholly off, must not be omitted, always taking care to defend them during the night, and in cold rains or boisterous weather. When the weather becomes warm, and the plants are grown too large for the glasses, they should then, by degrees, be fully exposed night and day, so that by the latter end of April the glasses may altogether be discontinued. At this period, if the weather is hot and

dry, moderate waterings will be of utility in promoting the progress of the plants to maturity. Towards the latter end of May some of the forwardest plants will begin to show flower, at which time they should be examined daily; and whenever a flower appears to be advanced in growth, turn down some of the inward leaves over the head, to screen it from the sun's rays and from rain, in order to preserve it more white and close, as the excellence of the cauliflower consists not only in size, but in the whiteness, and compact growth of the head.

In gathering or cutting cauliflowers, the flower head should mostly be cut off with some inches of the stalk, together with most of the surrounding leaves, which should be trimmed down nearly equal to the circumference of the head, especially when for present use; but those required to be kept a few days, or intended for market, should have the full leaves to continue, and be trimmed off as they are wanted. As the stalks of these plants never produce sprouts, as in those of the cabbage kind, they should be moved as soon as the head is cut. In regard to the plants which were wintered in the frames, as the spring approaches they should be inured by degrees to the full air, by taking the glasses off entirely every day, and gradually leaving them fully exposed at night, to harden them for their removal into the places where they are to remain. From the middle of March till about the same time in April is the best time for transplanting all the plants wintered in frames or elsewhere, as well as the superfluous plants taken from under the hand-glasses. For this purpose an open spot

of the richest ground should be selected, which having been well manured, dug over, and levelled, will be ready to receive the plants. A line should be put down, and the plants planted at the distance of two and a half feet apart every way, and watered at the same time; and occasionally afterwards, in hot and dry weather, till they arrive at maturity. They require but little attention afterwards. Hoeing and keeping the ground clear of weeds and drawing a little earth round the stems is all that will be necessary to be done, till the plants arrive at perfection, which they will do in succession, until the middle of August, when they are succeeded by the late summer crop.

For the culture of the late summer crop, it is necessary to raise a proper supply of plants in spring, by sowing the seed about the end of February, or beginning of March, on a slight hot-bed made for a one light frame, in the same way as advised for the August sowing. The plants will rise in a few days, at which time the air must be freely admitted; and in dry weather some light waterings must be given. When the plants have leaves about an inch broad, prick them out upon another moderate hot-bed, which will forward them considerably. In the course of a month or six weeks, the plants, after being properly hardened, will be of sufficient strength and size for finally transplanting into the open ground, exactly the same as before mentioned for the main summer crop; they need not, however, be planted quite so far apart either way. Their necessary after-culture is also the same.

For the autumnal, or, as it is called, the Michael-

mas crop, which for many years the author grew remarkably fine, the seed of the late sort of cauliflower (if it can be had), should be sown on a light rich spot of ground, on or about the 24th of May, attention being paid to shade and moisture, which at this season of the year are very necessary. When the plants are sufficiently up, they should be thinned to the distance of an inch apart, and in a fortnight afterwards to full three inches: they are thus to remain kept clear of weeds, and watered occasionally, until they are finally planted out, which, on an average, will be about the third week in July, in the same manner as directed for the former crops. They begin to show heads towards the end of October, and continue a great part of December, or sometimes, in mild weather, till after Christmas. Such late flowers as have not perfected their heads may, on the approach of frost or other bad weather, be taken up and housed. The cauliflower is so great a favourite with most persons, that many ways have been devised for preserving as long as possible such as have begun to flower. For this purpose the author has practised the following method with great success. On the appearance of frosty weather, he had the plants taken carefully up in a dry day, with as much earth as would adhere to their roots, and carried into any sort of dry shed, previously prepared on the floor or ground with eight or ten inches thick of moist sand or light earth: they were then planted so as nearly to touch each other, and regulated according to their different growth. In this situation they remained, and most of them produced tolerably fine heads before and after Christ-

mas. Nothing more was necessary than to look them over occasionally, and pick out the decayed leaves, &c.

When a conveniency of this sort can be procured, any skilful gardener will be enabled to supply a family with this delicious vegetable, after all the plants in the open ground are destroyed; he may thus send the cauliflowers to table as a dainty dish, and will no doubt be rewarded by the commendations of his employers.

14. CELERY. — *APIUM GRAVEOLENS*.

The Latin term *apium* is said to be derived from the supposed partiality of the bee (*apis*) to this plant; but this origin of the word is doubtlessly without foundation.

The celery is a native of Europe, and is found in ditches and marshy ground, especially near the sea-coast, in various parts of England. In its wild state it is known by the name of smallage, and has a rank, coarse taste, and disagreeable perfume: hence the effects of cultivation, in producing from it the mild, sweet stalk of celery, are not a little remarkable.

The cultivated celery has come into much repute within these forty years. The leaf-stalks, when blanched, are used raw as a salad; they are also stewed, and often used to flavour soups. The white stalks of celery are stewed and sent to table in white sauce. An agreeable conserve can also be made of the blanched stalks of celery. The root only of celeriac is used. It is said to be excellent in soups, in which, whether white or brown, slices

of it are used as ingredients, and readily impart their flavour. The seed of the celery contains a great portion of its aromatic scent and taste, and when neither the blanched nor the green leaves can be had, a small quantity of the seed forms an excellent substitute for flavouring soups, &c.

The following are the principal sorts cultivated in our gardens.

1. Dwarf Italian. The stalks of this sort are hollow. It has long been an inhabitant of the English garden, but is now partly superseded by the two following varieties, excepting for an early crop.

2. Red Solid Stalked, or Manchester, by which name it is sometimes called, from its being cultivated in the vicinity of that town in the greatest perfection. This sort occasionally, in rich ground, grows to an immense size, some being known to weigh from six to eight pounds after being washed or cleansed. It is of a very hardy nature and will admit of being blanched, if required, to the height of four feet. It is more hardy, but not considered quite so delicate as the following.

3. White Solid Stalked is of the same quality as the red, but is more generally preferred on account of the colour; there is, however, little real difference between them, excepting in that particular. The finest celery the author ever saw, was in the Royal gardens at Kensington, while on a visit to that worthy man and excellent gardener, Mr. Forsyth, who called the author's attention to a most superb sample of celery, blanched to near four feet in height, of a clear white, with solid, crisp, and well-flavoured stalks.

4. Turnip-rooted or Celeriac, a name by which it is known on the Continent, is there in high estimation for soups; and from the information given to the author by an English cook, it imparts a more agreeable flavour to the soup than the upright. It has, besides, another good quality, that after being well-boiled, it forms a principal ingredient in the salad mentioned under the name of beet-root.

Culture. — When early celery is required, which is generally the case in most families, the seed of the two first varieties (but little of the former, as from being sown so early, it is apt to run,) should be sown on a slight hot-bed of well-prepared dung, about eighteen inches thick, on which six or eight inches of light rich soil should be laid, and covered either with a frame or hand-glass. After the heat has risen perfectly, level the surface, and sow the seed the first week in March, but not so immoderately thick as is generally practised; over which sift a very thin covering of light mould, and give the whole a slight watering from a fine rose pot, to cause the seed to germinate the sooner. When this is done put on the glasses, and as soon as the plants appear, air should be admitted according to the state of the weather. When the young plants have grown two or three inches high, a few may be planted in another frame, at about three inches apart, to forward their growth; and the remainder, in a week or ten days' time, should be planted out in a well-prepared bed, three or four feet wide, to be hooped over, and occasionally covered with mats in ungenial weather. In about a month, or six weeks, those planted in a frame, supposing they are properly hardened,

will be of sufficient strength to plant out in trenches for blanching. For early use the author planted a row or two of the Italian sort in deep drills, drawn with a drill-hoe at two feet apart, when they are sufficiently blanched in a few weeks for use. This, however, is mentioned merely as an experiment. The regular way is to select a level and rich piece of ground: dig some trenches a foot wide, eight or ten inches deep, and three feet from each other; if convenient, from north to south is preferable to any other aspect: let the earth be regularly thrown out on each side of the trench and sloped off. When one trench is opened, five or six inches of well-consumed dung should be worked in full half a spade deep, and so continued until the requisite number of trenches are finished. The plants which were pricked out in the beds or frames, may now be taken up and prepared for planting, which is done by cutting off the extremity of the roots (which in planting should have a gentle twist), shortening their tops or leaves, but not so low as to injure the young centre leaves, and clearing the neck of the plant from suckers; this done, they will be in order for planting in the trenches at the distance of four or five inches apart, after which, give the whole a good soaking of water. Little after culture is required, except using a small hoe at times to stir the earth round the plants, until they are of sufficient growth for the first earthing; that is, when the plants are about a foot high. When they are of that height, let the earth be pared down on each side of the trench, care being taken not to let it get into the hearts of the plants; then with one hand gather

up the leaves, and with the other draw the loose earth against the plants, so as to keep them compact and upright: when the lines are thus finished, a more considerable quantity of earth may be pared in against the plants. In about three weeks, as the plants proceed in growth, they will require another earthing up, and will soon afterwards be found sufficiently blanched for use. The longer the plants remain, the more earthing up they require. In taking up the plants for use, it is best to begin at one end of a row, and dig clean down to the roots, (which then loosen with the spade,) that they may be drawn up entire without breaking the stalks.

The next successive crop to be attended to, is what is generally called the principal. The seed of the red and white solid stalked varieties is to be sown on a warm spot of rich mellow ground, the first week in April, and raked in lightly and regularly; a little shelter may sometimes be necessary at first, should the weather become very wet or frosty.

When the plants are two, three, or four inches high, thin the seed-bed, and prick out a quantity in beds three or four inches apart, as advised for the early sowing; water them; and if the weather is warm, shade them for a few days, until they have struck root. They remain in the bed for four or five weeks, till they are from six to ten inches high, and have acquired a stocky growth. They are then finally transplanted into the trenches for blanching, exactly similar to the early crop. If large celery is wanted, they have only to be planted a little wider apart in the lines. As the plants advance in

growth, let them be earthed up on each side firmly and evenly, and in a sloping direction from the surface to nearly the top of the leaves. In that state the celery will remain sound and good for a length of time, and on the approach of frosty weather, if likely to be lasting and severe, a quantity of dry litter should be spread over the plants, which will not only protect the celery, but enable it to be readily taken up as wanted for use.

When the celery is full grown and the blanching completed, it soon begins to decay: hence very fine looking celery is often found to be rotten at the base of the leaf-stalks.

From the last sowing in April, the author has found that such plants as were left in the seed-bed, if taken up in September and planted in deep drills, at two feet apart, will, if occasionally earthed up, form a good substitute when the principal crop is used, or destroyed by the weather.

The different earthings up of celery should always, if possible, be performed when the plants are dry; since, where this is not attended to, they are apt to become spotted and cankerous.

The celeriac is but partially cultivated in this country, and not nearly so much as it deserves. It is propagated by seeds, sown in a light rich spot the third week in March. When the plants are two or three inches high, they should be thinned out to three or four inches apart; and when five or six inches high, transplanted into deep drills or shallow trenches, at six or eight inches distance in the lines, and watered according to the weather (the whole of this species being partial to moisture). As the plants

advance in growth, observe the progress of the roots; and if they have acquired a tolerable size, draw some earth up on each side of the row, three or four inches high, which will render them white and tender, and particularly so when it happens to be a moist season. In about six weeks after being earthed up, they will be in good order for use, and will continue so until the inside is observed to get hollow or unsound.

15. CHERVIL.—CHÆROPHYLLUM.

The botanic name of this plant is derived from its warm, mild, aromatic qualities. It is a native of the Levant and various parts of Europe, and is sometimes found in its native state in this country. The chervil when young somewhat resembles parsley; but as it runs to seed, it bears more the appearance of hemlock.

The tender leaves are used in soups and salads. It is much cultivated by the French and Dutch, who are so fond of it, that hardly a soup or salad is made without chervil forming part of the composition; and it is often found by many to be a more agreeable and mild addition to seasonings than the parsley, so universally used by the English cooks. Old master Gerard, who has been styled "the prince of herbalists," says in his *Herbal* (written 200 years ago), that chervil should be eaten with oil and vinegar, being first boiled, which is very good for old people that are dull and without courage: it rejoiceth and comforteth the heart, and increaseth their strength. Gerard's garden was in that part of

Holborn in London, now called Hatton Garden ; it was rather extensive, and is mentioned only to show the contrast between that time and the present.

There are two varieties of the chervil, the plain and the curled ; they are both of equal goodness, but the latter is principally cultivated, as it likewise makes a handsome garnish.

Culture.—The plant is annual, and the seed should be sown to keep up a succession, from the beginning of March till June, at the intervals of about a month, as the younger it is the higher flavour it imparts.

The seed may be sown in shallow drills, from six to nine inches apart, and covered over lightly with the mould ; it can also be sown broad-cast and raked in lightly and evenly. If the plants rise thick, a slight thinning will be necessary ; and in dry weather a little water will be useful.

To have chervil for use throughout the winter, it should be sown towards the end of August in a three or four foot bed, which can be hooped over, and the plants protected with mats in frosty weather. The plants remain where sown, and are never transplanted. They are proper for gathering when the leaves are three or four inches in growth, and must be cut off close ; they will shoot up again, and may be gathered in succession, though the plants of the spring and summer sowing soon spindle up into seed stalks, ceasing to produce young leaves, which are the useful parts.

16. CHIVE. — ALLIUM.

The name of *allium* is given to this plant from the character of the flower, which corresponds with many others comprised under that head, as the leek, garlic, common onion, &c. The specific name of chive is *A. Schænoprasum*, from its supposed vegetable qualities, which partake of the flavour both of the onion and leek. It is a native of Britain, and has been found sometimes, though rarely, in meadows and pastures, near Fast-castle on the borders of Berwickshire, in Argyleshire, in Westmoreland, and near Kirby Moor-side, Yorkshire. It has been thought by some persons to be a wild onion; but we have no instance of its nature being changed by cultivation.

The principal use of chives is for soups and spring salads. The leaves, which are like short rushes, are cut off close to the surface and employed as a salad ingredient; and the whole of the plant is occasionally made use of as a substitute for young onions. They are also used as a seasoning for omelets, soups, &c. being esteemed milder than onions or scallions.

The chive is a hardy perennial plant, and being once planted, will continue for many years, without suffering from the most extreme cold of the winter. It may be planted in any common soil and situation, and is easily propagated by dividing the roots in the spring or autumn, and planting them a few inches distance from each other, when they will rapidly increase into large bunches. A bed

will last three or four years, after which period it should be renewed by dividing the roots.

17. CORN SALAD. — VALERIANELLA.

The botanic name of this plant is derived from the Latin word *valeo*, to be powerful or efficacious, in allusion to the many virtues of the plant. It is a native of this country and other parts of Europe. In France and Italy it is dressed like spinage; and we have lately, from the latter country, had a superior variety introduced, the leaves being of a thicker consistence, and having a milder flavour and a more robust growth than our native kinds. This plant has also the name of lamb's lettuce, from being formerly in much repute as an early green feed for lambs. At present its principal use is for spring salads, to which the improved sort gives an agreeable taste and flavour.

Culture. — The corn salad is annual; the seed should be sown as soon as it is ripe, early in the month of August, otherwise it often remains a year in the ground before it vegetates.

The seed should be sown on a warm spot, either in shallow drills six inches apart, or on a bed broadcast; when the plants are well up, they should be thinned out to the distance of three or four inches from each other. When wanted for use, it is better to pick the leaves than to cut them.

18. CRESS. — LEPIDIUM.

This vegetable takes its name from its warm spicy nature. It has the common specific name of *sativum*, which is given to many varieties of vegetables, from their being cultivated as garden herbs.

The native place of the garden cress is unknown, but it has more or less been cultivated in this country for the last three centuries.

There are three varieties at present in cultivation: —

1. Curled-leaved, which besides being used as small salading, like mustard, is employed as a beautiful garnish.

2. Plain-leaved, is most commonly cultivated, on account of the difficulty of procuring the seed of the former genuine; it has also the same flavour, but is not so handsome in appearance.

3. Golden cress, which much resembles the curled, but is rather more slender in growth, and very dwarf. It has a mild and delicate flavour, and affords a pleasant addition to our stock of small herbs.

All the sorts are equally good, and, together with mustard, form the principal ingredients in winter and spring salads, and with some families all the year round.

Culture. — This sort of herb should always be cultivated so as to grow as rapidly as possible, being cut while perfectly young and in a crisp state. It is raised by sowing the seed as wanted for use, at different seasons of the year, where a constant succession is required; and to have the crops deli-

cately young, once a week or fortnight will not be found too often. The sowings in the open ground commence about the second or third week in March, according to the mildness of the weather. Prepare a piece of rich well-dug ground, by raking the surface very fine; sow the seed in small flat shallow drills or very thickly broad-cast; earth over very lightly, and but just enough to cover the seed. In warm dry weather give occasional waterings. In the early spring and autumn crops, if the seed is sown thickly on a small square piece of ground, and covered with a hand-glass, it will forward the crop considerably. The late autumn and winter crops will require a slight bottom heat under glass; the soil for that purpose should be light and mellow, such as old tan or vegetable mould, the seed to be sown in shallow drills and covered very slightly.

Where there is a pinery or fruiting house in work, small salading of any description can be sown in shallow boxes filled with the light vegetable mould, whereby it can be had in the severest season with little or no trouble.

Double the quantity of cress should be sown to that of mustard, as it is not of so rapid and large a growth; and to keep up a proper succession, two sowings of mustard will be necessary to one of cress.

19. CUCUMBER. — CUCUMIS.

The meaning of the word from which cucumber is derived, is not well defined in the English language. Various reasons have been assigned for its origin; but all more remarkable for ingenuity than

probability. There are arranged under the head of *cucumis*, according to the Linnæan system, the *cucumis melo*, the common melon, *c. flexuosus*, serpent melon, and many others of the same species; *c. sativus* is the specific name by which the cucumber is distinguished.

The cucumber is of very great antiquity, and a native of the East Indies and the warmest parts of Asia and America; whence its tenderness may be derived: though this is not so great as in some other exotics from the same climates. It was introduced into England about the year 1573.

Few or none of our culinary vegetables have less nutritious qualities than the cucumber, it being of a cold watery nature, and at times not easy of digestion; hence it should be used with caution by persons of a weak and delicate constitution. When dressed with oil, vinegar, and pepper, it is certainly a whet to the appetite, but of no sort of nourishment to the body. If at all wholesome, it is when stewed in rich gravies, which counteract its ill effects, and render it a dainty dish.

In winter, when the snow is deep on the ground, a cucumber, either in its green or stewed state, highly embellishes the table of the higher and more wealthy classes, who grudge not the expense; and cucumbers produced fine at that season of the year, add greatly to the gardener's reputation. When the rage for very long and uncouth-looking cucumbers abates, much unnecessary care, labour, and anxiety will be saved to the gardener.

There are many sorts of cucumbers in cultivation. The author has selected the following as being

dissimilar and most worthy of cultivation, either in forcing frames or in the open air : and he will begin with the variety which laid the foundation of the fine cucumbers exhibited in this country during the last sixty years.

1. The Southgate, so called from a village near London, where this fruit was raised in the greatest perfection as to moderate length, symmetry of growth, and colour ; and being of a more tender nature than the common long prickly, is principally recommended for early frame-work, as are all the sorts which have originated from this stock, for which there are numerous claimants, each sort being considered by its possessor as the best. Hence the only advice the author can give to the young horticulturist, to procure a really good cucumber, is to apply to some respectable seedsman or brother gardener for the seed of their best sort.

2. Long Green Prickly. This is a hardier sort than the Southgate, but not so early ; it is the most proper for hand-glasses and for various culinary purposes. It commonly grows from seven to ten inches long, and has a dark-green skin, covered with small prickles.

3. Short Green Prickly, is one of the hardiest and earliest sorts, and the best for the open ground. It is also the most prolific in producing the small cucumbers for pickling. The village of Sandy, in Bedfordshire, has long been famous for producing cucumbers in the open air ; and, in the season, whole waggon loads are sent weekly to the London markets, not only for pickling, but in a more mature state for all culinary purposes.

4. Long Smooth Green Turkey, grows to a considerable length and thickness, is very fleshy, and proper for mangoes and pickling when very young. It is not a sort much cultivated for very early crops.

5. Long White Turkey differs from the above in having a number of spines scattered over the surface of the fruit. The stalks and leaves grow to a larger size, and by some it is considered less watery, and of a better quality.

6. Long White Spine, a delicate cucumber, generally grows from eight to ten inches long; the fruit is white with small black prickles, and not so watery, and with fewer seeds than most others of the green variety. It is preferred by some families for the table, but is an indifferent bearer. The author has to remark, by way of caution, that where the white varieties are propagated, they should be kept totally distinct from the green, provided the seed is saved from either colour, otherwise they will certainly degenerate; and no seed should be saved, but from such plants as are in a healthy state, with fruit perfect in growth and colour.

7. The Prize-fighter. The author cannot well define the reason of this appellation: perhaps it arose from its obtaining the prize so often at various cucumber and horticultural shows. This sort is of late introduction, and is in every respect a good one. It requires the assistance of artificial heat to bring the fruit to perfection, as it grows to a large size, generally from twelve to twenty inches long, or more. It is firm and well-flavoured.

Culture.—In the raising and producing of this fruit much care and attention are necessary, as well

as a considerable degree of skill in the regulation, management, and application of the heat, which is required to bring them to maturity in the best and most perfect manner.

There being so little to be said of raising the cucumber in the natural way, the author has reversed the order in this instance, and proceeds with the culture by artificial means, which being premised, he has to observe that no plant in the culinary line of vegetables has given the gardener more anxiety than the one now treated of, during the most changeable, dreary, and severe part of the year. However, much of that care and anxiety has been lessened within these last forty years by M'Phail's pits, which have been glanced at in the early part of the work. That excellent invention has certainly rendered the forcing of this vegetable more simple, and reduced it to a more regular and certain system; so that at this time few gentlemen's gardens, and few of the principal market-gardens in the vicinity of London and various other large towns, are without them.

As it is not convenient for every one who wishes to have early cucumbers to erect a permanent hot-bed, the culture on dung hot-beds will be first noticed.

In raising and cultivating the cucumber in this way, the apparatus and materials principally necessary in carrying it to any considerable extent, are a sufficient number of frames or pits of different sizes, with glass lights for covering them; and it is usual when this culture is much attended to, and practised in the most perfect manner, to have

a one-light frame for the seed-bed, a two-light one for pricking out the young plants and nursing them in, and two or more two-light frames for their fruiting in; but they may be cultivated very well, on a small scale, with one or two small frames, or proper pits.

What has been said on the preparation of the dung under the head of asparagus, holds good in respect of the cucumber, but more so from the very tender nature of the plant, and the untoward season (December and January) in which the cucumber seed is generally sown. This is the most perplexing and difficult operation of the season, and, if well got over, with strong and healthy plants, the cultivator may look forward with every probability of success; at least the author has found it to be the case in very many instances, during a practice of seventy years.

For the seed-bed (an essential matter) in either of the months above mentioned, sufficient fresh horse-dung, say three or four good cart-loads, should be procured, to make up a strong hot-bed for a one light frame or box, as the gardeners call it; which, if large enough, will be sufficient to produce plants for six or nine-lights. The dung being in readiness, it should be laid in a heap for five or six days, and, in the interim, turned over two or three times. Should heavy rain or snow fall at the time, some sort of temporary covering with mats, fern, or such like will be necessary, to protect it from being too much saturated with moisture, which brings on a fiery heat at first, but slackens too soon afterwards. Care, however, should always be taken, that the

reduction of the dung is not carried too far before making up the bed; as where that is the case, too little heat will afterwards be produced, and there will be a want of regularity in its supply.

In the course of a week, and as soon as the dung is observed to be in proper order, the bed may be made up to full three feet and a half in height, and six or ten inches wider than the frame, the whole being beaten down regularly with the fork, but not trodden, as advised by some. When finished, the frame and lights must then be put on and kept close for a day or two, to draw up the heat, which will soon be accomplished with a large body of steam: air should then be admitted night and day, by tilting up the light two or three inches at the back, for the steam to evaporate, which it generally does in four or five days, and sometimes in less. During that time, if the dung within the frame is slightly stirred up with a hand fork every other day, and a moderate watering given each time, it will bring the bed into a sweet and competent state for earthing: (these waterings are most essential, and are of modern invention.) The author's old acquaintance, Abercrombie, says nothing of them in his early work, *Every Man his own Gardener*, which, almost at first sight, made the author averse from every other pursuit but that of a "gardener."

When the bed is found to be in a proper state for earthing, the frame should be taken off, and the surface stirred up about a foot in depth, when, after being regularly beat down and levelled, the frame must be again put on, and a quantity of the richest mould, more dry than moist — suppose one

part light rich loam and three of vegetable earth — should be put on the bed full ten inches in depth, as much as will also be wanted for pits. In a day or two the earth will be sufficiently warm for sowing the seed, either in pots or pans, which may be plunged to half their depth. The quantity of plants wanted is easily calculated, as each three-light frame will require ten or a dozen, if not more; and, at all events, let seed enough be sown, not only for certain wants, but to make good any contingencies which frequently happen at this season of the year. Should the weather prove severe at the time this work is going forward, a good lining of dry straw or litter must be laid round the bed to keep in the heat, and prevent the sudden chill, to which dung hot-beds are so liable at this season of the year, as the writer, as well as his brother gardeners, can abundantly testify. The seed soon vegetates, and in two or three days grows up into strong plants, at which time care should be taken every day to admit fresh air, particularly if a heavy steam has arisen in the bed; and this should be let off by tilting the light more or less, according to the weather; a very little will at most times do. A single mat covering also in the evening will be necessary; but it must be taken off about sunrise in the morning, to give the young plants all possible benefit of light and sun, which are most essential to their successful growth. It will be also requisite at times to examine the bottoms of the pots that are plunged; and if found too hot, or if there is the least likelihood of the earth burning (a fatal disease), which is known by the

soil turning white, the pots must be drawn up: if the burning has gone to any extent, do not let the least particle mix with the mould intended for potting. Should the seedlings seem dry, a little water will be necessary; and should the weather be severe and stormy, a mat or thin canvas should be put before the space left for the steam to pass off (if it be only half an inch), to break the direct entrance of the air, which sometimes proves fatal, as few exotics are more susceptible of cold than the cucumber.

In the course of four or five days the seedlings, if all has gone well, will be of sufficient growth for transplanting into pots. During that time dung should be got ready for making the ridge, as it will take nearly three weeks before it is in proper order to receive the plants, which by this time are of sufficient growth to pot off, but either sooner or later, according as their seed-lobes are fully expanded. For that purpose small pots (generally called sixties) which the author recommends for an early season, should be prepared; first, with covering the hole at the bottom with a little half-consumed dung, which draws the roots considerably, and then filling them with earth half way up, rather hollowed in the middle, in which put two plants, the roots towards the centre, and the upper part bending towards the edge of the pot; afterwards cover them with an inch or so of mould: the pots should then be plunged in the bed, and each have a little soft-water out of a bottle, which must be put in the frame two or three days before, for the purpose of raising the temperature to a proper de-

gree. The light should then be closed down, and if the sun happens to shine about mid-day, a very slight covering of hay will be necessary for an hour or two; and unless there is much steam in the bed, the light may be kept close till the morning, and if covered (which most likely the season will require), the covering must be taken off early; and in examining the bed, if much steam has risen, it should be let out as before noticed.

About this time the heat of the bed should be examined, and if it be diminished, which is readily discovered by plunging into it a thermometer (an instrument the author never of late used in framework, as he trusted to experience), to a few degrees below 70 of Fahrenheit, a fresh lining of well-prepared hot dung must be laid against the back and front sides, about eighteen inches thick; care being taken that none of the outward steam gets inside the frame. In looking over the plants, and observing them to be dry, a little water should be given towards the middle of the day; and at the same time, if roots are found to issue from the stems or otherwise, nearly a full earthing may be given to the plants in the pots, and a full plunging in the bed, the other two sides of which, if not of a full sufficient heat, must be lined. This will most likely bring the plants on until they are taken out for their final planting. The author always gave the preference to his first seed-bed, provided the internal warmth could be kept to its proper height; otherwise a new bed must be prepared, similar to the one above mentioned.

As soon as it appears that the plants have clearly

formed two joints, the leading bud should be pinched off carefully with the finger and thumb. In a day or two after that operation, they will begin to break into runners; and in the course of eight or ten days, if regularly attended to, they will be of sufficient growth to plant out finally in frames. The preparation of the dung for the aforesaid purpose having been mentioned, it may be supposed by this time to be in a proper state to make up the bed or ridge, which should be the same height as advised for the seed-bed, and a few inches wider than the frame. In the making of this bed, attention should be paid to the regular working of the whole: as the bed is carried on, it should be beaten down regularly with the fork; and, as before observed, not trodden, which often does more harm than good. As soon as it is finished, and the short dung thrown up in the middle, the frame must be set on with the lights, and treated in every way similar to what is advised for the seed-bed, particularly in shoving up the surface, watering, and giving vent to the steam, &c. which a ridge hot-bed requires for nearly a fortnight before it is in proper order to receive the plants. This is observed and may be known by the smell of the steam arising from the bed, whether moderate or fiery. A trial should likewise be made of the heat contained in the body of the bed. This is done by thrusting what are called watch-sticks down on three sides to the centre of the bed, and after remaining about half an hour, they will indicate the heat, which being moderate, the surface of the bed may be levelled, and the earth (such as before mentioned) put into the frame, either in

hillocks or in a ridge ; if for the former, a sufficient quantity should be put into the centre of each light, so as to support the plants when turned out of the pots, a few inches from the glass, under which four of the best plants may be set and planted, an inch or two lower than they were in the pots ; at the same time, if an inch or two of dry mould is strewed over the vacant space of the bed, it will be the means of checking an over quantity of steam, which is so apt, at this early season, to weaken the plants. After a few hours' closing of the lights, should the steam be observed to rise heavily, a little air should be given when they are covered up in the evening. For this purpose a single mat will suffice for a few days ; but this depends more or less on the weather. In a few days after the plants are set out, the mould at the bottom of the drills or ridge of earth should be examined, and if there is the least appearance of burning, a few holes should be made with a dibble, and a little water poured therein, and by being left open for a few days, will most likely stop its progress. It arises principally from an over haste in moulding the bed, especially if the dung had not been sufficiently worked before. As a preventive, the author recommends turf, an inch or two thick, to be laid with the green side downwards, about a foot in diameter for the drills, or the same breadth as the mould is in the centre. Should it have happened that the burnt mould has much accumulated, it should be carefully drained away and fresh put in its room. When it is observed that roots similar to white threads, begin to get through the mould in either way of planting, a

few inches of extra earth should be carefully put over them, to within a small distance of their seed leaves. The earth should be previously put in the frame a day or two before wanted, and laid against the inside, back and front, to be used occasionally as wanted; and if the surface of the intermediate space of the drills or other way is gently stirred, and at times sprinkled with water, rather in a tepid state, it will add considerably to the health and growth of the plants. The outer part of the bed will require attention, by protecting it with a good lining of dry fern or litter, which being well kept up, will in favourable seasons bring the fruit sufficiently forward to cut off of a proper size (perhaps twelve or eighteen inches in length) for table, as such long cucumbers are raised more to please the eye than the palate. But should the weather prove as severe as in January and February 1838, it will be necessary to place to the back and front of the frame a good lining of well-prepared hot dung. From such hot linings every precaution should be taken to prevent the steam from entering the bed; and here the author has to observe that, during these two critical months, a small thermometer kept in the frame will be of signal service to the young horticulturist in regulating the heat according to the sudden changes of the weather. Should the plants have gone on well since the first earthing four or five days back, they will by this time require another, which may be given more freely, and a little added to the open surface of the bed. The plants now have most likely made runners, where laterals (if a good sort)

generally show fruit. Should that not happen to be the case, a second stopping must be resorted to ; and from the laterals produced by such a process, there will be a sufficiency of fruit to set. A number of male blossoms generally accompanies the lateral shoots in clusters : these should be moderately thinned, for if the whole were left on, they would only weaken the plant ; but they must be by no means all rubbed off, as these flowers are of the most essential service at this time of the year, there being now no bee to impregnate the female bloom, even in the finest days that can be relied on ; we must therefore have recourse to art, by which it is curious to observe how nature can be assisted throughout the most dreary months in the year, by what the gardeners call setting the fruit of early cucumbers or melons. Such an operation is allowed to be the most curious in gardening, and was but slightly put in practice till the rage for early cucumbers and melons commenced towards the end of the sixteenth century, and which has been increasing from that to the present time. The operation is performed in the following manner : as soon as a female blossom appears fully expanded, and in a state of sufficient forwardness, select one of the strongest of the male blossoms with a foot-stalk to it, which carefully divest of the petals or flower leaves from about the stamens and antheræ ; then taking it between the thumb and finger, let it be inserted with the top downwards into the centre of the three stigmas (the principal parts of fructification) of the female flower ; and by giving it a gentle twirl, the farina or male dust is

discharged, and thus produces the fertilisation. A fresh male blossom should be made use of for each impregnation.

As soon as this has been performed, the plants begin to grow vigorously, and produce large quantities of fruit. Great care should be taken to keep the vines in good order, laying them out regularly, and not permitting them to cross each other; if wanted large and fine, it will be necessary to stop beyond the fruit two or three joints. All the withered and decayed leaves must be removed, as well as any others, when too numerous or irregularly placed. Attention must also be paid to the state of the bed as regards the heat, water, and mould: if the heat is kept a few degrees greater than usual, it will promote the setting of the fruit. A double quantity of earth may now be given, but still keep an open space at the back and front, which in the course of a fortnight or three weeks may be filled up nearly to a level with the drills, &c.; frequent sprinklings of water should likewise be given from the nose of the pot. Few plants require more of this fluid than these, at this period of their growth.

Should an additional heat be found necessary, either the front or back lining can be worked up anew, with the addition of some well-prepared horse-dung, taking the same precaution as before alluded to. After the plants are fully established, and the fruit set in a growing state, but little air will be necessary, except in very clear days, as the excessive moisture which the plants imbibe, prevents the ill effect it would have on plants of a different nature. The setting the fruit should be continued

partly until May ; and as the blossoms increase in strength, the petals may be gently closed after the operation : it may sometimes be done on the first setting, but in general the plants are rather too tender at that time.

The seed to be saved should be taken from the earliest fruit, and at the first or second joints, and be perfectly well ripened ; and in order to prevent its running too luxuriantly into vine, it will be better to keep it two years or more before it is made use of.

Of late years cucumbers have been successfully raised from layers, and when a bed is observed to be thin of vines or shoots, this may be done to advantage, as layers of this kind generally produce fruit of a superior quality, arising from the multiplicity of roots which they draw to nourish them.

For the above purpose, a strong healthy shoot should be selected, and after the ground is a little way opened, gently bend it down in the opening to about an inch in depth, taking care to have one joint in the earth, and two at the end ; the part inserted is then lightly covered over with earth, and when it is observed that the layer has struck root, (which it generally does in two or three days), the end should be punched off, and in its after growth treated as the parent plant.

Such was the author's method of cultivating early cucumbers on dung hot-beds for above forty years, and he has been the more diffuse on this subject, for the benefit of the amateur and young horticulturist. The author, however, congratulates

them on that highly useful invention, M'Phail's pits, already glanced at, which has been the cause of considerably lessening that care and anxiety attendant on the dung-bed system, and which will be spoken of hereafter : in the interim he has to remark, that should it be found necessary to have a second hot-bed for three or more lights at the beginning of April, the dung for that purpose ought to be well-worked, in a manner similar to what has been already mentioned. The bed should be about two and a half feet in length, and in every way treated as for the first crop, but with the addition of more air and water. As the season advances, should it so happen (which it frequently does) that the old plants continue in health, they may be considerably improved, both in vine and fruit, by thinning and cutting back to healthy laterals, giving the surface of the bed a top dressing of the richest mould and frequent sprinklings of water, keeping the frame closed, as but little air will be necessary, except in the hottest part of the day, &c. With this treatment the plants, by frequent sloping, may be kept in a bearing state until the principal and very essential crop comes in under hand-glasses, which the author has had fine by the middle of May.

Leaving the further cultivation of the cucumber on dung hot-beds for the present, the writer has to observe, that as the construction of such a pit as the one recommended may not be familiar to many readers of this work, the following outline for a three-light frame will be a sufficient guide, and will enable any person to comprehend the whole, and more particularly the builders in the neighbourhood.

The best materials are recommended to be used; the mortar should not be made up with too much sand, and the outer wall should be nine-inch work, as it is principally to support the earth surrounding the pit on which it is built.

For the erection of a three-light frame-pit, a dry level spot of ground should be chosen (the more sheltered the better) fully exposed to the south; let a piece be measured off, and a square hole dug out to the depth of three feet, and of sufficient length and breadth, (say to contain a pit of open brick-work, ten feet long and four feet broad,) leaving a clear space of eighteen inches for the linings round the whole; and as it will be necessary to have an outer wall to prevent the earth from falling in, it should be certainly nine-inch work as before noticed, and consequently a sufficient clearance of the ground should be made to admit the outer wall to the necessary breadth.

After the bottom is properly levelled, it should be paved; in the centre build a pit of open work, the length and breadth above-mentioned, taking care that the bricks are laid edgeways. When the open brick-work is carried up to its intended height, the space below should be cleared, as nothing further will be wanted in it but the heat from the linings, which, if required, may be kept up to 80° without danger of burning or scorching, as the platform hereafter mentioned will be a security against that. When the whole of the open brick-work is carried up, and previous to laying on the last courses which will be worked close, iron bars should be in readiness one-inch broad and half an inch thick, and of

sufficient length to go across the pit, with about two inches over at each end, to support a double row of common house-tiles ; for which purpose the bars should be so placed, that a row of tiles may be laid lengthways, their sides resting on each bar, the whole to be worked in with good mortar, and when completed, will be found to approach nearly or quite to a level. Over this layer of tiles there must be another, also closely laid with mortar, and placed in a contrary direction to the last ; this finishes the platform on which the plants are to grow. On the top of the brick-work, round the pit, there should be laid a curb of well-seasoned deal or oak, three or four inches thick by nine broad, on which to rest a frame, should that be preferred to carrying up brick-work of the proper height, twelve inches in front and eighteen at the back. When only a frame for the bearers of the glasses is required, it should be made so as to allow them to take out and in, which will be found a great convenience, when any work is required to be performed in the pit. However, upon the whole, a three-light frame, which can be taken off occasionally, will be found the most eligible ; such a moveable frame must be the same depth as the wall carried up from the platform. A frame used for such a purpose, if made of good sound wood, and painted when observed to be necessary, will last many years. In respect of glazing, the squares of glass, good in quality, are to be of a moderate size, the lap about the eighth of an inch, and well laid in strong putty, and twice painted over before they are made use of. Some persons recommend lead lights ; but the author does not agree in

this opinion, since from their closeness they are very apt to draw the plants into a weakly state.

In respect of the size of the pit, whether there are three lights or more, this is left to the judgment and convenience of the builder, who of course will have an eye to the outer wall of the pit, which should have a coping of stone about nine inches broad, a foot or eighteen inches in length, and four in thickness. The stones, for better security, should be cramped together. If stone cannot be had, the hardest and best burnt bricks should be chosen.

Such are the pit and frame the author recommends for early cucumbers and melons; and should the outline not appear to be of graphic exactness, still he hopes there will be sufficient hinted at to convey his meaning for such an erection. The author does not pretend to be an architect, having had for nearly seventy years more active business to perform than to sit for hours with the ivory rule and steel compasses, trying to solve problems in Euclid.

If it should be asked, how the author obtained experience to enable him thus highly to extol the qualities of the frame here recommended, his answer would be, that it resulted not so much from actual practice, as from his having been an eye-witness for many years of its utility for early work for various culinary vegetables. By some it has been objected to on account of the expense in the erection; but that should be a minor consideration when durability is required; and this can only be expected when good materials are used. In that

case, the expense for repairs, during many years, will be trifling; the greatest, indeed, for a little paint occasionally. Another objection has been started by some gardeners, that from the closeness of the platform, there will be a detention of too much moisture; but that will not be the case if the plants are not deluged, and only have gentle, though frequent, sprinklings; from which, if there should happen to be a superabundance of moisture, it will readily pass off in evaporation, by judiciously giving air at all such times as will seem necessary. Few or no plants bear the weight of atmospheric moisture arising from heat so well as the cucumber, and few vegetables are of a more porous nature.

Supposing the frame to be built and in readiness to receive the mould, &c., the first thing to be done is to fill up the space left for the lining with strong horse dung litter, which has just begun to heat, so that, as it rises, there will be a strong heat thrown above the platform, which may be raised to 80° within the frame, if required. Previously to putting in the earth (hence the grand secret on the utility of the platform), there must be laid over the surface of the tiles three or four inches of dung from an old hot-bed, which will be a greater succedaneum or nourishment to the plants than is imagined, throughout the season. When that is laid on, an inch or so of fine mould may be strewed over the whole; after which the mould should be laid in either way, as before advised for dung hot-beds, and the plants, with regard to air, moisture, &c., treated in a similar manner, and particularly the linings, which will want frequent stirring up, and in

part renewing. But much depends on the weather: however, as before observed, let the thermometer be resorted to; and though the author did not use such an instrument in the frame way for above forty years, still it will be found useful to such persons as have had but little experience. They are certainly most useful in stoves and forcing houses. The first the writer ever saw was pointed out to him by Philip Miller, at Chelsea, above seventy years ago.

Should either the amateur gardener or the young horticulturist feel inclined to try his skill for the production of a cucumber that will be likely to gain a prize, he will do well to attend to the following details.

Various have been the ways by which to make crooked fruit straight; such as by a sort of narrow glass case, or a wide-mouthed bottle &c.: in either case a fine bloom on the cucumber will be essential, this ornament being always admired both in the animal and vegetable kingdom.

Cucumbers have been for many years successfully raised in pine stoves. Whether the fine brace presented by Fowler (Sir W. Blount's gardener), on Christmas or New-year's day, to George the First, was raised in a stove, has not been recorded. This presentation was made above 100 years ago; hence the cultivation of early cucumbers at that time must have received very great attention: that of some ordinary fruit was of a more recent date, as a plate of fine well-ripened Duke Cherries was sent to George the Second's table by Powell, then the royal gardener at Kensington, on New-year's day. Powell was succeeded by Greening,

gardener to George the Third; but from his pride his career was of short duration.

In raising plants for the purposes of a stove, the seed may be sown either at the end of September or the beginning of October; but it must be observed, that in the stove there should be a projection of the back flue to within eighteen inches or two feet of the bearer; on which projection boxes or pots with the plants are to be set. When they are of sufficient growth to plant in pots, there may be one, two, or three plants set in each; that of three in a 48 size is principally for large pots; but such as are planted in boxes, either double or single, will be found the most eligible: the boxes can be readily placed on bricks, when the top of the flue is found to be too warm. The soil for planting should be rich, but not over light, and by no means sifted; and two or three inches of short dung laid at the bottom will be of service.

As soon as it is observed that the plants break into runners, after being stopped at the third joint, they should be carefully turned out of their pots, and placed an inch below the surface; and from the state of moisture in the pots, more or less water should be given. Here they are to be trained to sticks as high as the bearers, and afterwards turned down over the path, where most likely they will, by proper attention to water, &c., bear abundantly. In such situations it is astonishing to see the quantity of fruit so produced, growing over your head with only the glass parting them from the snow. Such was the state they were in when the author paid a visit to Kew, where they were cultivated in the

highest perfection for many years by that excellent horticulturist Mr. W. Acton, to whose estimable father many of the best horticulturists in this kingdom lie under obligations.

Thus far on the early cultivation of cucumbers. The raising of the cucumber under hand-glasses is of great consequence, being a succession throughout the summer, and is of much emolument to the market gardener. Hand-glasses are made of various sizes; but such as are about eighteen inches square will be found the most useful. The glass is generally worked in lead, of the pieces for which the glazier well knows the use. To the bottom of each glass there should be fixed a piece of iron hoop, to protect it in wearing.

According to the quantity of plants required, the seed of the long green prickly kind, should be sown about the middle of April, either distinct on a slight heat, or in any part of a cucumber frame. When of sufficient strength they should be planted (the mould being light and rich) three in a 32 size pot; when, having a little water they may be plunged in a moderate heat until they begin to grow; and when the vines are observed to have grown to the third joint, leave two strong ones, which, after being stopped, will furnish sufficient runners to cover the bed. Very little of the stopping is attended to in extensive market grounds; neither are the glasses taken off, being only tilted on one side: they require, however, different usage in private gardens.

While the plants are getting on for their final planting, a rich well sheltered spot should be chosen,

in which a trench should be thrown out for any number of glasses, at three feet six inches distance, about a foot deep, and about three feet or three feet six inches wide, laying the earth regularly on each side of the trench, which should be filled up with well-prepared hot dung to full two feet in thickness, well beat down with the fork; and if lightly trodden down, it can be better levelled to receive the mould, which may be put on immediately afterwards to the depth of eight or ten inches: should heavy rain intervene, the surface must have some sort of temporary covering. As soon as the heat is found to have risen throughout the mould, it should be levelled. A line is then to be drawn in the centre, on which the glasses are to be placed at three feet six inches from the outside of the first glass; after which the plants may be turned carefully out of the pots, and planted, without disturbing the balls, under the centre of each glass, about an inch or so deeper than they were before. The glasses are then to be set on, and should the sun come out warm, and the earth be rather dry, a little water will be necessary (rather of a tepid nature), as well as a little shade for a day or two, if the sun is very hot. The shading of hand-glasses may be done very expeditiously by sprinkling the glasses with water, on which a little fine earth may afterwards be strewed, and which will be found sufficient for a day or two; the glasses must be kept close during that time, the more readily to enable the plants to draw fresh roots; after which air must be given more or less, according to the state of the weather. If the weather should prove cold and wet, a cover-

ing of mats will be necessary, which may more conveniently be done by arching the bed over with rods or hoops. When it is observed that the plants have nearly filled the glasses, air should be gradually given all round, which will harden the plants preparatory to their being finally let out, still putting on the covering at night. Previously to the plants being turned from under the glasses, the surface of the ridge should be lightly stirred, and the whole covered with some dry stuff, about an inch or two in thickness; and as a preventive against insects, a little soot should be scattered over the surface. After this is done, the runners should be regularly laid out, and, if necessary, pegged down; but this is seldom required after placing the glasses regularly over the plants, for each of which glasses three brickbats or such like will be wanted. Should one runner start considerably over another, it may be stopped near the point. However, too much of that stopping under hand-glasses only causes confusion, and will require the knife some time or other in the season. The market gardeners about London, who have 500 or more glasses, only give air on one side; and the author has observed the few shoots that are let out thence, to be three or four feet long. A different mode of culture, however, is required for private gardens, where the number of glasses is limited.

Little more need be said of hand-glass culture, except as regards the watering, keeping the ridge clear of weeds, and continuing the covering frequent and moderate in dry weather; and should the early part of the autumn prove cold and wet, occasional

covering will be of much service in preventing an early mildew, as well as the fruit from spotting. If there are frames to spare, putting them on early will answer the purpose best.

It now only remains for the author to say a few words on the final culture of this luxurious vegetable: it may be called so in whatever state it is eaten; but to consider it in any way nutritious is out of the question.

What the author alludes to is the raising of cucumbers for picklers, or as our ancient cooks used to call them, "gerkins." For this purpose a light rich spot of ground should be chosen, previously well worked up a full spade in depth, in which a shallow drill (if more than one, they must be four feet apart) should be drawn, and the seed thinly scattered in at an inch or two apart (to be thinned hereafter), about the 10th or 12th of May, and lightly covered with earth: should as many come up as were sown, a thinning will be requisite to eight or ten inches apart. Their after-culture will principally consist of keeping the ground clear of weeds by light hoeing, as the roots run very near to the surface; and by training the shoots, when five or six inches high, to the right and left. To keep them in that position, a little light earth taken from the alleys may be laid over their stems, which will be the means also of strengthening the plants hereafter.

In many of the market grounds round London, where acres of early cabbages are planted, and in full cut by the middle of May, patches are cleared; the ground dug up and a little hollowed out, in

which ten or a dozen seeds of cucumber are sown : when up, and on the appearance of their first rough leaf, they are thinned to four or five, in a patch; the hollow basin-like places are filled up, and the remainder left to chance and nature; but generally in this manner a large crop of fruit is produced, especially if the season is genial. Thus with little trouble and no expense, a sum of money may be realised, which would otherwise be lost. The author hopes this hint will be taken advantage of by the cottager. Where a crop of cucumbers is grown in the open air, it is a great advantage to cover the ridges two or three inches thick with clean straw or peas haulm, when the plants are grown sufficiently long: this will keep the sun from parching the ground in hot dry weather, and prevent the blossoms and young fruit from being covered with soil during heavy rains. It also prevents the fruit from becoming spotted, when the autumn is wet and cold.

20. ENDIVE. — CICHORIUM.

This plant receives its botanic appellation from its being a species of succory. The English name endive is derived from its specific denomination *Indivia*. The garden endive is a hardy annual, a native of China and Japan, and was introduced into England in the reign of Edward the Sixth, in 1548. It is cultivated in this country more as a winter and spring salad than for any other purpose. The French make a great consumption of it at their tables, eating it raw in salads, boiled in ragouts,

fried with roast meat, and as a pickle, esteeming it a wholesome esculent, which never disagrees with the stomach.

That early and excellent herbalist Gerard informs us that these herbs, and especially the white or blanched endive, eaten in salading or otherwise, comfort the weak and feeble stomach, and cool and refresh it when much heated.

The best varieties are but few, and, if kept distinct, they will be found quite sufficient for every culinary purpose to which they are adapted.

1. Broad-leaved, or Batavian Endive, is esteemed preferable for stews and soups. It is less hardy than the curled sort, and is mostly cultivated for use in the autumn. The true sort has a thick roundish leaf, wrinkled and turning inwards, so as to form a blanched centre.

2. Green-curled, is readily known by its beautiful lancinated leaves. It is a very fine, stocky, and hardy variety, and principally grown for the main autumn and winter crops. It is more used for salads than the first sort; and when cultivated by the market gardeners, it invariably meets with a ready sale and good price.

3. White-curled, is more delicate, but less hardy than the green, and is therefore only proper for an early crop: its principal property is quickness in blanching.

Should any more or new sorts be wanted, they may be obtained on application to any respectable seedsman; but the author has always found the above named varieties superior, and sufficient for every use required.

Culture.— The plants can only be raised from seed, which is sown in beds of rich mellow earth, and raked lightly in; the season of sowing it depends upon what time the plants may be wanted for use.

In order to have a very early crop, a sowing should be made about the third week in May: when sowing takes place too early, the plants are apt to run to seed; and when it is deferred too long, the plants do not attain a sufficient growth before they are set in the autumn.

The Green-curved variety is the best for the earlier sowings. From the time the seed is first sown, occasional slight waterings must be given when the weather is dry; the plants should be kept perfectly clear from weeds, and properly thinned out, so as not to draw up too fast and in a weakly state. When they are from four to six inches high, they are to be planted out in a rich well-prepared bed or border; the plants for the early crop in as open a situation as possible, and for the later the more southern and sheltered the better, in order that the plants may better stand the severity of the winter.

The ground being well prepared, the plants can be taken up from the seed-bed with their roots as perfect as possible; drills, the depth of a hoe, should be drawn across the bed or border (as the endive blanches with less trouble than if inserted on a level surface), and the plants, after having their roots and tops shortened, put in with a dibble twelve inches apart each way; and, with a good watering, they will soon strike root. Little more need be done till they have produced a new set

of leaves, when the ground should be hoed over, and the mould drawn out of the drills and levelled round the plants, which will accelerate their growth. It will also considerably forward them for blanching, which should be done as soon as they have expanded a sufficient quantity of leaves for tying: the sooner this is done the better, as they are very apt to start for seed at this early season, after which they are good for nothing.

For a successional and more permanent crop, seed of both the sorts should be sown towards the middle of June, and treated, with regard to water, &c., in the same way as was advised for the first sowing. The same method, if acted upon with all small seeds in the course of the summer, will be found of essential service. As soon as the plants attain a sufficient growth, proceed to transplant them exactly in the same manner as stated for the first; perhaps a few inches wider apart may be requisite; and, if more than one row is required, always set the plants in the triangular or quincunc method, as they will have considerably more room to grow, and be less liable to rot in the course of blanching. For this purpose, as the season advances, a dry day must be chosen, and as it will take about three weeks from the time of tying them, until they are properly blanched for use, a judgment may be formed as to how many it will be necessary to tie up at a time.

For a late winter and spring crop, a third sowing will be requisite about the latter end of July and beginning of August; and from this a sufficiency of plants may be raised for a continuance throughout

the winter. To the market gardener, who preserves them for spring use, they are of much benefit, as they always meet with a ready sale.

The seed for this crop should be sown on a rich spot of ground, rather thin, and fully commensurate to the number of plants required for immediate use; and the few hundred seedlings left after planting need not be thrown away, as they will be found useful hereafter. Should the weather at the time of sowing be hot and dry, shade and moisture will be necessary.

When it appears that the plants are of sufficient strength to plant out, it should be done immediately, either in beds, borders, or wherever there is a vacancy; as also under warm walls, pales, banks, and such places, where they are most likely to stand the weather. As the season continues mild and the plants are fit, they may be blanched in their places of growth; but the major part should be taken up and put under some sort of protection from our variable climate. Various are the methods recommended for this purpose; one of the most successful, particularly where there is not the convenience of a shed, is by throwing up and forming a sloping bank of earth, two or three feet high, to face the south, on which to plant the endive; but let it be observed that the lighter and drier the mould, and the warmer the situation, the better.

For taking up the endive, let a dry day be chosen towards the end of October or beginning of November; gather the leaves together with the hand, and let them be planted entire on the warm side of the bank, beginning in a horizontal direction from

east to west on the top, and so working downwards till the whole is completed; let the plants be set about a foot apart each way, and nearly up to their tops, where, by a protection of fern, peahaulm, straw, or mats, they can be defended from the weather, and be ready for use in a short time when required. Where frames or pits are to spare, they may be used to advantage in preserving endive that has been previously blanched for daily use, by filling them with thoroughly consumed dry tan: where much of this article is used, a good store should always be kept in readiness, as it will be found of great utility in severe seasons for protecting many kinds of plants, which otherwise would be difficult to preserve. When the frame or pit is filled up, the endive should be taken in a dry day with the roots entire, and plunged in the tan nearly to the top in this state; after the lights are put on they will rest secure, and be ready for use at all times and in all weathers.

Should there be any plants of the last sowing left in the seed-bed, they may be taken up and planted in drills in the warmest part of the garden, where, if they survive the winter, they will, by drawing a little mould to each side, be found very useful either for soups or stewing; a garden, in the month of March, being rarely overstocked with them.

The blanching of endive should always be performed in dry days; and in winter, when the weather is dry without frost. Using strings of fresh bass, tie the leaves regularly together a little above the middle, moderately close. If the soil is light and dry, earth them up half way; but if moist, merely

tie them. The blanching is completed at different times, according as the weather is hot, dry, or cold, sometimes in one, two, or three weeks ; but generally the latter. This esculent is also occasionally blanched by setting up on each side of the plants, flat tiles or bricks, which, resting against each other, in an angular form, and covered with earth, exclude the light. It may also be blanched under garden-pots, in the manner of sea-kail.

In the summer and autumn tying up is best, but in cold or wet weather the latter method may be practised ; which, by covering the plants, preserves while it blanches them.

21. FENNEL. — ANETHUM.

Fennel,—*Anethum*, *Fœniculum* ;—the latter name is the original, but Linnæus, in his system of botany, annexed the genus *Fœniculum* to that of *Anethum* (Common Dill).

Anethum is derived from the Greek word, to run up quick or straight, and *fœniculum*, from the supposed resemblance of the plant, when withered and dried, to hay. It is a native of Germany, Spain, Italy, and many other places. It has sown itself in many parts, and appears like a native in England, being enumerated as such by many botanists. It may be seen growing wild on the banks of the river Adur, between Brighton and Worthing ; about Gravesend, and other parts of Kent ; in Sussex, Cambridgeshire, and commonly on the western coasts.

The tender stalks of fennel are used in salads ;

the leaves, when boiled, enter into many fish sauces, particularly mackerel, — and when raw, are used as garnishes for several dishes. It is also eaten in this state with pickled fish. In France it is very extensively used, and in Spain is put up with olives and pickled pork. The whole of the plant is good in broth or soups; it is a hardy and wholesome herb, and agrees well with the stomach.

It is said the juice of this plant, taken when the stalk is nearly full grown, has the singular property of clearing the sight and taking away the film from the eyes. At all events, this plant is used medicinally, and especially the seeds, which are a useful stomachic and carminative, and are admitted into the *materia medica* of the London Pharmacopœia.

If the virtues of this and many of the commoner herbs were known to the poor cottager in his affliction, the means of alleviating suffering might be derived from a source little thought of, — from herbs growing in his own garden.

That excellent author Pliny observes that a good housewife will go into her herb-garden, instead of a spice-shop, for her seasonings, and thus save the health of her family by saving the contents of her purse.

Culture. — Few plants, whether culinary or physical, require less culture than the common fennel; for where a plant is once established, and the seed allowed to ripen, hundreds of young plants will spring up yearly; and, being a perennial, they will last many years.

In raising the plants from seed, sow early in

spring in shallow drills from six to ten inches apart; and, if intended to remain, in some warm corner, to cause it to have an early growth: it is also preferable to transplanting, as the roots, from being long and fleshy, are rather tardy in striking. When the plants are three or four inches high, they must be either thinned or transplanted to about fifteen inches apart. The roots of the old plants also divide into offsets, and when only a small quantity is wanted, they may be slipped off in spring, summer, or autumn, and planted a foot apart, when they will produce an immediate supply of leaves. The fennel continues good for many years; but as it sends up strong stems for seed in summer, these should be cut down, to encourage a production of young leaves below, in succession; and, by not allowing it to seed, to keep the plants from spreading more than is desirable.

Some writers have attempted to give a reason for the two varieties of colour arising from the same plant. The author himself made an experiment for two successive years, to ascertain the fact, by clearing out, to a considerable distance, every other colour but the one intended, so as to avoid any impregnation. However, all would not do, as the seed sown in the two successive years equally produced a mixture of colours. Hence the question may be asked, is there not something inherent in the nature of fennel to cause this singularity?

The sweet fennel will be treated of under its proper head.

22. GARLIC. — ALLIUM.

Allium sativum, according to the Linnæan system of botany, stands in the same class and order as the onion. Its Latin name is supposed to have originated from the rapidity of its growth. The term garlic was given on account of its powerful and penetrating scent. It is a native of Sicily, the south of France, and many other parts of the world, and was first generally used in this country in the reign of Queen Mary.

Many excellent medicinal qualities are attributed to this root; for instance, it is known to be of great service in humoral asthmas and catarrhus affections: a few cloves, peeled and pounded with honey, and taken two or three nights successively, will also be found of benefit for rheumatism; and few men are more liable to this painful disorder than gardeners, from being so much exposed to the wet and cold during the winter season.

It is considered to be efficacious in many other complaints, and would, no doubt, be more generally used, were it not for its acrimonious taste and disagreeable odour.

Garlic, when dressed after the fashion of our neighbours on the Continent, forms a very pleasant sauce for roast mutton, and is preferable to sticking a clove or two in the knuckle of a leg. If the sauce is made according to the following direction, given to the author by a gentleman who used it for roast meats, and who considered it a strengthener of the stomach, it will be found mild, agreeable, and most wholesome. The garlic, after being peeled

and divided into cloves, is to be boiled in three changes of water, and afterwards put into the dripping-pan for about an hour before required for use. It is served to table in the same way as onion or bread sauce.

Culture. — There is at present but one variety (*sativum*) cultivated; it does not grow so large, and is not so strong scented, as the one introduced some years ago. The root is a compound bulb, and may be divided into many parts, termed cloves. The garlic is propagated by planting these cloves in some light, and rather dry, rich soil, in drills two or three inches deep, and six from each other. They only require to be kept free from weeds; and about the end of July, or beginning of August, the bulbs are generally full grown, which is evident from the yellow appearance and withering of the leaves: they must then be taken up, cleaned, and dried in the sun, and afterwards tied or plaited in bundles, to be hung up and preserved for use.

23. GUINEA PEPPER. — CAPSICUM.

Guinea pepper, more generally known by the botanic name of *Capsicum*, which was given to it by the early writers in that science, signifying to bite, from the hot biting acrid taste of the fruit.

There are several varieties; some of a shrubby nature, growing three and four feet high; but these now treated of are annuals, whose fruit is of various shapes and colours. All the sorts are natives of South America, and were brought thence to Europe by the Spaniards; and we have accounts of their

having been cultivated in this country in the reign of Edward VI., above 300 years ago.

The medicinal and other qualities of this plant are important; the first, and not the least, is that it gives almost instantaneous relief to the toothache, arising from a carious cause. A little of the pepper should be introduced into the cavity of the tooth affected, and the head kept warm a while afterwards.

Eaten at dinner, it prevents any flatulency being caused by vegetables; but for this purpose, and indeed in most cases, it should be used with moderation. It warms, invigorates, and assists digestion, and the general estimation in which it is held will be fully exemplified by a peep at Covent Garden market during the season of its being in use. The pepper vinegar, mixed with barley water, is found an excellent gargle; either for the mouth or throat.

As this work may probably fall into the hands of some persons unacquainted with the receipt for making the pickle, or preparing cayenne pepper from the capsicum of English growth, the following is given, as communicated to the author many years ago, and practised with success.

For the purpose of pickling, the bell-shaped capsicum, introduced into this country in 1759, is esteemed the best, the skin being thick, fleshy, and tender; if, however, it cannot be procured, that generally sold in the markets will answer.

The pods for pickling should be in a green state; for when left to turn red, they are more tough and biting. The pods being gathered when dry, are to

be slit down on one side, and after the seeds are taken out, they must be laid in salt and water for twenty-four hours, changing the water at the end of the first twelve. After soaking the full time, they are to be laid out to drain for an hour or two, and then put into bottles or jars, and boiled vinegar, after being allowed to cool, poured over them, till they are entirely covered. The jars are then to be closely stopped for a few weeks, when the pods will be fit for use, and are esteemed the best and wholesomest pickle in the world.

For making the cayenne pepper, the sort known by the name of the cherry capsicum, or bird pepper (hereafter described), is generally used, being the most acrid of all the varieties. The fruit should be gathered when fully ripe, and well dried in the sun; it is then ground, and after a few hours more drying, put into bottles and closely corked, until required for use. It will be found as agreeable a condiment to fish, as the pickle is to meat.

To preserve the cherry capsicum for use, nothing more is necessary than to cut off the plants, when the fruit is ripe, close to the root, tying them in bunches, and hanging them up in some warm dry place; and from an experiment made by the author, it appears the capsicums will remain after being gathered for many years without losing any of their good qualities, excepting, perhaps, that they become a little darker in colour. The cherry or bird capsicum is mentioned as the best for making the pepper; but when this is not to be had, either of the following varieties, when sufficiently dried, will answer the purpose.

There are many varieties of the capsicum as before noticed, some annual (the principal for culinary purposes), some biennial, lasting a year or two with the assistance of a stove; while others, of a more shrubby growth and longer duration, are constantly kept in the stove for a display of their beautiful scarlet or crimson-coloured fruit during the winter.

The following are the three varieties, which will be found the most useful for the purposes mentioned : —

1. Annual, or Common Capsicum, large, rather curved and tapering to a point. Though a native of a very warm climate, it endures the open air in this country during summer. This sort has been an old inhabitant of the British garden, and is the one generally cultivated for the market.

2. Bell, or Heart-shaped, the best for pickling; it produces large fine pods, rather blunt-shaped, and of a dark or deep red colour when ripe: another of this variety bears yellow pods, but they are grown more for ornament or curiosity than for use.

3. Cherry, or Bird Pepper Capsicum, was introduced into this country from the West Indies in the year 1758. The fruit is small, of a bright red colour, and lasting in growth, but only with the assistance of a stove, being more tender than the two first.

The sorts with small oblong erect pods are the hottest, and are commonly known under the name of Chilies, from coming from Chili, in South America. These are the best, and most cultivated, for making the cayenne pepper.

There are several other varieties of capsicum, producing red, yellow, and black pods, which, however, are cultivated more for curiosity or ornament, than for utility.

Culture. — The capsicums above described are only raised from seed, which should be sown in the beginning of April, in light rich mould, either on a slight hot-bed, or in pots plunged in some vacant corner of a cucumber bed. But it is better to sow on a slight heat, and covered with a hand-glass, as in such a situation they are less liable to be drawn up weakly. Air should be admitted occasionally, and water given when the plants appear dry; when about two or three inches high, they are to be carefully taken up, and planted either singly in small pots, or three in a flat 32 size pot, and after giving them a little water, they are to be plunged in the seed-bed: but if a little hot dung is at hand, a new bed should be made on purpose; and, if this is not convenient, the pots may be placed under a frame. Water must be given in moderate supplies, to assist their subsequent growth. The plants, by the middle of June, must be hardened to the open air by degrees, so as not to feel any sudden change when turned out. A warm south border of light rich soil is to be chosen, and the plants, after being turned out of the pots, are to be planted at the distance of ten or twelve inches apart. In August they will display their shining green fruit, which the following month will turn to a beautiful crimson colour.

Some of the market gardeners round London, who raise large quantities of this fruit, first sow

the seed on a slight heat, and afterwards transplant, under glass, on a heat, three or four inches apart, similar to that on which the seed was sown; here they remain, the necessary attention being given to air and water, until they are finally planted out in some rich sheltered spot of ground, in lines about a foot apart and six inches from plant to plant. In moist genial summers it is surprising to see the immense crops they produce.

Large quantities of this esteemed fruit are annually raised by Willmott, Keene, and many others, in the neighbourhood of Brentford, Isleworth, &c.; and to these gentlemen the Horticultural Society is indebted for some of its best papers, deriving as they do their experience from horticultural practice. The author, however, has to regret that these papers are partly lost to the young horticulturist (to whom they would be of the greatest service), by the very high price charged on most of the works that issue from that Society.

24. HORSE RADISH. — COCHLEARIA.

Cochlearia armoracia is, by the Linnæan system, (from the structure of its flower), classed with the scurvy-grass. The original name, *Cochlearia*, was given on account of the form of the leaves, which, being slightly hollowed, resemble an old-fashioned spoon.

The root, scraped into shreds, is a well-known accompaniment of English roast beef. It is also used in winter salads, and sometimes in sauces.

Horse radish is a native of some parts of Eng-

land, growing by the sides of ditches and in marshy places. It was long cultivated in our gardens, but does not seem to have found its way into general use or to the table, till the latter part of the reign of Elizabeth; before that time it was chiefly planted for its efficacy in medicine, of which our old herbalist, and many other writers, give ample commendation.

The medicinal effects of horse radish are to stimulate the solids to activity, and, on account of its warm nature, it is good in nervous cases arising from cold and viscid juices. The root, when scraped fresh, creates and assists digestion; it is therefore properly employed as a condiment either with fish or flesh. It has been found useful in hard dry cough, and, from its penetrating qualities, is highly serviceable in rheumatic cases and on the early appearance of the scurvy.

Culture. — It is rather singular that, from the wholesome qualities and easy culture of this root, it is not in more general estimation. Two causes may be assigned for this neglect; the first, from its value not being known in a medicinal point of view; and the second, from the disagreeable appearance of the old tough roots of many years' growth exhibited for sale in the country markets; whereas, to have it in perfection, it ought not to exceed two, or at least three years, from the time the sets were first planted.

Horse radish grows best in a deep rich soil of rather a moist nature, as, for instance, along the Thames, near London; where many acres may be seen covered with this plant.

It is best propagated by the tops or crowns, cut two inches long ; if these cannot be had, cuttings of any part of the root, with a joint or two, will answer the purpose.

When a convenient spot of ground is chosen, it should be trenched up and well broken full two feet deep. The beginning of March, or thereabouts, will be found a good time for planting the sets. This is readily done by a blunt dibble fifteen inches long, and of sufficient thickness to allow the sets to drop to the bottom of the holes so made ; let them be planted nine inches apart, and the holes filled up as you go on. Another method of planting is to take out an opening at one end of the bed, fifteen inches deep, in the common way of trenching, and planting a row of sets with their crowns upright ; then beginning the next trench the same width and depth, putting the earth on the first row, and so continuing until the whole is completed. After the ground, if of any extent, is properly levelled, some light crop, such as radishes, spinage, &c., may be sown, and will be off in time not to injure the roots. The plants must be kept clear of weeds during the summer ; but when they are strong, it will not be necessary, as the large leaves cover the ground, and every other plant must give way. About the end of October, or as soon as it is observed that the leaves begin to decay, the horse radish may be taken up as required for use ; for which purpose the following method is recommended :— Open a trench on one side or part of a row, then clear the plants down to the crowns from whence they spring, and cut them off nearly level, so that

the sticks or roots of horse radish may be taken up entire and sound. When all wanted are up, not forgetting a stove for the winter, the ground should again be filled in, and, from the roots so cut, there will rise some fine sticks the next year, and for some years after; those also not likely to be wanted should be cut down, as advised for the young plantation, by which a constant supply of fine young roots is always at hand, and far superior to the old knotty roots in common use; for after a certain age they become tough, and have a disagreeable bitterish taste. In spring, a little rich earth spread over the bed will benefit the plants; and as the leaves decay in the autumn, let them be raked off with a wooden rake.

Whenever more of the roots are taken up at a time than are wanted, they may be preserved in a juicy state for some time, by putting them in a little moist sand, under cover.

25. INDIAN CRESS. — TROPÆOLUM.

The botanic name *Tropæolum* is derived from a Latin word signifying a warlike trophy. This fanciful name was chosen by Linnæus, because he conceived the shield-like leaves of the *Tropæolum*, and its brilliant flowers, shaped like golden helmets, pierced through and through and stained with blood, might easily originate such an idea. The common name of *Nasturtium* was given in reference to the cress-like flavour of the herbage.

The Indian cress, more generally known by the name of *Nasturtium*, is a native of Peru, whence

it was brought by the Spaniards in the year 1580; and it afterwards appears to have been sown and cultivated by Gerard, the celebrated herbalist, whose garden, at Ely Place, Holborn, has now vanished, and it may be said, has "left not a wreck behind."

Not only does this brilliant flower enliven the gardens both of the rich and poor, but it also adds to the health of the body. The flowers and young leaves have a warm taste, like the garden cress, and are sometimes used in like manner in salads. The seeds or berries, when gathered young, on a dry day, and pickled in the best vinegar, form an excellent substitute for capers, which they much resemble; and, indeed, many persons prefer them to capers.

This herb is also esteemed a good antiscorbutic; the flowers and young leaves, as before stated, being of a warm, spicy, agreeable taste, are serviceable in weakness or pain in the stomach, proceeding from cold, and flatulencies. To sum up the whole, they will be found a most brilliant garnish to dishes by candle light. The two principal varieties for culinary use are the following: —

1. *Nasturtium major*, well known as an old inhabitant of the English garden, producing its seed in knots of three joined together.

2. *Nasturtium minor*, is of much later introduction. It grows very dwarf and bushy, and produces larger seeds than the major, which are preferred for pickling; but from its scanty production, there requires to be a larger quantity of plants grown for that purpose.

There have of late years been several other single varieties of the *Tropæolum* introduced, some of a most beautiful crimson colour, but they are yet rather scarce, and have not found their way to the kitchen garden, or become like the two named sorts, an appendage to the cottager's arbour. They contain the same good qualities, and would form a pleasing variety.

Culture. — The Indian cress, being too tender to survive the cold of our winters, is treated as an annual plant; and if not sown for the benefit of the seed or herbage, it should be for the elegance of its flowers: the new and dwarf sorts in particular are showy, and have a brilliant effect in the flower-garden; they are also well adapted for covering unsightly walls or old buildings.

The seed is sown from the middle of March to the middle of May, in patches or drills an inch and a half deep. It is not necessary to be very nice in respect of soil or situation, as they will thrive almost any where. The seed should be sown thinly, and if requisite, it will transplant well; the plant may also be propagated by cuttings. The greatest enemies to this plant are late spring frosts. When the plants advance into runners, and are wanted as a blind, let them be trained to stakes, bushes, or trellis work, and they will afterwards climb unassisted. The major nasturtium will sometimes grow to a great length, as much as twenty feet or more in the season.

26. JERUSALEM ARTICHOKE. —

HELIANTHUS.

The botanic name of this plant is given as a species of turnsol or sunflower, which, when expanded, resembles the figure of the radiant sun, — turnsol, from its supposed singularity in turning its face always towards that luminary in his diurnal course. It has the specific name of *Tuberosa* from its large irregular shaped roots.

It has the name of artichoke from the tuberous roots, which, when boiled, have the flavour of the true artichoke. The Italians called it “girassol,” which was corrupted by the English into Jerusalem; hence the common name Jerusalem artichoke.

This root, which a learned author says is more pleasant than profitable, is, though of so hardy a nature, a native of the Brazils, in South America, whence it was sent to France; and at the time the French were in possession of the Canadas, in North America, it was introduced by them into that country, and throve so well that the name Canada potato was given to it by the inhabitants. The first introduction of the J. artichoke into England was during the reign of James I., and from only two roots the country was so stocked with them, that in the course of a few years they were so cheap and plentiful that the most vulgar began to despise them; whereas, when first introduced, they were, as Parkinson (an eminent herbalist in those days) says, “a dainty for a queen.”

They were formerly baked in pies with marrow,

dates, ginger, sack, raisins, &c. ; and so made they must have been a dainty dish indeed.

The modern way of cooking these roots is to boil them in water till they become tender, when, after being peeled, and stewed with butter and a little wine, they will be as pleasant as real artichoke bottoms, which they nearly resemble both in taste and flavour. However, on account of their watery qualities they will never be in much repute, though they may fill up a gap as a side dish at the table.

Culture. — Throughout the whole tribe of culinary vegetables there is none that requires so little labour in their cultivation as the J. artichoke ; for the smallest offset, when put into the ground and rooted, will soon multiply into hundreds, and when once established they are with difficulty cleared out of the land.

They are propagated by either planting the small roots, or dividing the large ones into offsets, with an eye or two attached, in a similar manner to the potato ; they may be planted any time in March, in a light mellow soil, in any recluse corner of the garden, previously trenched a foot or fifteen inches deep. They should be planted in rows three feet apart, and about one foot in the row ; and to have fine roots they should be taken up and replanted every year. The stems grow to a considerable height, and have the appearance of the sunflower, only that in this country they do not blossom.

About the latter end of September the roots or tubers will be sufficiently ripened for use, and towards the end of November a quantity may be

taken up for consumption during the winter, and preserved in sand or light soil out of the reach of frost,

In the cultivation of this vegetable, the author has to observe that a light soil should be chosen in preference to a strong rich one; such may probably have an influence on the root in respect of moisture, as it has on the potato.

27. KIDNEY BEAN. — PHASEOLUS.

The botanic term *Phaseolus* is supposed to allude to the shape of the seed-vessel, which resembles a kind of small boat, known under the same denomination. The English name kidney-bean was given on account of the seed being of a kidney shape; it is also erroneously called French bean, from its being a long time cultivated in that country, and introduced under that name to its neighbours. The native place of the kidney-bean is the most southerly part of Europe.

It is supposed by some writers that kidney-beans were first introduced into this country from the Netherlands, about the year 1509, when gardening first began to flourish and to obtain attention; for even at that time it was more progressive in improvement than could have been expected, considering the want of learning which then prevailed, even amongst the higher classes.

The use of the kidney-bean is too well known to require to be described here. Gerard mentions, even in his time, that it was considered pleasant and de-

licate to the taste, and not apt to engender wind, as some other pulse is disposed to do.

With such qualities, it is no wonder they are so much in repute; and where there is a conveniency for forcing, they can be obtained all the year round.

The dwarf White Dutch Kidney Bean was the first sort introduced into England at the above date, but was increased in the early part of the reign of Elizabeth, by the addition of several other varieties. These varieties were all dwarfs, and it was not until some years afterwards that the scarlet-runner made its appearance. This bean at first was only thought fit to cover old walls and unsightly buildings; but now and for some years past the prejudice against them having worn away, they have since proved highly beneficial, and are considered, in point of flavour and tenderness, equal to any of the others. They are also the most productive, and afford a succession of pods until checked by the frost.

Numerous are the varieties of this pulse which have been introduced within the last fifty years: most of them are good; but the following have stood the test of time, and will be found fully to answer the description given.

DWARF VARIETIES.

1. Negro Kidney Bean. There are two sorts, the large and small (the latter is best for forcing); they are generally planted for a first and last crop, for which they are well adapted, and, on account of their coming quickly in and quickly off, they are very suitable for the market gardener, who always finds a ready sale for them early in the season.

2. Dun or Liver-coloured, excellent for bearing, should be planted for the main and successional crops, and also for forcing.

3. Red-speckled, is equal to the best, either for forcing or the open ground; it was first raised by a gardener named Fulmer, whose name it continues to bear to this day. It is very prolific, of a compact growth, and comes in early.

4. Black and Purple-speckled, are two good sorts; they resemble each other in growth and quality, and are cultivated for a succession.

5. Yellow, also known as Cream-colour, is one of the best and most useful sorts in cultivation. It is a good family and market bean; is very productive and well flavoured, and should be planted extensively for the main or principal crop, and especially by the cottager.

Any of the above five sorts will be found the most profitable and useful, either for forcing or the open ground: there are many intermediate varieties of similar growth and bearing to the above, so that there are plenty to choose from.

6. White Dutch, a fine bean, but of rambling growth, and, as before observed, the first introduced into this country.

7. Canterbury, a small late white bean: it is a very prolific bearer, and principally planted in order to gather the pods for pickling.

8. Battersea—very like the Canterbury in shape, colour, and bearing, and is chiefly planted for the same purpose.

The seeds of the two last varieties are extensively used, when in a dry state, by the French and

Italians, for the purpose of making a favourite dish called "haricot;" they are also used by many families in England for the same purpose. After the seeds are boiled for a short time, they are put into the stew-pan, with strong gravy and high seasonings, and the whole forms a delightful dish. There are two other varieties of dwarfs, the China and Sparrow-egg, both great bearers, and being very dwarf, are well adapted for small gardens.

RUNNING VARIETIES.

1. **Scarlet**, from the colour of its blossoms. This bean being rather sportive, care should be taken to select the most perfect marbled sort for seed. The selection should be made soon after the seed is thrashed out, for when it gets older, the colour is not so discernible.

2. **White Dutch Runner**, a fine bean, and a very prolific bearer. It is called in many parts of England **Case-knife Bean**, from the shape of the seed-pod, which is of considerable length, flat, and rather bent. It is a favourite bean in the county of Kent, and much cultivated by the farmer and cottager. Upon the whole, however, the preference is to be given to the scarlet runner.

3. **Azonian Kidney Bean**, is so named by the author, on account of its flourishing in some of those islands. A few seeds were brought thence by a gentleman, and obligingly given to the writer, who planted them, and can testify to their singular and rapid growth, great bearing, and delicacy of taste. Mr. W. Rogers, who is at present in possession of the stock, hopes to have, in the course

of another season, a sufficiency to supply his customers ; at present they are scarce.

The seeds are rather small, flat, and quite of the kidney shape ; the plants are good bearers, producing their pulse nearly a foot long, in branches of four to every joint, and almost from the ground to upwards of twenty feet, till the frost checks them.

In respect to cooking, a very small portion of the sides requires to be peeled off ; two cuts, one down the middle, and another to divide it into four parts, will be found quite sufficient, and much superior to the modern method of mincing the beans before boiling, which renders them more watery and tasteless.

There are two other running kidney beans, the Zebra, so called from the seed being curiously striped, and the Painted Lady ; both of which may occasionally be planted for variety and succession. They are good bearers, and the pods are delicate and well tasted.

CULTURE OF THE DWARF VARIETIES.

The soil for kidney beans in general, but more particularly for early crops, should be rich, light, and dry, and must have been manured for a crop or two before (fresh dunged ground being a poison to the seed), and also worked up to the depth of a foot or eighteen inches. The ground being well wrought and levelled, drills may be drawn two inches deep, and, if for a principal crop, at two feet or two feet and a half distance, according to the size of the seed. The best season for planting the beans is the first or second week in May. They

are set in the drills from two to three inches apart : and their future culture will consist principally in keeping the ground clear from weeds, and when the plants have fully expanded their first rough leaves, in drawing up some earth on each side of them to strengthen and prevent them from being much shaken by the wind.

For successional crops, the *primum* of gardening, a few rows, more or less, according to the wants of the family, should be sown about every three weeks from the end of May to the first week in August, the last sowing to be the small Negro variety, which will continue till the first sharp frost in October. Should the ground be dry at the time necessary for sowing any of the intermediate crops, the seed may be soaked in water for a night, or the drills well moistened, when the seed is sown. This will accelerate their growth, and produce more regular crops.

Where a quantity of this vegetable is required, either for pickling or preserving, if a few rows of the Canterbury or Battersea variety are sown the third week in May, they will come in at a more early and proper season than those gathered from the main crop for the purpose ; and the sooner they are used after being gathered the better.

In private gardens, where there are no hot-house, pits, &c., the following method may be resorted to, by which this desirable pulse may be obtained ten days or a fortnight earlier than those sown in the open ground. A slight hot-bed should be made about the third week in April, and covered five or six inches with some light rich soil, over which one or more handglasses must be set, according to the

breadth of seed sown. In want of glasses, the bed may be arched over with stakes, and covered with mats; the seed, after being planted, will soon vegetate and come up; and when that is observed, in whatever way they are covered, let plenty of air be given in the day, and if the weather is mild, a little at night, so as to harden them sufficiently for planting out.

If all has gone on well, and the plants, having produced their leading shoots, are in good order towards the latter end of May (no precise time can be mentioned, as much depends on the weather), they are to be planted out, either close under some warm wall or on a south border. In either place the ground should be well broke up, and wherever the plants are set, if within a few inches of the wall, or in lines along or across the border, drills should be drawn to receive them: if there be more than one row, about eighteen inches between each will be sufficient. The ground being ready, the plants should be carefully taken up from under the handglasses, and with a garden trowel set about four or five inches apart, and an inch or two deeper than they were before in the seed-bed: at the same time, should the weather or ground be dry, a little water must be given, but not that taken immediately from the pump or pond, for reasons given in a former part of the work; as the chilliness of the water, often given to tender plants in the early spring months, is the cause of their perishing. Where there are forcing-houses in work, water for such purposes can always be kept in readiness.

As the plants advance in growth, earth should be drawn to their stems, and if the plants are in a

vigorous growing state, a few of the leading shoots may have their tops pinched off, which will produce a more regular crop.

Before entering on the artificial culture of this pulse, the cultivation of the running varieties must be noticed, as they claim a place in the garden both of the peer and the peasant, but more particularly of the latter, for, with little expense and labour, he may regale himself for months with one of the most delicate vegetables which the garden produces.

CULTURE OF THE RUNNING VARIETIES.

Few words will suffice under this head, no vegetable being more easy of cultivation. Some of the finest crops are often seen growing in the well-stocked garden of the cottager, who values it not only as furnishing him with a nourishing and wholesome diet, but also as forming an excellent arbour from the mid-day sun, and a beautiful natural porch to his dwelling.

The soil for planting the seed should be similar to that advised for the dwarfs. About the second week in May (a most sure season) an open well wrought piece of ground should be chosen, and after being properly prepared, a drill should be drawn from north to south about two inches deep. The seed is then dropped in about three inches asunder, and covered lightly with the hoe. If there be more than one row, they should be full three feet or more apart, so as to be well open to the sun and air, to insure a better crop.

When the plants are about three or four inches high, a little earth will be of much service, drawn

up on each side, and when it is observed they begin to form runners, tall, strong bushy sticks should be placed (not too close) firmly on each side. They will afterwards give but little trouble, except in keeping the ground clear of weeds, and gathering the pulse for use. When a crop of these beans is required to continue for a length of time in a bearing state, the fewer beans left on for seed the better; these checking their produce for the table. The other sorts do not require such bushy sticks as for the scarlet, though quite as tall or taller; a single pole or twine would do for the Azonian bean, and when once they catch their support, they will afterwards guide and support themselves. When the growth of the scarlet runners is checked by the autumn frosts, the haulm may be cleared away, and, if some dry litter is spread over the roots as a protection from any severe weather, they will grow, and produce an early and abundant crop the following summer; they can also be taken up on the approach of frost, and preserved through the winter in some dry mould, and replanted again in April. This method of preserving the old roots may be had recourse to in any contingency, but the present practice of sowing fresh seed every spring is preferable, and attended with a greater certainty of success.

ARTIFICIAL CULTURE.

In the whole line of the artificial forcing of vegetables for culinary purposes, few come to hand with less labour or with greater facility than the kidney bean, whether raised in frames, pits, or in a pine stove; which last is the principal mode of culture

to be relied on for producing good and early crops. This vegetable, besides forming an important and profitable article to the market gardener, who always finds a ready sale for it in the markets of this country, will also enhance the reputation of the gardener, who (where there is a range of houses) furnishes this delicate vegetable in the greatest perfection, nearly the year round. Such was the case during some years of the author's practice, and most likely the same is done by many eminent gardeners of the present day.

The following mode of culture is recommended for the first raising of plants for an early crop, in any of the departments before mentioned (but more particularly for the pine stove), by which culture they are prevented from being drawn up weakly, as they frequently are in the stove, during the dreary months of November and December. After this first sowing, a sufficiency of plants may be raised for a succession in pots or pans in any of the houses, where the heat is kept up to 55° or upwards.

About Michaelmas prepare a bed of good hot dung, about two feet thick, well put together, and six inches wider than a one-light frame, which will contain a number of plants. When the bed is finished, the frame and light must be put on; and if much steam rises, air must be given. In the course of two or three days, the surface of the bed is to be levelled, and a quantity of light rich soil put into the frame to the depth of six or eight inches. As soon as the mould has felt the warmth of the bed, it should be nicely levelled for the purpose of sowing the seed,—

scatter it pretty thickly on the surface, and cover it with full an inch of the same sort of soil, and finish by beating it down lightly with the back of a spade. Should the weather prove sharp, a little litter laid round the outside of the bed, will be the means of keeping in the heat, and also of forwarding the plants. In the course of a week, or when it is observed that the plants have fully expanded their first rough leaves, they will be of sufficient growth for planting in pots; the sooner this can be done the better. The pots are to be about the size of 24 to the cast; long narrow troughs, like boxes, are also useful for this purpose.

Previous to the mould being put in the pots, &c., the bottoms of each should be covered with an inch or so of well consumed dung. They are then to be half filled with soil similar to that in which the seed was sown; when, after taking the plants carefully up from the seed-bed, four should be set in each pot, distributing the roots towards the centre, and the plants in a sloping direction towards the edge: after covering the roots with about an inch of mould, a little water is given, in the tepid state, as before advised. The pots, &c., may then be placed in any cold part of the stove for two or three days, and afterwards set on shelves or flues where there is a vacancy for them; but the nearer to the glass the better. If they are placed on a flue of much heat, it will be necessary, to prevent any bad consequences, to set the pots on boards, resting on bricks or tiles.

After the plants are observed to break freely, an additional quantity of mould should be put into each pot, so as nearly to fill it up. This earthing, with

moderate and frequent waterings, according to the heat of the house and state of the weather, will occasion the plants to blossom freely, and rapidly bring them into a bearing state. If any start their shoots too luxuriantly or of unequal lengths, they should be stopped at the second or third joints, which will cause the beans to set the better, and produce a more regular crop.

Where there is a number of forcing houses, and a continued succession of this pulse is required, seed should be sown every three weeks, in pots or pans, as before hinted.

There is an insect (the Thrips) which too frequently attacks the kidney bean in stoves, and other early worked houses, during the winter: it chiefly arises from the dry and warm state of the air. The only remedy the author practised to stop their progress and prevent further depredations, was to sprinkle frequently the flues, when warm, with water: But the best and most certain destroyer of these insects is fumigation; for as the heat of the sun advances, the insects, if not prevented, will increase also.

Kidney beans have been successfully raised on dung hot-beds; but on such they are a precarious crop, and it is useless to attempt it in the midst of winter; but in flued pots, the same as recommended for growing early cucumbers, there have been good crops produced early in the spring. In using such a pot for this purpose, the outside linings and the covering on the tiles should be the same as advised for the cucumber, except that six or eight inches of good mould must be laid over the latter, which

being levelled and the heat having arisen, shallow drills should be drawn from the front to the back of the pit at about a foot apart, and the seed (the small Negro) dropped at two or three inches distant. Cover them lightly with earth, and keep the lights nearly close until the plants begin to break ground, at which time air should be given, and if worked by a thermometer, the heat should be kept up by the linings from fifty to sixty degrees, and from that height gradually to seventy-five, which will finally bring the beans to perfection, with attention to air and water. During their growth a little mould should be drawn up on each side of the rows, and if there is not sufficient within the frame, a little extra must be added; and unless the weather is uncommonly severe, heavy covering will not be necessary; the principal matter is to keep up a proper degree of heat by renewing the linings. The tops of a few of the leading shoots of the plants being pinched off, will throw them (as before observed) into a more regular state of growth and bearing. A new crop sown about every three weeks will keep up a succession: those sown at the beginning of April will last to the middle or end of June; when they will be succeeded by the early half-forced crops in the open ground.

28. LEEK. — ALLIUM.

Allium,—*Porrum*. The generic name of *Allium* is given to the leek as a branch of the onion family; the original name, *Porrum*, is, like others in the Linnæan system, made a specific, from the character of the flower.

The leek is a native of Switzerland, whence it was procured and distributed to other parts of Europe. It was cultivated in this country, and particularly in Wales, as we read in history, at a very early period. The Welshmen still continue to wear leeks on their patron St. David's day, in commemoration of a victory which they obtained over the Saxons in the sixth century, and which they attribute to the leeks they wore by order of St. David, to distinguish themselves in the battle.

Leeks are a wholesome and certainly a nutritious vegetable, and, from their mild qualities, are preferred by many families for their soups to onions.

There are two varieties of this plant at present under cultivation.

1. The Narrow-leaved, nearly superseded (except in some countries) by the next, which is far superior to it.

2. Broad-leaved or London Leek, so called from the preference given to it in the London markets, which it highly deserves. It was first obtained by a gardener in Essex many years ago. A gentleman from the West Indies having observed a plantation of leeks near London, told the author it put him in mind of the young sugar canes in that country, to which he said they bore a great similitude.

Culture. — The soil in which the leek is planted should be the best the kitchen garden affords, and previously well manured and worked up, a full spade in depth. In any open spot of light rich ground, the first or second week in March, the seed should be sown rather thinly; otherwise the plants will come up in clusters, and require to be thinned

out. After the seed is sown it should be beaten in with the head of a rake, and the bed afterwards regularly, but lightly, raked. An ounce of seed will produce a great number of plants. When grown to six or eight inches high, they will be of sufficient size to plant out; for which purpose a good piece of ground should be chosen, in which, after being well broke up a full spade in depth, deep drills must be drawn to receive the plants; if more than one row, a foot apart. When ready, the plants are to be taken up from the seed bed, and after their tops and roots are moderately shortened, planted (first giving their root a gentle twist in the drill) about nine inches asunder. If the ground or weather is dry, a little water will be necessary. When the plants are observed to be in a growing state, the ground should be hoed and levelled round them: by frequent hoeing and keeping the ground clear of weeds, they will attain a useful mature size early in autumn. On the approach of hard weather a parcel may be taken up and laid under cover in dry sand, for winter use.

29. LETTUCE. — LACTUCA.

Lactuca sativa, — the former title, from the Latin word *lac*, was given to this plant on account of the milky juice with which it abounds; the English name, lettuce, is a corruption of its botanic term *Lactuca*: many old writers spelt it lectuce.

The lettuce may be said to be a native of the four quarters of the world, but the finest was originally procured from Egypt, Aleppo, and the island of Cos, belonging to the Turks. From that island our finest lettuce, Cos, takes its name, as do all

others of upright growth, whether they come from that country or any other.

Few or no lettuces, as far as we can trace, were cultivated in this country before the early reign of Elizabeth, 1562, who, as before observed, was obliged to send to Holland for salads and other vegetables. In a few years after the above date, as gardening was getting more out of its infancy, many varieties of the lettuce were cultivated by some of the market gardeners in the vicinity of London, and above seventy years ago the author recollects seeing fine Cos lettuce sold about London streets. During the last century, from the care bestowed on its cultivation, this vegetable has been progressively improving, and some of the finest lettuces may be seen in the full season in most of the principal markets throughout the kingdom.

Some good qualities are assigned to the lettuce. For instance, it is cooling and soporific; so that in the decline of age, which is naturally wakeful, the use of lettuce is recommended.

Lettuce is emollient and easy of digestion, but not very nutritious. But though lettuces are very good for persons of strong stomachs and good digestion, they are injurious to cold, weak temperaments, as well as to persons of a melancholic disposition; and, except they are used for a medicinal purpose, they are more wholesome in summer than in winter. Lettuce, in many instances, allayed thirst, and the fumes of wine; and is, altogether, the best vegetable of the salad kind grown in the open ground.

Many are the varieties which have been intro-

duced and cultivated in this country since the middle of the last century.

The following sorts have been cultivated by the author, which he presumes to say are not exceeded by any of the present day :—

First, the Cos, being of an upright growth,

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| 1. White Cos | } both excellent for the main crop |
| 2. Green Ditto | |

3. Green or Egyptian Cos (black seed), a lettuce of the greatest utility in dry seasons. Not being apt to run to seed like the two former, it should therefore always be sown either with one or both of them; it is of a hardy nature, and stands the winter nearly as well as the next variety.

4. Brown or Bath Cos, a good hardy lettuce to stand the winter in the open ground. There are two varieties, the dwarf and tall; the dwarf is the best, and hearts much better and sooner than the other, and is less apt to run to seed in a dry season.

5. Brighton Cos. This lettuce was strongly recommended to the author by Mr. W. Rogers, who considers it of first-rate quality and form. From the specimens which the author has seen of it, he pronounces it excellent.

6. Florence Cos, very large and fine when well turned up, which, however, takes a long time to accomplish. It has a peculiarly pleasant crisp taste, and from its lateness will be found a most useful lettuce, when others are running fast to seed. It requires a strong, light, rich, sandy soil, as its growth is but indifferent, though it be frequently watered.

7. Spotted or Aleppo Cos. This lettuce, in moist seasons, and planted in a strong rich soil, will be

tolerably fine, and a few may be planted for a change and succession. In light soils and dry summers it runs too quickly to seed, before being properly cabbaged.

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| <p>8. Brown Silicea.
9. White Silicea.</p> | } | <p>These two varieties of lettuce are esteemed the best for stewing, particularly the white; they are rather too coarse for salads.</p> |
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There are three other sorts of Cos lettuce in cultivation; the Paris, Golden, and Dwarf Siberian, all very good, and can be planted occasionally as extra crops for the sake of variety, succession, &c.

The following are such as are generally called cabbage lettuce, being more or less of a flat surface.

10. Brown Dutch, — a well-known lettuce, hardy, and resists the severity of the winter; it is almost equal to the Hammersmith variety. There is another variety with yellow seed, of late introduction; it is a good lettuce, and, in crispness, superior to the brown.

<p>11. Imperial Cabbage Lettuce. 12. Grand Admirable Lettuce.</p>	}	<p>Two of the finest cabbage lettuces we have for salads during the summer months. They heart well, and continue longer in use than any other of the cabbage lettuce varieties.</p>
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13. Large White Cabbage Lettuce, — serviceable; turns in well, and withstands the drought of summer, as well as the best of these varieties.

14. Marseilles, — similar in properties to the Florence, requires a strong rich soil.

15. Malta. The seed of this sort was given to the author by a gentleman from that island. It

produces uncommonly large heads, rather of a rambling nature, but the blanched parts are crisp, and of a pleasant taste; it has not that bitterness which others are liable to. To have this lettuce in perfection in the early part of summer, it should be sown on a slight heat in the beginning of March, and afterwards transplanted in a cool rich spot of ground, at full eighteen inches apart.

16. Dutch Forcing Cabbage Lettuce (rather scarce). More will be said under this head when treating of the Dutch method of forcing it; which, perhaps, will be rather new to many gardeners of the present day.

There are also the Tennis-ball, Large Mogul, and Drum-head, cabbage lettuces, all good tried sorts, and in general estimation for culinary purposes.

17. Hammersmith Hardy Green. An old inhabitant, and a most useful lettuce.

Culture. — Few vegetables for culinary and other purposes require a more continued succession of sowings, partly throughout the year, than lettuces, either in the open ground, or on heat, for forcing. This last matter has been but slightly hinted at, by most authors who have hitherto written on culinary vegetables.

The soil best adapted for the growth of lettuce is a light rich sandy loam, previously well manured, and worked to the depth of at least a foot; but eighteen inches is better. Should the subsoil or strata be more moist than dry, the better it will be, saving much labour in watering, &c.

As it will take but a small plot of ground to grow

lettuce to supply most families, a bed thirty feet long and four broad will generally produce a sufficient supply while they are good, in the early part of summer; besides, what may be raised by scattering a few seeds among the more permanent crops, as onions, carrots, &c., will give a full supply.

About the first or second week in March a piece of ground should be prepared to sow the seed, either in beds or broad cast (beds are the most convenient). If the ground has been previously ridged up, which is quickly done by throwing a right and left spit of earth together, it should be regularly laid down, and properly levelled: should it require to be dug up, the same attention must be given. When the ground is ready, the sooner the seed is sown the better. A fine day should be selected for this purpose; and, if the ground is dry, it may be lightly trod in, or otherwise beaten down with the head of the rake, and afterwards regularly raked over. A little earth thrown over the seed from out of the alleys will cause the plants to come the stronger.

When the plants are fully up, they must be thinned out with a two-inch hoe; and after they are observed to touch each other, a final thinning should be given, of three inches or more apart, according to the sort grown: and here the author has to remark, that if the plants from the second thinning, according to the quantity likely to be wanted, are planted out in drill, the same distance as those in the seed-bed, this proceeding will cause a continued succession; and should the same be done with the different sowings throughout the summer (such

being required), every three weeks, from the middle of May to the beginning of August, and treated as mentioned, there will be no want of fine lettuce; bearing in mind, that during very hot and dry seasons lettuce should be frequently watered. And here another remark may be made, in respect of the "grubs" (which are rather fond of lettuce), that an early and frequent stirring of the earth round the plants will be a preventive, and often an antidote against their depredations, from their being so frequently disturbed.

Such is the mode of culture for a principal crop of lettuce, by sowing in the open ground. But instead of sowing large breadths, the market gardeners round the great metropolis plant many acres of land from plants previously raised in a small compass.

The method for raising plants for the above purpose being rather peculiar, and as it has been but very slightly glanced at by writers on gardening, the following information may be of use to the young horticulturist.

About the middle of September, in some sheltered spot of rich ground, a frame may be set on the surface, facing the warmest aspect, and which is afterwards to be filled with earth from the outside, if not too wet, to within two or three inches of the top, taking care that it slopes with the frame. After being levelled, the seed of either the white or green Cos should be sown rather thick; and, after being lightly beaten down with a spade, over the whole there should be a quarter of an inch of light "pure" loam (if it can be had) sifted. The lights are

afterwards to be put on, and kept close till the plants begin to appear, when a little air may be given, and when they are fairly up, in mild open weather, during the day, the light may be drawn entirely off; and, as a most essential matter, rain must be kept from the plants as much as possible. In the frame they are to continue, with occasional coverings, in very severe weather, till the end of February or beginning of March, when the ground (little or much) should be well prepared for their reception, and the plants set full a foot apart each way. As soon as the hoe can be safely admitted, let that useful instrument be set to work, for reasons already assigned. By a similar method, the markets in London are supplied with the finest lettuce in May and June.

Lettuce to stand the winter under warm walls, borders, frames, &c., such as the Brown Cos, Green Cos, and Brown Dutch, and Hammersmith Green, may be sown from the middle to the end of August, and when the plants are a good size, which they will be in the beginning of October, they should be planted out either in frames or in any sheltered spot there is to spare. The author has got the Imperial Cabbage Lettuce to stand throughout the winter, and remain uncommonly fine till May.

Should it so happen, which, however, very rarely occurs, that the out-door lettuce is cut off by the severity of the weather, recourse must be had to sowing on a slight heat in February, when the plants, after being properly hardened, are planted out early in spring. Of all the hardy lettuce none exceeds the Hammersmith, which may be sprinkled with either sowings of spinach.

Having given the cultivation of the lettuce throughout the year in the open ground, in all its points and bearings, there still remains a matter to be communicated, which has been but little noticed by writers on gardening (not even by the ingenious Miller). What the author alludes to is the forcing of the cabbage lettuce, a peculiar sort, which the Dutch gardeners have for that purpose, and which can be had from most of the principal seedsmen in this country. The method of forcing the above sort of lettuce is as follows:— As it is principally throughout the winter and in the early part of spring that such lettuces are in request, preparation must be made towards the end of October, or the beginning of November, for sowing the seed and making a bed. Any description of hot-house at work, if there be one, will be preferable for raising a sufficiency of plants, which most likely will not exceed three or six lights; but more or less, according to the wants of the family. A calculation may be readily made from the number of squares in each light: where there is a regular and annual forcing, if the squares of glass are an inch or so larger every way than the usual size, these will be much better, for reasons hereafter assigned.

Should there be no conveniency of a hot-house, recourse must be had to sowing the seed on a slight hot-bed, about two feet thick, of well-prepared dung. A one-light frame of the larger size will grow a sufficiency of plants, from seed, for five or six lights. After the heat has been up a day or two, six or eight inches of rich light mould should be put on the bed, on which, after being levelled,

the seed may be sown moderately thick, and lightly covered with mould; the lights are then to be put on, and kept close till the plants begin to appear, when a little air can be admitted, and some outside protection afforded, if found necessary, as in that bed they remain until finally planted out. If a few pots or pans are sown with seed, and placed in some cool part of a pine-stove, or such like place, some trouble will be saved, and it will equally answer the purpose. However, in either way, as soon as the plants appear, preparation should be made for making a bed; for which purpose a quantity of good hot dung, sufficient for a three-light frame, must be procured, and turned over two or three times before working it up into the bed. A third part of recently collected leaves, mixed with the dung, will cause a more steady and regular heat than if it were made up without them. This being in readiness, the bed may be made up full three feet high (in a more advanced season three feet six inches), and well put together, of which hints have been given in the early part of the work. The frame and lights are put on to draw up the heat; and when the bed is found to be in proper order, which perhaps will be in four or five days, the surface should be lightly beaten down with the back of a spade, and some good rich mould (more dry than moist) laid over the whole, to the depth of two or three inches. When that is done, small hillocks should be made under each square, so as nearly to touch the glass: for as the bed is likely to sink somewhat, there will be sufficient space left for the plants to grow in and turn their leaves.

Supposing by this time the plants are in good order for transplanting, either in the pots or the frame, the hillocks should be a little flattened, and a plant set in the centre of each : some may perhaps touch the glass ; but that is of no consequence ; for, if they are of a genuine sort, they will turn themselves to their own centre ; and their closeness to the glass will aid them therein. A little water (previously placed under cover) should be given at the time of planting ; and afterwards the moisture arising from the bed will be sufficient : but if this is heavy, and the weather so likewise, the first opportunity must be taken to give air, so as to get the plants in a dry state, as a preventive against the canker to which they are so liable during the winter season, and the more so from the almost continued closeness of the lights, for the benefit of the plants.

But little more is necessary except the picking of decayed leaves and making good any failures that may occur. For this purpose a few lettuce should be planted in small pots, as such can be readily turned out if required, and will not miss their moving.

So far on the interior work of the bed :— what is wanted to be done outside will chiefly depend on the state of the bed and weather ; but, at all events, it will be the best and surest method to apply a lining of dry litter, about eighteen inches thick, round the bed, after having been made up about a fortnight. In respect of the top covering, it should be sufficient to keep out the frost : and it is of consequence to allow as little wet as possible to enter the frame.

In about three weeks after the plants are put out, the spaces left between should be filled up with mould, similar to that which formed the hillocks. After pressing it gently down with the hand, the lights may be kept almost continually close; and, within two months after the seed is sown, there probably will be some well-cabbaged lettuce for use. Where a continual supply is wanted, a bed should be made every month until April, the culture varying according to the season.

Pits have been recommended for the cultivation of this kind of lettuce; and the author thinks, with judicious management, they might succeed, if filled up to the curb on which the frame rests with short wood, chopped turf, &c.; but, as he never raised lettuce by this means, he cannot speak practically about it.

30. LOVE APPLE.—*SOLANUM*.

Solanum Lycopersicum.—The botanic name *solanum* is derived from its being a species of the nightshade (a poisonous herb); *lycopersicum* signifies the wolf's peach.

The Love Apple, more generally known in England by the name of *tomato* (the Spanish name), is a native of South America; and was early introduced by the Spaniards into Europe, and by the French into this country in the year 1596.

Our forefathers would have shuddered to have observed the fruit eaten with such avidity as it is by many persons at the present day; but so it is, that the fruit and root of one of our most poison-

ous species of herbs, not only gratify the taste, but also afford a useful food for man.

As to the medicinal or nourishing qualities of the love apple little can be said; but for culinary purposes it is in much esteem for its pleasant acidity in soups; it makes an excellent sauce for fish, meat, &c.; an agreeable catsup and pickle. It forms an elegant side dish for the table, when dressed in the following manner. The largest and best fruit should be chosen fully ripened; cut them through exactly in the middle, so as to have a top and bottom; they are then to be broiled, for which a few minutes will suffice, keeping principally the inside uppermost, to preserve their juice. When done, a small bit of fresh butter, pepper, &c. should be put on each, when, after again being placed a few minutes before the fire, they will be, as our old herbalist, Gerard, said, above 150 years ago, a dainty dish for a queen.

The following is an excellent receipt for making tomato sauce. Take the tomatoes when ripe, and bake them till they become quite soft; then scoop them out with a teaspoon, and rub the pulp through a sieve. To the pulp put as much Chili vinegar as will bring it to a proper thickness, with salt to your taste. Add to every quart half an ounce of garlic and one ounce of shallots, both sliced very thin. Boil it one quarter of an hour: then strain, and take out the garlic and shallots. After standing till it is quite cold, put the sauce into stone bottles, and let it stand a few days before it is corked up. If when the bottles are open the sauce should appear to be in a fermenting state, put some more salt, and boil

it over again. The sauce, when poured out for use, should have the thickness of rich cream.

The different uses of this fruit for culinary and other purposes are rapidly on the increase. Its cultivation is extensive, particularly by one eminent gardener, Willmott, of Isleworth, near London. By training the plants against a bank, he had gathered in one season, from 600 plants, 400 half sieves (three will make a bushel) of ripe fruit for market.

There is but one variety (the old original red) worth cultivating; the yellow is not much noticed; and the cherry and pear-shaped, of French extraction, are of little worth.

Culture.—The Tomato is raised from seed, which should be sown about the end of March, either on a slight hot-bed, or in a large pot or pan, according to the quantity likely to be wanted, a score of plants producing many scores of fruit. When the plants are up and two or three inches high, they are to be transplanted into small pots (two in each), and afterwards plunged in the bed whence they were taken, or on any other slight heat, and kept rather close until well rooted, when air should be admitted, and so increased as to harden the plants for their being finally planted out at the end of May or beginning of June, either against a south wall or pales, or against a warm sloping bank of earth.

The plants can be readily turned out of the pots, when a little water will be all they require for the present. As soon as they have formed leaders of half a foot or so in length, if against a wall, they should be regularly trained up, and any superfluous branch cut out: these, however, will be but few,

as the more branches there are trained the more fruit will be produced. If placed against a bank, when the branches are regularly trained or laid out, they should be pegged down; and in the course of the summer a few of the most vigorous may be stripped, and all useless leaves and straggling shoots cut off.

31. MARJORAM. — ORIGANUM.

Origanum, the botanic name of the Marjoram, was given to it on account of its agreeable fragrance, and in allusion to its place of growth. There are several varieties; but only two are used for culinary purposes.

1. *O. Onites*, the Pot Marjoram, is a native of Sicily and the southern part of Greece. It is a hardy perennial, and was first introduced into Britain about the year 1759. It is used as a seasoning for soups.

O. Majorana, the Sweet Knotted Marjoram, is a native of Cyprus and Candia. It is also found in Italy, Spain, and Portugal: from the latter country the English first obtained the seed, in the year 1573. From Italy we annually receive the seed, as the climate of England is not of sufficient warmth to ripen it. This variety is called knotted from the flowers coming in globular knots round the joints of the stem, and which contain the seed. The sweet marjoram has a sweet pleasant smell, and a warm, aromatic, bitterish taste. It is used, like the pot marjoram, as a seasoning for soups; and when mixed with food it is said to correct flatulencies, and to be useful in nervous complaints.

Culture. — The common or pot marjoram, being a perennial, is easily propagated by parting the roots into small tufts, in the early part of spring, and planting them in three or four feet beds, in any light dry soil, at a foot apart; or they can be made an edging to borders; and then they must be planted at the distance of six inches instead of one foot.

If the pot marjoram is wanted for drying, it should be cut when in full bloom, as at that time all aromatic herbs possess their greatest strength and virtue. When cut, it should be laid in a shady place to dry; and, when the leaves feel crisp, put up in paper bags for use, and in a place where it will be clear of dust.

The sweet or knotted marjoram being rather a tender annual, if wanted early, the seed should be sown on a slight heat towards the end of March; if otherwise, on a warm border of light rich earth about the middle of April; the plants to be afterwards thinned to the distance of a few inches, and left to grow for use. Those raised on heat (after having been hardened to the weather) should be planted out, either in a patch in the open ground or in pots. When planting in pots, use the size called 32, and put two or three plants in each; a reserve may then be made nearly throughout the winter, by keeping them in some warm shed, or in a greenhouse, where they will at times give out a most agreeable and fragrant perfume.

32. MARYGOLD. — CALENDULA.

Calendula Officinalis, the cultivated or common Marygold. *Calendula* is supposed to be derived

from *Calendæ*, the Latin for the first day of every month, because it continues a long time in flower.

The marygold is a native of the south of Europe, and is said to have been cultivated in this country prior to the year 1573.

Numerous medical virtues were formerly attributed to this herb, which have now lost their credit. It is principally used in the form of tea, and is sometimes given in agues; and the author has known instances where it has succeeded in alleviating that distressing complaint. The florets of the ray are the parts used for culinary purposes; they are boiled in broths and soups; and by many the flavour of them is much admired. In Holiand, large quantities of the flowers are annually dried for soups and broths, and sold in the shops at the rate of a penny per bunch. They are greatly esteemed by all ranks of persons in that country.

From the many plots of ground that may be seen planted with marygolts in the vicinity of London, their cultivation in this country seems upon the increase. The author once saw a considerable piece of ground near London covered with these plants. They were then in full blossom, and formed a most brilliant spectacle, resembling a sheet of spangled gold: the ground was exactly suited for them, being light, sandy, and not too rich.

Culture. — Few culinary vegetables require less aid in their culture than the pot marygold, as it will propagate itself by seed for years, even if the ground is frequently disturbed; but it has been remarked that the flowers from self-sown seed, in the same spot, for a length of time, are not so large and

strong as those produced from annual sowings; therefore, to have the flowers in their greatest perfection, the seed should be sown about the beginning of April, in any light soil, either in a bed, to be hoed out to six or eight inches apart, or in a patch, and afterwards transplanted out to a similar distance. Their after culture only requires the hoe to keep them clear of weeds. The plants soon come into flower; and when it is observed that the blossoms are fully expanded, they should be gathered in a dry day, divested of their outer green leaves, and spread on a cloth, in a dry airy room, where, after having been a few days with frequent turnings, they will be in good order for putting up, either in paper bags or in drawers, for use.

33. MELON. — CUCUMIS.

Melo was the original name of the Melon, but according to the sexual system of the great Linnæus, (who, as before observed, has done more for the advancement of practical and scientific botany than any man before or since his time), it has the seeming inconsistency of making the melon a variety of the cucumber. Such questions it is very difficult to solve: nature, however, is her own best interpreter, and will, no doubt, in the course of time, reconcile this and many other apparent inconsistencies.

The introduction of the melon into a work solely intended for the cultivation of vegetables, may, to some readers, seem an impropriety; but when it

comes to be considered how nearly the cultivation of this fruit is allied to the kitchen garden, especially in its earliest days, the impropriety will be lessened, and the gardener will derive an advantage from having the work so frequently under his eye.

The native places of growth of melons are various. They have been found growing wild in sundry plains in many parts of the East Indies; and, we are informed by Miller, they were so plentiful on the borders of Persia that a horse-load was sold for a French crown, 4s. 2d.

The melon was cultivated many years in Italy, before it was introduced into this country, which took place about the year 1520. Its culture for some years was but imperfectly understood. But what will not perseverance and attention accomplish? For the last century and more, many of the gardeners of Great Britain have equalled the best in Europe in the cultivation of the melon.

The title of musk melon, so often mentioned by old authors, was given to this fruit, soon after its introduction, from its agreeable scent. The flesh of a well grown melon is delicious, and does not offend the most tender stomach. In England it is generally sent to table as one of the leading fruits (such as the Prince, the Pine Apple, or the King) for the dessert, where it is eaten with sugar, ginger, &c. as fancy directs. In France, and some other parts of Europe, the melon is frequently served up at dinner as a sauce for boiled meat; but the author imagines it would not be agreeable in this state to an English palate.

The medicinal qualities of the melon, principally

lie in the seed, which are of a cooling nature, but are seldom used.

That the melon is somewhat nutritious, has been proved by its furnishing the lower orders in the south of Europe with a principal part of their food. But as the people of that part of the world are not particular in the choice of sorts, little reliance can be placed on the seed which they transmit to us. With them the cucumber, the gourd, or vegetable marrow, the Pompkin melon, &c., most likely grow in one field, where they certainly do harm, by contaminating each other.

So far on the native country of the common or cultivated melon, of which more will be said when the most esteemed varieties are described. Previously to the descriptions, a few words will be said on the water melon (*Cucurbita citrullus*) which is made a species of the gourd. The Botanic name is derived from its growth, and from the watery nature of its fruit, which is in the highest estimation in the warmest parts of the four quarters of the world.

The water melon is a native of all the quarters above mentioned, and is highly appreciated in Egypt, China, and the East and West Indies, where it is cultivated to a great extent, on account of its grateful coolness and delicious flavour. The flesh is so succulent that it melts in the mouth, and its central pulp is fluid, like the cocoa-nut, and may be sucked or poured out through a hole in the rind, forming a most refreshing beverage to the inhabitants of warm countries. In England, the few that are raised, are highly esteemed in very warm seasons, while their admissibility in cases of fever and in-

flammatory complaints, adds greatly to their worth. Such are the qualities of the water melon; and it is much to be regretted, that their cultivation meets with difficulties in this country, the plants requiring larger frames for their rambling growth than are generally used, a continual but moderate bottom heat, and, above all, a regular and warm atmosphere, to the height of 70° or 80°.

What is here said of this salubrious fruit, may act as a stimulus to the young horticulturist to study its culture, which, in the early part, is similar to that of the common melon. The soil should be a good light loam, not over rich. The shoots require but few stoppings, after the first or second time; air is to be given occasionally, but the heat kept up as high as mentioned; and the plants must have frequent but thin sprinklings of water. With such a mode of culture, the author succeeded, as often as he attempted their cultivation.

Description of the Sorts recommended. — The varieties intended to be described are but few, but these few have stood the test of time, and are pronounced good. Of these, the first upon the list is the Cantaleupe, a melon the most esteemed in every part of Europe. It takes the name of Cantaleupe from a village within a few miles of Rome, where it was grown for many centuries, and thence distributed to different parts of the surrounding kingdoms. In England it is called the Rock Cantaleupe, from the outer coat being full of large warts, and, according to the sort and cultivation, it weighs from four to ten, fifteen, or more pounds. The fruit is in general round, rather flat, of a very solid substance,

and when perfectly fine, without any cavity, which is known by knocking on it. When cut, the flesh should be dry, no water running out, but only a little dew, and that of a fine red colour. Such are the properties of a well-grown Cantaleupe melon, which, in part, are applicable more or less to every other sort, except the lately introduced small Persian melons, of which the internal part is almost a fluid, and although extremely luscious, &c., they do not appear to be of so nutritious a nature. It is a very tender fruit, and requires a high state of warmth to bring it to perfection.

Next to the genuine Cantaleupe, of which there are but few varieties, though many are so called, is the Romana, a district in Italy, whence it was first introduced into France, and thence again into this country, accompanied with "too many bad ones;" but some allowance must be made for culture and the season, the effects of which are plainly discernible in the Honfleur melon, imported every year into this country from France. At and near Honfleur, whole villages are employed in their cultivation (just as we raise pickling cucumbers in our fields) for the supply of Paris, and other great towns, where they are consumed by thousands. They are generally of an oval form, weighing from four to eight or ten pounds each, and, as before observed, their good and bad qualities depend upon the season, but in the best times they are not highly flavoured.

Having given in the preceding pages a description of the principal fruit, the Cantaleupe, I shall proceed to the other varieties.

1. Early Cantaleupe. — Celebrated for its popularity and firm flesh. This excellent little melon was brought from Portugal about the beginning of the last century, by the Honourable Dormer Stanhope, and was called the “Dormer” melon for many years; it is the same which Miller describes as the Portugal or pocket melon. There was another introduced about the same time, called the Galloway, which answers to the description given by the same author of the “Zatte,” but the first acquired the preference.

The Early Cantaleupe, so called, is nearly round; colour, a yellowish green, rind smooth, and the fruit very slightly ribbed, the pulp orange coloured, firm, and, when not too early ripened, pleasant, and high flavoured. On the whole, it is an excellent fruit for an early season. It is a very prolific bearer, generally setting its first show of fruit kindly. Should there happen to be two or more set, and swelling off equally at the same time, it is a sign the plants are in health.

After what may be called the first crop, is cut, if the plants are pruned back to a healthy leader, and the surface of the bed refreshed with a little good mould as deep as it will admit, without injuring the wood, a second crop is frequently produced, equal, if not superior to the first.

When such pruning takes place, the plants should have but little air for a day or two; the mould must be kept rather moist by a slight watering, which should be done in the morning; and if the sun should shine out clear, the lights must be moderately shaded; for which purpose a double netting or thin

branches of birch are recommended in preference to mats:

2. Romana, so called from that part of Italy, before mentioned. It has been a favourite fruit in this country for many years. There are two varieties — the round and oval, both very good: they are slightly ribbed; the rind is smooth, of a greenish colour, which changes but little in ripening. The author has remarked that the fruit which keeps the longest before turning yellow is the best, and generally of the finest flavour; hence the fruit will require watching; and the moment it is observed to crack at the stalk, or to emit its fine scent, it should be cut, and taken into the fruit-room till wanted: but let it be remarked that after being a few hours out of the frame, the sooner it is used the better.

It is above sixty years since the author first cultivated this melon, having at that time received the seed from an old gardener in the service of General Fitzwilliam at Richmond, in Surry, whose house was at one time inhabited by Sir Matthew Dicker, and where if not the first, at all events the second pine-apple was raised in England. The author well remembers seeing the remains of the small stove-like place in which it was raised, mouldering away; and though it formed an unsightly object close to the pleasure-ground, it was ordered not to be removed.

3. Scarlet Flesh Rock Cantaleupe, as it may be called, is moderately warty; shape, nearly round, and not deeply furrowed; colour, a mottled green and yellow; flesh rich, melting, and of a fine scarlet colour: though of so melting a nature, it cuts very solid. Average weight from three to four pounds.

It is an early and prolific bearer, and in setting it in the early part of the season, attention should be given to select those likely to swell off together; for if one sort takes the lead, the others will be rather tardy in their growth, until the former are cut. This holds good in most cases with the melon, but with none more than the large rock variety.

Few or no sorts of the melon have gained more prizes than the above, from which a judgment may be formed of its worth. The author is one out of many, that have gained so great a testimony of the merit due to the cultivators; and that, be it remembered, in the time of the old school, when there were no cheap periodicals to instruct, nor penny trumpets to sound the fame of the many improvements and new discoveries made in the culture of this fruit; and all producing no better crop than the author witnessed fifty years ago, when plain and practical directions were the order of the day.

That the above fruit is rather more tender than the larger kinds of the rock, and other varieties, has retarded its cultivation by the young practitioner; but with a little close attention in the early part of its growth, and with a regular and moderate bottom heat, for which the pit described for the cucumber will be found the most eligible for early work, the few difficulties there are in the way will be easily overcome.

There is a variety of the scarlet flesh melon, with a smooth rind, which the author has heard highly extolled in various places. It may be so, but as he never had it under cultivation, he cannot speak

practically about it; but if the interior of the fruit is as good as the rough-rind one described, there need be no better.

4. Orange Cantaleupe, a charming little melon introduced some years ago, by a member of the Rutland family. The fruit is small, averaging about two pounds, round, and slightly furrowed; the colour, when ripe, is a fine yellow; the rind, which is rather thick, is generally covered with a slight netting; the flesh firm, and tinged with red, of a rich taste and high flavour. It is a good bearer, and freely sets its fruit three or four at a time; but these should not be left on, as they only impoverish each other. The same holds good in all the smaller sorts.

The above melon is better for a late than an early crop, and if any remain towards the end of autumn not fully ripe, they may be kept a considerable time after being cut, put into net bags, and hung up in some warm room, where they will ripen gradually, and be found an acquisition to the dessert till the end of October.

5. True Coral Succade, an excellent little fruit. The seed was given to the author, above forty years ago, by a gentleman who brought it from Italy. The outward appearance of the fruit differs from any other sort. The author has seen the outside covered with a fine velvety down, of a deep olive colour, the rind very thin, the flesh firm, of a light scarlet colour, and in taste richly flavoured. It is a prolific bearer, very free in setting too many fruit at a time, which should be thinned to one on each runner: in shape it is nearly globular, and will keep some time after it is ripe, if laid in a dry

room or cellar, which in summer is the best place for fruit or vegetables.

6. Green Flesh Melon. — Of this sort of fruit the author is acquainted with three varieties ; but perhaps there may be more. The one now described is nearly round, not very flat, or deeply furrowed ; colour, a brownish-white ; flesh not so firm as the Cantalupe, but good, and of a deeper green colour than some others ; full of juice, which is rich and luscious (a predominating character in the green flesh varieties), and comes the nearest to the Persian sorts lately introduced. The other two varieties, the one oval and the other netted, partake of all the good qualities of the one described.

The Green Flesh Melon was known in Miller's time, and above fifty years ago cultivated by the author ; at that time it had fallen into disrepute, from the idea that the softness of its flesh or pulp caused flatulency ; hence ginger was ordered to be eaten freely with them. This prejudice has been of late years wearing off, and they are now by many persons highly esteemed.

The above three varieties are prolific, and produce their fruit early and freely : not above two or three fruit should be allowed to swell off at first for ripening ; for when in full vigour and health they have been known to produce fruit from three to five pounds each ; and if there be ten or a dozen in each frame, which are generally not of the largest size, such a weight of fruit will be fully sufficient for the roots to carry, especially if there be not a good depth of mould. The limiting of the fruit to this quantity will supersede the necessity

of heavy waterings, for the less the plants do without this process, the higher is the flavour of the fruit; and as this variety of melon loses more flavour by keeping than it gains, it should be used within twenty-four hours after it is cut; and if it be cut but a short time before it is wanted, putting it into a basin of cold spring water will add considerably to its taste.

7. Black Rock Cantaleupe. — The name of black rock was given to this melon from its outside being covered with large black tubercles, resembling broken granite. Cantaleupe is a sort of specific name, not only to signify whence it came, but also its shape, as all the genuine Cantaleupe melons are depressed; that is, the longitudinal diameter is less than the transverse or cross direction. This is so far a certain criterion to judge by.

Few sorts of melons are more extensively cultivated in noblemen's and gentlemen's gardens, as well as by the most eminent market gardeners in the vicinity of London, than the Rock Cantaleupe. Its noble size and appearance, joined to its salubrious qualities, procure for it admittance as a first-rate fruit for the dessert, in almost every garden where good taste predominates.

According to the culture and first setting of the fruit, its size in a great measure varies from five to fifteen pounds, and upwards; the latter, however, being rare; but in that excellent periodical, *Loudon's Gardener's Magazine*, there is an account of two very large melons swelling off near the stem of the plant, and ripened to a high degree of perfection. But leaving such cases to chance, either the black

or silver rock, when well grown, of five or seven pounds weight is to be preferred.

The ground colour of this fruit is a light green, dotted over as before mentioned with various-sized warts, becoming partially yellow when ripe. The flesh is very firm, orange-coloured, and replete with moisture of a vinous taste and fine flavour.

8. Silver Rock Cantaleupe. — This variety is so called to distinguish it from the former by its colour. In quality it is equal, but in shape there is some little difference, it being less depressed and furrowed; and in general the weight is less, averaging from five to seven pounds. It is the most proper for a first crop of this variety of fruit.

There is another variety, called the Golden Rock, from its colour when ripe. It was extensively cultivated in Holland by the Dutch and Flemish gardeners some years back, who at that time excelled in their cultivation of this fruit, by their flued pits and fine manure, which was principally composed of cow's dung (the best being well consumed, which takes a few months). The qualities of such manure are more of a cooling than heating nature, and will be found not over strong if one third part be mixed with three of what may be called virgin earth of a loamy nature: and if there happens to be a good kind of marl in the neighbourhood, and one fourth or less is added to the other two, this would make as fine a composition as is necessary. The author found this to be the case during the few years he resided in Cheshire, the finest marl county in the kingdom.

For many years the Dutch gardeners excelled

most other countries in the culture of the Cantalupe melon; but by the perseverance, skill, and assiduity of the British and other gardeners of the united kingdoms, they not only emulated the Dutch, but at last excelled them in the culture of this fine fruit. The following was the author's method of practice; and at that time there were but few better, though no doubt many equally good: —

Before entering on the general culture of this fruit, the few following hints may be of service to the amateur and the young horticulturist, and which will hereafter render a repetition unnecessary.

The first is that in the old school of gardening (which should be noticed in the new), — much stress was laid on the genuineness of the seed, by keeping the different sorts as distinct as possible. For should an impregnation take place (which certainly does in the different varieties of the same species), though it may not change the nature of the fruit, it certainly alters its taste and flavour.

The second is the age of the seed, which should not be less than two years old; for though it has been known to grow to five times that age, it has then been observed to diminish in strength. By some authors new seed has been advised to be sown; but this advice could only be meant in cases of emergency, when older seed of the same variety could not be had. Three or four years is the utmost age that is advised for the seed to be kept to grow strong plants.

The third the mould, — and if not such as has been recommended, the best the kitchen-garden

affords, which being prepared with cow dung, will be much preferable to that of horses. The gardeners of Holland never fail to collect a quantity every year, by which means they are never without it, as they find its utility for their large melons, as well as for their finest flowers. Should the earth and dung be in a proper state, they may be mixed when wanted. The earth must be by no means finely sifted; the better way is to run it down, and draw off the very roughest at the bottom, according to the quantity wanted.

The fourth is to give a sufficient depth of mould, according to the sort of melon, for the smaller size full twelve inches, and for the larger eighteen. A good depth of soil will supersede the necessity of heavy waterings, which only cause the earth to run into too solid a mass; especially if the soil is light, or has been too finely sifted.

Lastly, shade is recommended to cover the glass after the plants have extended their runners, and have begun to show fruit, in hot clear days throughout the season; the rays of the sun having at such times too powerful an effect on the plants: should they happen to be close to the glass, the frame must be raised with a brick at each corner, and the open space well secured with a hayband. The covering may consist of very thin canvass, netting, thin branches of birch, or mats, which latter the author prepared for the purpose by drawing out either way, every other strip of matting. This will be found useful; and the mats so served will last (with care) many seasons.

Thus far for the present; but most likely many

more hints will occur in proceeding with the work, in which the melon claims its share, for reasons before given.

Culture.—In warmer climates the melon is raised with little or no trouble; but in Britain it requires great attention and expense to rear it: and this may be said of every sort of fruit and vegetable raised by artificial means; and to those who cultivate them may be justly applied the following lines:—

Grudge not ye rich (since luxury must have
His dainties, and the world's more numerous half,
Lives by contriving delicacies for you),
Grudge not the cost. Ye little know the cares,
The vigilance, the labour, and the skill,
That day and night are exercised, and hang
Upon the ticklish balance of suspense,
That you may garnish your profuse regales
With summer fruit, brought forth by wintry suns:
Ten thousand dangers lie in wait to thwart
The progress.

COWPER.

So it is certainly, and never were any lines more to the purpose.

Of late years various have been the methods for raising good crops of melons, by cutting layers, and preparing the bed in a particular manner, all in the view to the production of "good" crops. Such may have been the case; but the author has doubts whether they will come into general use. The practitioners who promulgate these methods, certainly do so with good intentions. But in some of their writings there are intermixed too many technical terms, such as generating "caloric" to the bottom of the bed.

Why not say a warmth? The author's two very old acquaintances, Philip Miller and John Abercrombie, did not write in that style: theirs were plain and practical directions, such as the writer has endeavoured to follow throughout this work.

From the ample details given under the head of the varieties described, the writer will briefly state what he has further to say on the culture of this fruit. First, in regard to the earliest plants, the culture of which is so similar to that of cucumbers, that little need be added. The following will explain what remains to be said on this head.

The two principal things, the seed and soil, having been already mentioned, the sowing of the seed is to be noticed, which may be done either in pots or pans, and then plunged into a brisk heat, as the melon is of a more tender nature than the cucumber. The seed will soon vegetate, and be of sufficient height in a few days to pot off, which is to be done on the appearance of the first rough leaf. The pots to be of a small size (60 to the cast) and in each should be put two plants, just covering the hole at the bottom with a little short mulchy stuff, and after the pots have been half filled with mould, the plants are to be put in, and afterwards plunged more or less, according to the heat of the bed, and should the mould appear dry, a little water should be given in a tepid state, as advised for the cucumber. After the stopping of the leading shoot, the plants will be of sufficient growth to ridge out, either in a dung hot-bed or in a flued pit, the same as before mentioned. The only difference between ridging out early melons and cucumbers is, that the

former should have a little stronger soil, after the first earthing of the hills. This should be given gradually as the plants seem to require it, gently pressing it down each time with the hand, which will cause it to be sufficiently solid, without having recourse to heavy treading in an early season.

As soon as it appears that the leading shoots of the plant have grown to two or three joints, their tops should be pinched off, which will cause them to produce lateral shoots, generally called runners. From that time the plants should have a full earthing gently sloping from the hills, the runners are to be regularly trained on the surface, which may be thinly covered with dry moss, and at a later season with tiles, or small rough gravel. In the event of an early season, the fruit shown will require setting, and in that case stopped a joint or two beyond ; but for a larger crop the shoots should not be stopped before they reach the side of the frames, when two of the strongest would be fully sufficient, as too frequent stopping only causes a too great multiplication of branches.

During the time the fruit is setting or swelling off, care should be taken to keep up a lively growing heat, about 70 of the thermometer, with light sprinklings of water, more or less, according as the weather is dark or light.

The question of giving coverings at night, has been glanced at when treating of the cucumber. Air is also fully requisite for the melon in warm still weather, throughout the summer season, as the plants, by being strengthened, will resist any sudden changes in the day-time.

We gather from observations, that the length of time a melon takes from setting, till it arrives at maturity, is about six or seven weeks: it has also been noticed, that when the plants are in good health, small drops, like beads, are seen round the edges of the leaves in the morning, which circumstance arises from dew having fallen in the course of the night. If none are observed, the plants are either too dry, or in want of more heat, and in such cases, measures should be taken to rectify the omission accordingly.

The author will now say a few words on the culture of the large Cantaleupe melons, which differs in some respects from that of the smaller kinds. First, the pits or frames must be considerably larger: those the author had in use, were six feet wide, and the pit or bed of three feet in depth was level with the ground. In raising plants of the above description, the seed should be sown about the latter end of April, and if more plants than enough for three lights are wanted, a small hot-bed should be prepared for them. In forming the hills, the full depth, sixteen or eighteen inches, must be given, and the mould must be of a more loamy nature than for the other varieties; good loam is the basis for the growth of both fruit and vegetables.

When the plants have been stopped in the manner already mentioned, they should be allowed to run nearly to the front and back of the frame, previously to which they should be fully earthed; and if the mould is not too moist, it may be moderately trodden over the entire part of the bed, which afterwards may be covered, either with common house

tiles, or thinly, with small gravel, previously washed for the purpose.

Melons have been successfully raised under oil-paper frames, by digging a trench in the ground full two feet deep; the earthing and ridging out must be similar to those of cucumbers: but such old-fashioned methods are now nearly out of date. In pruning the large sort of melons, little will be required of the knife, if they are not too frequently stopped in their growth. The Cantaleupe is both hardy and fruitful, and it must be determined by the grower whether he will leave more than two shoots upon a plant.

There are two diseases which affect the melon plant; the rust occasioned by the red spider, and the mildew. These arise from two causes; the first, from a too dry state of the air, and the second from cold and damp weather, with too great dampness in the bed, and an insufficiency of bottom heat; hence the efficacy of M'Phail's pits, and the fluid pits so successfully used in Scotland, particularly those near a tan-yard.

The attacks of the red spider are generally confined to the under surface of the leaves; hence there is a difficulty in destroying it, as bruising the leaves on the side infected generally does more harm than good. The only remedy the author recommends, to prevent and stop the progress of this destructive insect, is to keep the interior air of the frame or house in a moist state, by frequently sprinkling the plants with water; by frequent fumigations of tobacco; or by putting a little sulphur of vivum in a pan under each light.

To prevent, and in a great measure cure, the mildew, if the weather is cold and wet, and the bed too slack of heat, a moderate lining of good hot dung must be applied: and should the mould round the bottom of the hills appear to be too much soddened with moisture, draw away all the earth that can be conveniently removed, with as little injury to the roots as possible, and replace it with fresh; but this can be only done while the plants are in a young state.

In reference to what has been alluded to in respect of raising the melon on tan, this has been successfully practised by the author and many others in this country, and would be considerably more so, but for the great distance of some tan-yards (the tan should be taken nearly fresh from the pit, not too finely ground), and the expense of carriage. These obstacles being got over, the quantity wanted may be judged of from the length of the pit to be worked; the tan being two feet or more in thickness, if there be no old to mix with it. The tan being procured, it should be thrown in a heap under cover, to heat and ferment for a week or ten days before using, turning it over twice within that time; after which it will be found in good order for putting in the pit, previously laying at the bottom about a foot of good warm dung (not too short). One third of old tan, not too finely sifted, mixed with the new, will be an improvement, as the roots will most likely penetrate into it.

As soon as it is found that the heat is regularly up (the lights being over it the whole time), the earth should be put in for the hills, so high that

when the plants are ridged out, they will nearly touch the glass; and as the bed will most likely sink considerably, the plants are to have the full depth of mould, as already mentioned, and likewise the same after-treatment. The author can only add, — beware of too much water, the want of which will be indicated by the dryness of the leaves, as much moisture will be contained under them, or any other covering.

Before leaving this favourite fruit, a few words will be said in reference to the many prizes which the scarlet flesh melon has gained. It brings to the author's memory the many convivial and friendly meetings (called by the gardeners melon feasts) he attended in by-gone days, when the utmost harmony prevailed among the many hundreds assembled, many among whom of course were anxious for their respective friends to gain the prize.

At one of these feasts, in the year 1776, the author happened to be the fortunate candidate, bearing away the prize from fourteen others, whose specimens, all of the true Cantaleupe variety, were from four to ten pounds weight each, and of the most perfect growth. The melon which the author exhibited weighed four pounds seven ounces. It was certainly a feather in the author's cap, being as he was at that time so young a man. That the meetings alluded to, when celebrated with temperance, are productive of much benefit, is universally allowed; for, by causing an emulation among the young horticulturists, they in a great measure act as a stimulus to further improvement.

34 MILAN CABBAGE.— Var. BRASSICA.

The most popular name is *Choux de Milan*; the name *Choux* being given by the French and Italians to most of the *Brassica* tribe, as arranged by Linnæus.

This vegetable is extensively cultivated round the town above mentioned; growing tall, and producing an open head, the centre of which is most delicate, with numerous sprouts equally good; the late appearance of which renders them more valuable.

Culture. — What has been mentioned respecting the culture of the green kail, Brussels sprouts, &c., holds good in respect to the culture of the *Choux de Milan*, with the addition that the above requires more room for its growth than either of the former. It is a delicate green, both in colour and taste. Were it harder (producing numerous sprouts), it would be a great acquisition, even to the first tables, to which our common green kail was so highly welcomed after the severe winter of the year 1838, when most other greens were destroyed. Once more the author begs to remind either the young or old gardener to have always plenty of that valuable variety in cultivation; for what has been, may be again; and, as the celebrated Dr. Franklin observed in his *Poor Richard's Almanac*, "When the well is dry we know the want of water."

35. MINT. — MENTHA.

Mentha, the original Latin name, was given to the different species of the mint from their supposed virtues. The *Mentha viridis*, Green Mint, is the sort preferred for culinary and other purposes. It is the most agreeably flavoured, and not so warm to the taste as the *Mentha piperita*, or Peppermint, which will be noticed under the head PHYSICAL HERBS.

The Green Mint, commonly known by the name of Spear Mint, from the pointedness of its leaves, is commonly eaten as sauce with lamb. It is also used in spring salads, and, when dried, in soups. It has a very refreshing scent; and is very efficacious when used as a warm stomachic, in producing appetite. It is said also to have the virtue of stopping crude and continued retching.

Culture. — Mint, being perennial, is propagated by parting the roots in spring, previously to their breaking ground. It will grow in any sort of light soil and situation; but a warm spot, if attainable, will bring it forward earlier for use. When propagated by parting the roots, they may be laid thinly in drills, drawn about three inches deep, and a foot apart, or in beds three or four feet wide, where they may remain for three or four years only; giving the bed a top dressing of mould in the early part of winter. A bed six or eight feet in length will produce a large quantity of this herb; but more or less depends on what is likely to be wanted. Large quantities of this herb are also propagated by the market-gardeners near London

from the young shoots, when a few inches in height. A spot of rich ground should be selected for the purpose, and planted in three or four-foot-wide beds, at a few inches apart. Such plantations are for cutting green and drying. If for the latter, the plants must be advanced in growth till they are nearly in full flower, when they are to be cut, and the stalks laid out thinly in some dry shady place, where they may dry leisurely. When found of sufficient crispness, they may be either tied up in bunches or put in paper bags (which is the better method to keep them from dust), and laid in some dry place till wanted.

As green mint is a desirable herb in the course of the winter, and more particularly on the first appearance of lamb, the roots may be taken up in open weather, and planted either on a moderate hot-bed or in pots or boxes. Where there is the conveniency of a hot-house, they will require but little trouble: if this is not to be had, a slight hot-bed must be made about two feet thick, of well-prepared dung, enough for one or two lights, about the end of November, or earlier if required. As soon as the heat has risen, mould should be laid on the next day to the depth of six or eight inches. The bed being properly levelled, the roots may be laid on the surface, and covered with an inch or two of good light mould; a good watering is then to be given, which will wash the earth round the roots; afterwards a little mould strewed over the whole will finish the work. The lights should be kept close till the appearance of the plants, when a little air must be given, to sweeten the bed. In

about a fortnight or three weeks the plants will begin to produce buds of sufficient growth for use, and will so continue for a considerable time, if carefully protected from frost.

36. MUSHROOM. — FUNGUS.

The botanic name of *Fungus* is given to this plant on account of its spongy nature; that of Mushroom, so called by the English, is supposed to be derived from the French name *Mousseron*, allied to a species of *fungus* called *Champignon*.

The mushroom tribe has afforded a wide field for speculation to naturalists of every age, who have disputed whether it consists of perfect or imperfect plants: perfect in one respect, — as some have been known to produce seed.

This class of plants, which the botanists rank as the lowest order of vegetables, has been supposed to assimilate more closely to the animal than any other class of the vegetable world; and the animal flavour of the esculent mushroom leaves little doubt of the matter. Upon the whole, to the growth and formation of this wonderful though humble vegetable, may well be applied the words of Thomson, which are indeed applicable to the entire vegetable kingdom: —

'Tis surely God,
Whose unremitting energy pervades,
Adjusts, sustains, and agitates the whole.
His ceaseless works alone, and yet alone,
Seem not to work, with such perfection framed
In this complex stupendous scheme of things.

Mushrooms are very extensively used for making the well-known catsup; they are also much esteemed as a pickle, and, when stewed with rich gravies, are most delicious. They are considered a luxurious dish in most parts of the world, and are cultivated in most parts of Europe particularly as a delicious food; but in no country is their cultivation so general as in England, where they are produced at all seasons of the year; and little or no apprehension is now entertained (if used in moderation) respecting their dangerous qualities, since they have become the care of the British gardener. The author has never heard of any person having suffered from eating cultivated mushrooms, although they are in general use in London; which the quantity brought to the London markets throughout the year fully exemplifies. In Paris they have but few, except such as are gathered in the fields; and there are continual accounts of deaths caused by this vegetable; attributable most likely to excess in eating them, and to the want of due care in selecting the genuine sort, which principally grows in open fields. Such as are overtopped by trees are not to be depended on, as their roots probably run near the surface, and often throw out a spurious variety, which will be found to grow out of the earth in a short time about six inches high, rounding at bottom like a bladder full of holes, or fine-wrought net-work, with gills red as scarlet, and of a most disagreeable scent when they get old. Hence such only as grow in the open fields should be gathered, and in such fields only as have been known to produce mushrooms of the best quality for a number of

years, more or less, according to the season. After a warm dry summer, and an early moist autumn, mushrooms are always plentiful, but scarce when such seasons are cold and wet.

Mushrooms are often observed to grow to a very large size. One of the very best quality was gathered, some time ago at Brigg, in Lincolnshire, which measured three feet four inches in circumference, and the girth of the stalk was five inches and a half: it was two inches in thickness, and weighed twenty-nine ounces. There were six others nearly the same weight.

Culture. — In the cultivation of any other vegetable we either sow or plant something material, — a slip or root, — which we both see and handle; but in the culture of mushrooms we neither sow nor plant any thing visible, at least to the naked eye. Yet it is certain that mushrooms are produced by seed, which certainly vegetates in the fields at certain periods, either more or less, according to the seasons, which have been noticed before.

Various have been the methods advised for raising the mushroom, which of late years have been so simplified, that the cottager, with very little trouble, may not only regale himself with them throughout the year, but make the raising of them a source of profit, as they may be made to vegetate artificially at any season, either in dry warm cellars, sheds, or such like places in the dark, by a certain process, and by a composition, of which the dung of certain animals forms the chief ingredient; that ingredient is spawn, on the goodness and strength of which, in whatsoever way it is made, depends the crop. Con-

sequently, where large quantities are required, either for sale or otherwise, the making of spawn may be successfully practised. For this purpose adopt the following process, which has been communicated and approved of by the Horticultural Society, and practised by the author with success.

In June and July take any quantity of fresh horse droppings (the more dry and high fed the better), mixed with short litter, one third of cow's dung, and a good portion of mould of a loamy nature; cement them well together, and mash the whole into a thin compost, and spread it on the floor of an open shed, to remain till it becomes firm enough to be formed into flat square bricks; which done, set them on an edge, and frequently turn them till half dry; then with a dibble make two or three holes in each brick, and insert in each hole a piece of good old spawn, about the size of a common walnut. The bricks should then be left till they are dry. This being completed, level the surface of a piece of ground, under cover, three feet wide, and of sufficient length to receive the bricks, on which lay a bottom of dry horse-dung, six inches thick; then form a pile, by placing the bricks in rows one upon another, with the spawn side uppermost, till the pile is three feet high; next cover it with a small portion of warm horse-dung, sufficient in quantity to diffuse a gentle glow of heat through the whole. When the spawn has spread itself through every part of the bricks, the process is ended, and the bricks may then be laid up in a dry place for use.

Mushroom spawn, made according to this di-

rection, will preserve its vegetative power many years, if well dried before it is laid up ; but, if moist, it will grow and exhaust itself. The next subject to be treated of is the preparation of the dung for the bed ; and for this purpose none answers so well as that of the horse, when taken fresh from the stable ; the more droppings in it the better.

About Michaelmas is the general season for making mushroom beds (though this may be done all the year round). A quantity of the dung mentioned should be collected, and thrown together in a heap, to ferment and acquire heat ; and as this heat generally proves too violent at first, it should, previously to making the bed, be reduced to a proper temperature, by frequently turning it in the course of the fortnight or three weeks ; which time it will most likely require for all the parts to get into an even state of fermentation. During the above time, should it be showery weather, the heat will require some sort of temporary protection, by covering it with litter, or such like, as too much wet would soon deaden its fermenting quality. The like caution should be attended to in making the bed, and after finishing it.

As soon as it is observed that the fiery heat and rank steam of the dung are gone off, a dry and sheltered spot of ground should be chosen on which to make the bed. The place being determined on, a space should be marked out five feet broad, and the length (running north and south) should be according to the quantity of mushrooms likely to be required. If for a moderate family, a bed twelve or fourteen feet long will be found (if it takes well) to produce

a good supply of mushrooms for some months, provided proper attention be paid to the covering.

On the space marked for making the bed a trench should be thrown out about six inches deep; the mould may be laid regularly at the side, and, if good, it will do for earthing the bed hereafter; otherwise, if brought from a distance, that of a more loamy than a sandy nature will be best.

Either in the trench, or if upon the surface, there should be laid about four inches of good dung, not too short, for forming the bottom of the bed; then lay on the prepared dung a few inches thick, regularly over the surface, beating it as regularly down with the fork; continue thus gradually drawing in the sides to the height of five feet, until it narrows to the top like the ridge of a house. In that state it may remain for ten days or a fortnight, during which time the heat should be examined towards the middle of the bed, by thrusting some small sharp sticks down in three or four places; and when found of a gentle heat (not hot), the bed may be spawned; for which purpose the spawn bricks should be broken regularly into pieces about an inch and a half or two inches square, beginning within six inches of the bottom of the bed, and in lines about eight inches apart: the same distance will also do for the pieces of spawn, which, in a dung ridge, are best put in by one hand, raising the dung up a few inches, whilst, with the other, the spawn can be laid in, and covered at the same time. After spawning the bed, if it is found to be in that regular state of heat before mentioned, it may be earthed. After the surface is levelled with the back of the spade, there

should be laid on two inches of mould — that out of the trench, if dry and good, will do; otherwise, if to be brought, and a choice made, that of a kindly loam is to be preferred. After having been laid on, it is to be beaten closely together, and when the whole is finished, the bed must be covered about a foot thick with good oat straw; over which should be laid mats, for the double purpose of keeping the bed dry, and of securing the covering from being blown off. In the course of two or three days the bed should be examined, and if it is considered that the heat is likely to increase, the covering must be diminished for a few days, which is better than taking it entirely off.

In about a month or five weeks (but frequently within the former time, if the bed is in a high state of cultivation) mushrooms will most likely make their appearance, and in the course of eight-and-forty hours afterwards they will have grown to a sufficient size for use; in which case the author recommends that, instead of cutting them off close to the ground, they be drawn out with a gentle twist, filling up the cavity with a little fine mould, gently pressed in level with the bed. This method of gathering is much better than cutting, as the part left generally rots and breeds insects; one in particular, the wood-louse; all of which are destructive both in frames and on mushroom-beds. Many are the different powders with which the author has tried to destroy them, but they were all entirely useless. At last he was induced, from what he was informed, to try the following; and if it did not entirely destroy them, it kept the frames and beds almost

entirely clear. Get some of the tuberous root of the black bryony, which grows in the hedges ; slice it thin and small, into small garden pans, and cover it lightly with moss, as this insect, like the mushroom, prefers darkness to light. Let the pans be put in different places of the bed, and in the morning shake the intruders into a pail of boiling water : repeat the same at intervals, and but few will remain to be troublesome.

After what has been mentioned, the author will close with a few other hints the method of cultivating the mushroom on ridge dung beds, which has been successfully practised during the last century, and still continues to hold its place, though not its high rank, since mushroom-houses (which will be noticed hereafter) have been so generally adopted.

Where a mushroom-bed is permanently to remain, a covered shed will be found most convenient, as the necessary work of the bed, &c., can be done with more facility than when open to the different changes of the weather. For this purpose a dry place should be chosen (the more sheltered the better) whereon to build a shed of sufficient breadth, thickness of covering, a space to go round, and the roof high enough for a man to walk under ; the length, according to what is wanted, either ten, twenty, or thirty feet. The shed should run from north to south ; the north end must be closed entirely up ; the sides, with the exception of two small sliding shutters, must be weather boarded, and the roof thatched with straw. It may be built of any rough materials ; it will last many years, and be found a good substitute for a regular mush-

room-house ; but such a house is, to all intents and purposes, most necessary where a constant supply is required.

Sometimes it happens that a bed suddenly ceases to produce any mushrooms : this arises from various causes, but principally from the cold state of the bed in winter, or from a too dry state in summer. In the former case a slight covering of mulchy hay laid over the bed, and on that six or eight inches of well-worked hot dung, and the whole covered lightly with the straw that was taken off, will most likely bring it about again. In the latter instance, moisture, if required, should be given moderately for two or three mornings, when, after lying about an hour, the whole may be covered up, and be found of much service. In summer, most mushroom-beds in a bearing state require more or less slight waterings. Soft water should be used for the purpose : spring water is too hard, and of too cold a nature ; and when at any time applied, checks vegetation. In summer time a gentle shower of rain on open beds that are in bearing, and seem dry, will add considerably to their productiveness.

A mushroom-bed seldom furnishes any abundance after two or three months : it has often done its best in six weeks. Heavy rains are most destructive to mushrooms ; therefore care should be taken to remove the wet straw or litter, and directly replace it with dry ; hence the utility of a covered shed.

Mushrooms have been successfully raised on late melon ridges,—suppose May and June,—from which most abundant crops have been obtained, with no

injury whatever to the melon plant, and by a process attended with but little trouble. The method prescribed by the author is what he has practised at times for a long series of years.

The first time he noticed mushrooms growing inside and out of melon frames, was about seventy years ago, at Claremont, once the favourite spot of our lamented Princess Charlotte. At that time it belonged to Lord Clive. Greening was the head gardener, and was then supposed to be equal to the best of his day. The author well remembers seeing Greening's ridge of the large Cantaleupe melons interspersed with mushrooms; hence it will be observed this mode of culture is not a late one.

For the above purpose the bed should not be spawned till a fortnight after the plants are ridged out; as too early spawning would be prejudicial, from the great heat necessary for bringing forward the melons: a good time will be when the plants are fully earthed up; as the loamy soil advised for the melon so well agrees with the mushroom.

When the bed is found to be moderately warm and moist, there should be laid on the vacant part of the surface about two or three inches of half-consumed compost, either of leaves or dung; in which insert the spawn of about two inches square, six or eight inches apart, in rows, on a breadth of eighteen inches, round the inside of the frame; cover the whole with the soil intended for the plants, and tread the whole down rather firmly, within a few inches of them, but more or less according to the state of the mould being strong or moist. When this is done, let the surface of the bed be covered

as before advised, which, with the occasional shade on the glass, will make it sufficiently dark for the production of the mushroom.

In the course of three weeks, after a bed was spawned in this way, it began to produce mushrooms, and so continued for some weeks after the plants had done bearing, and were pulled up, by giving about two inches of top dressing, slightly covering the surface with hay, and keeping the lights close. In such beds the finest flakes of spawn have been produced, as hinted before.

On a ridge or ridges of hand-glass cucumbers (those in frames have generally the mould too light), spawn may be inserted along the edges, where, with the surface being covered with half consumed litter, or such like, mushrooms have been frequently produced in abundance.

Exclusive of the different methods mentioned, others will most likely suggest themselves to the young horticulturist, who should never be tired of making moderate and well-considered experiments. By such means have the gardeners of the United Kingdom attained that knowledge which they so pre-eminently possess over others in Europe; but still there is ample room for improvement.

So far on the cultivation of the mushroom in the old school. That of raising them in houses built on purpose, may be termed the "new school." This practice was but little adopted, till after the middle of the last century; since that time they have come (not without reason) rapidly into use, and at the present time but few noblemen's or gentlemen's gardens are without one. Besides being in high

estimation in these situations, they are successfully used by many of the most eminent market-gardeners in the three kingdoms.

It was not till after the return of Oldacre, who was gardener to the late Sir Joseph Banks, that mushroom houses became so general; much of their popularity arose from a small treatise which he published on the subject, and which was much sought after; and as he was a successful cultivator, his method, with some improvements, was, and is at this time, generally adopted.

The first idea of building houses for the production of mushrooms is supposed to have originated in Germany, but whether it did so or not is not material; whoever was the inventor is entitled to praise, as it is certainly a great addition to our vegetable horticulture. The utility of such houses has been already noticed.

In a work treating solely of the cultivation of culinary vegetables, both by natural and artificial means, the omission of any part of their culture would be deemed a blank; on which account the author is induced to give a rough sketch (on a small scale) of a house necessary for the forcing of mushrooms, and which will enable any person to give directions for such a structure: the plan has been tried, and found to work well.

The place on which to build a house for the above purpose should be dry and sheltered; the length of the house should be twenty feet, as it would be hardly worth while to erect a smaller one; and as it should be considerably more in length than breadth, the ends should run north and south;

the north part, if convenient and not too much exposed, may be built against any spare place to that aspect, which will save some expense. The wall should be nine feet high, from the surface of nine inch work. It should have a double roof; for the inside one, an arch made of thin boards, the ends to rest next the wall on the upper shelf, and the outer one a span, covered with slates or tiles. At eighteen inches' distance from the wall inside the house, should be fixed five or six upright posts on each side, to which cross wooden bars may be fastened, whose ends next the wall may be mortised in it. Three tiers of shelves or boxes of the above breadth must be obtained and placed thus: the first or lower tier, two feet from the ground, the second four feet, and the third six feet. A small flue of seven or eight inches should be set on flat bricks, every other one open, commencing at the east, and going round next the path of fourteen inches; which is better than to place the flue immediately under the lower tier of shelves, as this would be prejudicial from its heat, though little danger need be apprehended on this ground, as the maximum heat of the house in the severest season should not exceed 60° ; the average about 55° . However, for fear of accidents a tile should be placed at the lower end of the uprights, between them and the flue, by which any apprehension of danger may be removed. The door of the house should have a small slide made at the bottom, which may be used occasionally as a ventilator.

In the above sketch it will be observed that bearers are fixed to support shelves or boxes,

which latter are recommended in preference to filling the entire shelves. The boxes for the purpose should be made of half-inch yellow deal, three feet in height. The depth should be fourteen inches, and the breadth according to the space for the shelves. In the bottom of each box there should be three or four holes, about half an inch in diameter, which will be found useful (though some think otherwise) for two purposes; first, they will admit heat, and secondly, they let out any superfluous moisture which may happen to accumulate during the winter, and which is so baneful to the mushroom in that season. In summer it is not so much to be feared, as light and frequent waterings will be necessary. The compost dung for filling the boxes should be the same as advised for making a mushroom bed (the more horse droppings the better). When it is found to have properly fermented, and to be in a *sweet state* (the gardeners' phrase), the boxes are to be filled in the following manner: first, lay over the bottom box an inch or so of what may be called flaky dung; if given to spawn, so much the better; and over that five or six inches of the prepared dung before noticed, which is also firmly to be beaten down; over that lay about a dozen small bits of spawn, on which two or three inches more of the prepared dung is to be laid, and beaten down as before, which will make it solid and firm in the boxes of nine or ten inches. It may lie in that state for about a week, for the heat to rise regularly throughout the mass. In the interior it should be examined; and, if it be found very warm, ten or a dozen holes may be made nearly

to the bottom of the box, with a small pointed stick, for the great heat to evaporate, which it will most likely do in three or four days after, when it may be spawned by pieces an inch and a half square being inserted in the dung in cavities, to be filled up with dung similar to that taken out. The whole is then to be covered two inches thick with a kindly loam or good kitchen-garden earth, not too finely sifted. This should likewise be well beaten down, and the surface covered thinly for a few days with dry litter. Keeping the heat of the house up to 60°, will soon cause the spawn to work, and vegetation to be brought on, so that within a month mushrooms may be expected, in the gathering of which much care will be necessary, by disturbing as little as possible the place where they have risen.

Their after culture will principally consist in keeping up a regular heat during the winter; and should it happen (which, however, is very rare in winter) that any of the boxes are in want of moisture, a very little soft water may be given, which has been placed in the house two or three days before.

Shelves may be erected for growing mushrooms in a warm shed, at the back of a hot or greenhouse; and also in dry, warm cellars, similarly to the house culture: in the latter place, they have been cultivated most successfully in hampers, and, in short, in almost any place where warmth and darkness prevail.

37. MUSTARD. — SINAPIS.

The origin of *Sinapis*, the most ancient name of this herb, is not precisely ascertained; many botanists consider it arises from its pungent effects upon the eyes.

Mustard seed was first obtained from Egypt, and has been handed down to the different nations in Europe from time immemorial.

Mustard seed was not common in Queen Elizabeth's reign, but shortly afterwards it came most rapidly into use, at first in its natural state, and then manufactured, as we now have it. It makes an excellent sauce, to be eaten either with fish or flesh. It helps digestion, warms the stomach, and promotes appetite; and, on the whole, must be considered a most wholesome condiment, when mixed with salads, either in winter or summer.

The young mustard, in its green state is highly valued as a salad herb, with cresses, radishes, &c. and its cultivation, for that purpose, is of the first importance. There are two sorts cultivated, the *S. alba*, or "white mustard," and the *S. nigra*, or "black mustard."

The flour of the seed of both varieties affords the common mustard for the table, but the latter is chiefly used for that purpose; the first sort is alone cultivated as a salad herb, to be used in its green state. The seeds of both are much used in medicine, and are considered of equal efficacy.

Culture. — The white mustard is sown and cultivated in the same manner as advised for cress, at

all times of the year, sometimes every week or fortnight. It can be either sown in a bed or border of light earth, or in shallow drills, very thick, covering it very thinly with the same sort of mould; and in winter, and early in spring, during cold weather, in slight hot beds. It often happens, when this herb is sown in spring, in the open ground, that it is caught with sharp hoary frosts towards morning. When that is the case, a little sprinkling of water before sun-rise, will prevent any ill effects which sometimes follow from the heat afterwards.

The herbs are always cut for use whilst in the seed-leaf, and but a few days old; otherwise they become too strong, and are rank and ill-flavoured.

38. NEW ZEALAND SPINACH.—

TETRAGONIA.

This plant was named *Tetragonia*, from the horned shape of its seed-pods; and *Expansa*, from its spreading growth.

It is a native of New Zealand, and was introduced into this country by Sir Joseph Banks in 1772, and afterwards principally brought into notice by Mr. John Anderson, gardener to the Earl of Essex, at Cashiobury Park.

The great advantage it possesses is, that of supplying fresh leaves in the driest weather, when the crops of summer spinach are useless. From its rapidity of growth in producing leaves, three or four plants have been found sufficient to give a constant and plentiful supply throughout the season.

It is a spreading plant, with numerous branches,

growing in a circular form, to the height of three or four feet.

Culture. — This useful vegetable is propagated by seed, which should be sown towards the end of March or the beginning of April, on a slight hot-bed. When the plants are up a few inches in height, they must be planted singly in small pots, and kept sheltered till the end of May, when they may be turned out in any light rich piece of ground, open to a southern aspect, in order to forward the ripening of the seeds in autumn. It produces seeds most freely, dropping them on the ground, similar to the nasturtium.

More or less of this plant should be cultivated in every garden; for, besides forming an excellent substitution for the common spinach, the seeds, when pickled in a green state, are nearly equal to capers.

Some years ago, the author was informed by a good English cook, that, on hearing some complaints of the taste of this vegetable, she boiled with it a small handful of French sorrel, which had the effect of greatly improving its flavour.

39. ONION. — ALLIUM.

The definition of the botanic name *Allium* has been before given under the head garlic. The onion was originally called by the ancient Latin name *Cepe*, on account of the form of its bulb. It is now made the specific, according to the Linnaean system. It was likewise termed *Unio*, be-

cause the bulb never throws out any offsets ; and from that word the English name onion is deduced.

The common onion owes its chief qualities to cultivation and climate. It is supposed to be a native of Spain ; though, as Neill observes, neither its native country, nor the date of its introduction into this country, is correctly known.

No plant has been so much exposed to the caprice of fashion and the disputes of physicians as the onion. It has been the common seasoning for meats of most nations from the earliest period to the present, and has in every age graced at once the table of royalty and of the peasant.

Of all the flavouring substances used in cookery, the onion is the most important ; for, besides imparting a fragrant, savoury, and delicious taste to every culinary preparation into which it enters as an ingredient, it affords considerable nutriment ; and possesses medical properties of no little value. When improperly applied, however, it loses its virtues, and becomes unwholesome and indigestible.

The lower classes in England, and generally in most countries of the civilised world, are much addicted to the use of the onion in its crude state. In Spain and Portugal it is of a more benignant nature than that produced under our more northern climate, which is so indigestible that it very often remains in the stomach two days, or more, before being dissolved by the gastric juice. During this time it causes eructations of the most distressing kind, and often spasms, which, by the ignorant, are attributed to wind.

Onions, when used as an article of diet, are most

agreeable when boiled, and served up with white sauce or melted butter. When those of our own climate are so cooked, they are greatly improved by the water being changed when they are about half boiled, and a little salt being thrown into the second water, which should be taken from a boiling tea-kettle.

Fried onions are dangerous things; not quite so much as raw ones, but very little less. *Grossfeeders* in this country are fond of fried onions with beef-steaks.

When onions are used as stuffing for goose, duck, pork, or any other meat, in combination with sage, and other flavouring substances, they should first be chopped very small, and then thrown into boiling water on the fire. After boiling up for about five minutes, they should be put into a colander to drain, and pressed until not a drop of water remains in them. If they are then mixed with the chopped sage or other ingredients, they help to form a stuffing, which may generally be eaten without injury to the stomach.

Roasted onions, though not so unwholesome as fried ones, are, nevertheless, sufficiently so as to be avoided, especially by those persons whose stomachs are not the most robust and unimpaired.

The most useful varieties of the onion are the following:—

1. Deptford; so called from the large quantity of seed saved in the vicinity of that town. It is a good keeping onion throughout the season, and is much cultivated for the London markets.

2. Reading, long celebrated for a superior growth

of onions of a milder cast than either the Deptford or Strasburg. There are two varieties of this onion, the white and the brown; of the two, the brown will keep the longest. The true Reading has a silvery appearance, and is the sort which should be selected for seed: the size of the bulbs for this purpose is not material; as, from an observation made by the author, just as fine onions were produced from seed saved from the smaller as from the larger bulbs. It is the nature of the soil and method of cultivation which cause the principal difference in respect to the size and quality of onions.

3. Silver-skinned, a very excellent sort. This, together with the Reading, are the best and most esteemed for pickling.

4. White Spanish, Portugal, or Lisbon. These are fine onions as long as they last, which is only in the early part of winter. To have these sorts true, seed should be imported every second year at least, as they deteriorate after three or four years cultivation in this country.

5. Tripoli; a very fine onion, growing to a large size, and of a more oval or pyramidal form than any other variety. It is excellent for a late crop; but does not keep long after it is taken up. If this onion is wished to be kept from decreasing in size and quality, fresh seed must be imported every season.

6. James's Long-keeping. } These are two va-
 7. True Globe. } luable sorts; that of
 James's in particular: they both keep well, and
 are mild and well-flavoured. The author well re-

collects the first introduction of James's onion, James was an extensive market-gardener in Surrey, where he amassed a large fortune. He was greatly respected, and, in the decline of life, was nominated high sheriff of the above county.

8. Strasburg. } Principally valued for their
9. Blood-red. } long keeping, which, in most seasons, continues till the autumn sowing, for the following spring transplanting, comes into use. They are very hardy, but of strong flavour.

10. Welsh Onion. This variety is a native of Siberia, and is of the most hardy nature. It is seldom destroyed in the severest season; but dies in the early part of winter and grows again at the commencement of spring. The Welsh onion is a perennial, and all the other cultivated sorts are biennial: it does not bulb, and is principally sown in autumn, for drawing in spring. It would, perhaps, be more generally cultivated were it not for its very strong scent and taste. The stock of this variety will last good many years for producing seed, which it does freely; but, for general uses, it should be sown every year.

11. The Potatoe or Under-ground Onion; so called from producing under-ground. It cannot now, perhaps, be correctly ascertained when this variety was introduced into this country, or whence it came. It appears to have been cultivated in Mr. Driver's nursery, near London, in 1796. It produces no seed; consequently it can only be raised from the offsets of the bulb. The first the author saw or heard of was at Lord Rolle's, in Devonshire, above twenty years ago; and the guide

justly remarked that the potatoe onion is a very valuable acquisition to our gardens, and its cultivation cannot be too strongly recommended. It is most hardy, productive, and mild in quality, equally so with the Spanish; and possesses this advantage, that its roots are perfectly ripened and fit for use two months before any other sort.

12. Tree, or Bulb-bearing Onion, originally from Canada, where, the climate being too cold for onions to flower and seed, when they are allowed to throw up flower-stalks, the flower becomes viviparous, and bears bulbs instead of flowers. It is more an object of curiosity than use, though in some parts of Wales the cauline bulbs are planted, and produce good ground onions of a considerable size, while the stem supplies a succession of bulbs for next year's planting. It is considered stronger for seasonings than other onions.

The *Large Portuguese Onions*, seen in the shops of the fruiterers in the metropolis, as well as in all our principal seaports, are imported from that country in large quantities, and sold at a high price. This description of onion forms a most delicious vegetable when boiled, and is sufficiently tender to be divided with a knife or spoon, like a turnip or a potatoe; whilst the onion produced in our own country remains so tenacious that, unless boiled to pap, or cut prior to being cooked, it can be divided only into flakes or layers.

Culture. — The soil, in general, cannot be too rich for this useful vegetable, even in Spain and Portugal, where a fine loamy soil abounds. It is more or less manured for every crop. The market-

gardeners at Hexham, in Northumberland, have been known to sow their onions on the same piece of ground for twenty years in succession ; but they annually manure the soil. After digging and leveling the ground, the manure, in a very rotten state, is spread upon it ; the onion seed is sown upon the manure, and covered with earth from the alleys ; and their crops are abundant, and excellent in quality. This was stated in a paper communicated to the Horticultural Society some few years ago. Something of this culture was communicated to the author, when at Wrexham, fifty years ago, where he observed the crops to be remarkably fine.

For the general crop throughout the autumn and winter, seed of the Deptford variety should be chosen, and as much of the best ground as can be spared : that of a light rich sandy nature, previously well manured in the early part of winter, and laid up in ridges, will be much the best

Take the first opportunity of fine weather, in the beginning of March, either in digging the ground or laying down the ridges, which, being well broken and levelled, sow the seed evenly, and not too thick, either in beds four feet wide, with one foot alleys, or broad cast. The latter method is more generally adopted in market-gardens, where many acres are sown at one time ; the former is more convenient in gardens where acres are not sown. The seed having been sown, it will depend on the state of the ground, whether it will be eligible to tread it in or not ; though a gentle treading, in most cases, is serviceable, as, from observations made by several persons, as well as by the author, the more the

onion rises out of the ground, the finer and better it keeps. In raking in the seed, it has been noticed that the lines or teeth of most rakes are, in general, too close; consequently, if used to a proper depth, they draw the seed up in heaps, thereby causing a very unsightly crop.

In about three weeks the onions will make their appearance, when, if many weeds should rise among them, they must be cleared by the hand or a very small hoe. This is seldom used in country places, where young onions are a source of profit; but in large market-gardens round London the hoe is used as soon as possible; the expert onion hoers taking them by the acre, at sixpence per rod, to thin them out with a two-inch hoe, and keep them clean till July; in dry seasons, four shillings a day may be earned in this manner, but considerably less if the weather is wet, as the bargain stipulates for the total eradication of weeds before the end of that time.

In about a month after the first thinning or weeding, the hoe should be used among them to the extent of three or four inches, which will finally set them out for the season. Nothing further will be required until they are pulled up for drying, except that in the event of weeds happening more or less to rise, they must be cleared off by the hand. In wet seasons, and often from late sowings, onions are apt to grow thick-necked; in such cases they should be gently bent down with the head of a wooden rake, which will check their rapid growth, and cause them to come sooner to maturity.

Some time in August, the onions in general will

have attained their full growth, of which their stalks and leaves give notice by shrinking, and assuming a decayed state. They should then be pulled up in dry days, and spread on a clear, firm piece of ground in the sun to dry and harden, and turned occasionally. They are then to be cleared from rubbish, and housed for future use.

In the winter and spring, such of the above-mentioned keeping onions as unavoidably sprout in the house, may be picked out and planted in beds to grow up, to draw for scallions, when time and opportunity admit. The sooner onions are platted with dry straw into ropes for hanging up, the longer and better they will keep.

The second season for sowing onions is what may be called the Michaelmas, or winter crop; these should be sown (to draw for salads and other uses) in the second week in August; but if intended for planting out in Spring, not before the end of that month, or the first week in September. The seed should be sown in beds four feet wide, moderately thick and even; and when the plants come up, they must be kept remarkably clean from weeds by hand-weeding. They can be thinned gradually to the proper distance, by drawing them young for use. This is to be understood of the first sowing. The second sowing, as before observed, is for planting out early in spring, to produce full-sized bulbs; for which purpose, a rich spot of ground should be selected, and the plants set in rows about nine inches wide, and six or eight inches from plant to plant. Nothing more will be required (except the hoe at times, to keep them clear of weeds), until

they are drawn for use. Plants obtained in this manner, from seed sown in August, and put out in March, grow to a large size, and come into use some weeks before the general crop in autumn. To guard against want, or a very severe season, such as 1838, a small bed of the Welsh onion may be sown about the middle of August: this you will be sure of.

To raise onions for pickling, seed of the "true" Reading kind should be sown thick in a bed, according to the quantity wanted, at the same time that the general crop is sown in March. No further culture will be required, except hand-weeding, as their thickness in the bed will prevent their growing large, and will cause them to come to maturity sooner, for market, where they will find a ready sale, not only for their earliness, but the evenness of their growth, and bright colour. Such is the sort the author recommends, in preference to those called silver onions, the excellence of which consists only in name, and not in taste or flavour.

Culture of the Potato Onion. — The qualities of this valuable variety have been before described; it only remains to give an account of its culture, the first hints of which the author received in Devonshire, and he has since acted upon them with success. Prepare thoroughly a rich piece of ground, in which, after drawing shallow drills about a foot apart, plant the bulbs six inches distant in the row, and cover them lightly over with earth; keep them clear from weeds, and earthed up as they continue to grow, something like potatoes. Towards the end of summer they will be found nearly fully grown;

when this is the case, they should be taken up, dried, and treated similarly to other winter keeping onions.

In the planting of this onion, the same thing is said of it in the above-named county, that is often said of shallots: "plant in the shortest day; take up in the longest." It has been remarked, and the author can corroborate the fact, that the smallest onions used for planting swell and become very fine and large, and also yield offsets; but the larger bulbs produce the greatest clusters. For the well keeping of this onion, a dry airy loft should be chosen, where they ought frequently to be looked over, and any bad or unsound ones taken away.

40. OXALIS. — WOOD SORREL.

Oxalis crenata, the botanic name of this plant, is given from the supposed virtues of the foliage, which has a strong acid taste, like that of our common sorrel; the specific *crenata*, from the plant being notched petaled. The botanic name is retained in preference to the English, because, having been first introduced by the former name, it is likely to be most popular hereafter.

We are indebted to that worthy and indefatigable collector of plants and seeds, Mr. Douglass, for this variety of the oxalis, and addition to our culinary vegetables, which is stated to be highly nutritious.

From Mr. Douglass's account, we learn that this species of oxalis is a native of South America, growing spontaneously in the neighbourhood of Lima,

where the young leaves are much used in salads, and found in its medicinal qualities to be of the first importance to the inhabitants of that warm climate, being cooling and purifying to the blood.

It was about the year 1832 that the oxalis was brought to this country, when it was planted by Mr. Lambert (a gentleman of great scientific knowledge) in his own garden, from which, most likely, from the number of tubers produced, many were distributed among his friends.

In the course of a year or two the root began to be much noticed as an esculent vegetable, and was brought into much esteem by the recommendation of J. Mitchell, Esq., of Great Ropers Hall, near Brentwood, Essex; who, at an entertainment, introduced a dish of the oxalis, which was highly extolled, and declared by all present to be more agreeable than the common potato, to which it is supposed, in nutriment, to come very near.

Of its taste and flavour, Mr. Mitchell says it is not possible to convey an idea by words; but, were he to attempt it, he would say they were those of the potato combined with the chestnut.

In cooking, the time required for boiling depends on the size of the tubers: if small, ten minutes will be sufficient; and if larger, rather more in proportion. When they are done, and the water is drained off, they should remain a few minutes in the saucepan, which will add much to their taste and flavour.

The oxalis, in growth, is curiously shaped, being neither round nor oblong, but broadest at the base, and tapering to the top; the outside covering or

rind is a brownish-white, or yellow dotted with red, and much indented at the eye. The solid part has a yellowish cast, which indicates a richness, and is supposed to be highly nutritious; which seems to be the case, from the extensive orders given for the roots.

Hitherto the experiments made in the cultivation of this root (of which a method will be given) have been very promising, and in many instances successful, considering that its culture is still in its infancy. This newly introduced vegetable is principally raised in the gardens of the affluent; but how far it will be worth general cultivation time alone can determine; though much, most likely, will be accomplished by the efforts of the gardeners throughout the United Kingdom.

The number and luxurious growth of the stalks have been a check upon a more general cultivation of this vegetable; and the roots, in consequence, produce a most numerous progeny, and are in general very small. To counteract such a flow of sap, it has been advised to cut down the stalks towards the end of summer: and as the tubers are observed to swell more at that time of the year than earlier, this cutting down of the stalks will be found of much service, by giving an additional weight to the tubers.

The oxalis may be called a very accommodating plant, for it not only produces nutritious food for man, but its stalks, when in a green state, are good fodder for cattle. Cows, sheep, and pigs, after a few trials, eat it with avidity.

The oxalis may also be found to have some merit as a tart plant, from the stalks being succulent. If it were peeled, &c., it would make a good sub-

stitute for rhubarb ; and though it may not have all the medicinal qualities of that plant, it is wholesome and agreeable.

When the *Oxalis crenata* was first brought to this country, it was treated as a green-house plant, by planting its small tubers in pots, where they rapidly increased ; but in the course of three or four years it was found to be quite as hardy as the potato, and may be preserved throughout the winter in a similar way, or, when the heaps are not large, in dry sand.

Culture.— Among the various methods recommended for the culture of the oxalis, but few have hitherto succeeded. So far as the knowledge of the author goes, one of the few was successfully practised by himself two or three years after the introduction of the plant. His method of cultivation was as follows : first observing on the season, which may be done in the more southern parts towards the end of April, and in the more northern, towards the middle of May.

For planting, the first matter to be considered is the size, and preparation of the sets : of the former, the largest and best ripened tubers should be chosen, as in every stage of planting the means of producing a larger growth in the tuber ; for the latter, the strongest single eyes, and never more than two, as these produce only a multiplicity of stalk, to the detriment of the root. In cutting out the eye, a good piece of the tuber must be left with it. When all are cut, they should be laid out thinly in an airy room for a day or two, when they will be ready for planting. For that purpose, a light rich piece of ground must be chosen, which has been well worked and

broken with the spade, to the depth of full twelve inches. On such a piece of ground, after it is prepared and levelled, drills may be drawn about two or three inches deep; and if more than one row, they must be two feet apart. In the drills, the sets are to be planted at eighteen inches distance, and lightly covered at first, as they may have a little earth from between the rows thrown over them soon after they make their appearance.

The only additional care they require during the summer is to keep the ground clear from weeds, and, on the decline of that season, to cut down the stalks, for the reasons already mentioned.

How long they may be allowed to remain in the ground will partly depend on the weather, as they are not so tender as they were at first supposed. But there is a certain criterion to judge by; viz. when there is an appearance of decay in the stalk. The preserving of the tubers has been already glanced at.

A quantity of small tubers, if wanted, may be had in abundance by laying the young shoots, nearly to their tops, rather shallow between the rows, where they will emit roots or tubers at every joint: they may also be propagated by cuttings of the young shoots of about six inches in length, which must be covered with a hand-glass to facilitate their rooting.

41. PARSLEY. — APIUM.

Apium petroselinum. — From the term *apium* being given to the parsley, it will be observed that it is classed with the celery. The specific name is derived from its supposed medicinal qualities.

The garden parsley with curled leaves is a native of Sardinia, bordering on the coast of Italy. It was not cultivated in this country until the year 1548. It is a most useful and pleasant vegetable, and was formerly considered of service in dropsies and various other complaints, but is now seldom used for this purpose, except in Holland, where the large-rooted sorts are in much esteem.

Parsley is in considerable demand for culinary purposes, and forms a common and beautiful garnish to most cold meats. It should always be brought to table when any dish is introduced strongly seasoned with onions, as it both takes off the smell, and prevents the after-taste of that strong root. It is a well-known seasoning herb, and communicates an agreeable flavour to soups and stews.

The following recipe may be of use to preserve parsley for the seasoning of meats, &c., when five shillings are asked for a very small quantity; and which is often the case in very severe seasons.

To preserve parsley for the above purpose, let it be gathered on a dry day, and immediately put into a tinned roasting screen, and placed close to a large fire, where it will soon become brittle; it may then be rubbed fine, and put into glass bottles for use.

Culture. — Parsley being so very valuable an article in the garden, and especially the curled sort, much care is necessary to keep it true. This can only be done by rouging, an appellation given by seed growers, who value their stock and character; and to their credit their warranted stock may be relied on.

Parsley is generally sown in drills round the

borders of the kitchen-garden. It is a singular vegetable in respect of the long time it takes before vegetating : hence the seed should be sown early in spring, as it remains six weeks in the earth before the plants appear ; they never vegetate in less than forty days, though they do not often exceed fifty. Thus it takes longer to vegetate than any other garden seed ; but it may be observed that old seed comes up earlier than new.

When it has apparently arrived at its full growth, it should be cut down ; but only a third part of what is sown at a time, by which means a young stock will be continually kept up for use ; and should any of the plain leaved happen to be mixed with the curled, they should be rooted out. These cuttings or gatherings will enable the plants to resist the severe weather much better than when left to remain from a summer's growth.

It was many years after the introduction of the common or garden parsley into this country, that the large-rooted, or Hamburg parsley, was introduced from Holland, in which country large quantities are used in their favourite dish, "water souche," being boiled with what are called Dutch plaice or flounders.

The seed of this variety is best sown thin, broadcast, in a bed four feet wide. An ounce of seed will produce sufficient for a moderate family.

The seed should be sown on a well prepared piece of ground in the beginning of March ; and when the plants are of a proper size, they must be thinned out with the hoe, and managed afterwards similarly to carrots and parsnips : such as, taking them up in

the autumn (when they will be found of a large size); clearing them of their decayed tops within an inch or two of the crown, and laying them under cover in sand or light dry earth, where they will be ready for use.

In regard to procuring fresh green parsley throughout the winter, and more particularly in severe frosts and deep snow, it has been a matter of surprise to the author that, in all his visits to various gardens in almost every part of the kingdom, he has not observed any particular spot whereon parsley was sown, so that it might be protected in such a manner as to have it fresh and green at any time throughout the winter. To procure this delicacy, let a rich, light, and warm spot of ground be chosen, on which, after being properly dug and levelled, mark out a bed four feet wide (which will take a frame, &c. hereafter, if there be one to spare): the length to be fixed by what is likely to be wanted; for a private family, fifteen to twenty feet will produce a good and sufficient supply. On that bed let seed of the best curled parsley be sown rather thin (not in drills), towards the end of May. The seed should be raked in and lightly beaten down with the back of the spade, and some fresh earth thinly strewn over the whole. Should the weather be very dry, a light watering must be given to the bed, and continued at times, if necessary. When the plants are of sufficient growth to admit of the hoe, let them be thinned out to full two inches in breadth; after this hoeing the plants will gain strength and keep growing, more or less, throughout the winter, by being protected, first by

frames, as already mentioned, or by mats ; the bed being previously arched over with hoops, and the covering regulated by the weather, which in some seasons may require an extra covering of fern or litter ; for as it is the nature of the common parsley to keep growing (when not checked by frost) the whole year, its protection is an object of paramount importance. The author in early life gained much credit for his ingenuity, and many a smile from the cook on presenting her in severe frost and snow with fine fresh curled parsley, wherewith to relish her soups and decorate her dishes.

42. PARSNIP. — *PASTINACA SATIVA*.

The botanic name, *Pastinaca*, was given to this root from its nourishing and other good qualities : that of *sativa* has often before occurred in this work.

The parsnip is a native of this country ; but improved by cultivation. It is a biennial, as most sap-rooted vegetable plants are ; and though indigenous in England, it has been found in a natural state in other countries of the south of Europe, and there cultivated long before it was in use in this country.

Parsnips contain a very considerable portion of sugar, and are more nourishing than carrots or turnips.

Marmalade, made with parsnips and a small quantity of sugar, excites appetite ; and is said to be a very proper food for convalescents.

Wine made from these roots approaches nearer to the malmsey of Madeira and the Canaries than

any other. It is made with little expense or trouble, and only requires a few years to make it as agreeable to the palate as it is wholesome to the body; yet fashion induces us to give pounds for foreign wines, when we can obtain excellent of our own country for as many shillings.

Parsnips, exclusive of their well-known use with saltfish and salted meats, form what may be called an elegant side dish at table; when, after being boiled (not too soft), they are dipped in thin batter of flour and butter or the white of eggs, and afterwards fried brown; such a dish has been highly approved of at the first tables. Both the French and Dutch cooks make a very agreeable soup of them.

The parsnip is a profitable and desirable root for a family in winter and spring, being wholesome and nourishing, and it should be cultivated abundantly in every kitchen-garden, not only for domestic use, but as a profitable esculent to the market-gardener and cottager. The latter will find it not only a useful vegetable for his family, but will also be a considerable gainer should he cultivate it partially with a view to profit. It has long been found excellent for the purposes above mentioned from October till May.

Such, then, is the parsnip, as a horticultural vegetable; for an agricultural purpose it has first-rate properties. Cows fed freely on parsnip roots will yield an abundance of milk of a rich quality. In Germany parsnips are sown for this express purpose; and sheep, when lambing, if fed with them, will produce much milk, to the benefit of the lambs.

The varieties of the parsnip are but few.

1. Common, or Swelling Parsnip, is of ancient date, and good; but it is now superseded by the following:—

2. Guernsey Parsnip, an improved variety of the common, and in much esteem.

3. Hollow Crown, or Headed, is of late introduction. It grows to a large size, and merits cultivation, being very hardy; it is tender in its flesh, and of an agreeable flavour. The author, however, has found but little difference between the taste of this and the other varieties when grown in the same soil. It is owing to the deep rich soil of Guernsey that the parsnips from that island are so much extolled.

Culture.—The parsnip requires a good rich soil that has been trenched full twenty inches deep; and if it has been manured the year before, so much the better. In the course of trenching, care should be taken (as advised for carrots) that the earth be well broken, and that neither lumps nor stones are left to arrest the progress of the roots in striking downwards (this must be done a few days before it is wanted, in order that it may become settled): after it is levelled, the first fair day early in March, the seed must be sown, either broad-cast or in shallow drills. The broad-cast sowing depends on the space of ground sown, which, if light, may be lightly trod, and afterwards raked or harrowed, in order to cover the seeds equally and to smooth the surface; but in small gardens, drills are the most eligible. In neither case should the seed be sown too thick, as the plants will require to be finally left from eight to twelve inches apart; much however

depends on the nature of the ground. If the seed is sown in drills, these should be drawn shallow, full a foot apart, and the plants thinned in the rows to nearly that distance. In about three weeks the seeds begin to germinate; and when the plants are about two or three inches high, they will require the first thinning with a four-inch hoe, cutting up, at the same time, all weeds that may have arisen. Their second hoeing should be within a month afterwards, when they must be finally thinned out to the regular distance above mentioned; and should the ground be remarkably good, a greater distance will be required. After the second hoeing and thinning, the plants may probably require another weeding, till they are in full leaf, when they cover the ground, and bid defiance to any further interruption from weeds.

In the autumn, — about October or November, — the roots will have nearly attained their full growth. When the leaves begin to turn yellow and decay, which is a certain sign of their maturity, they may be dug up for use, as they are wanted. Parsnips are not liable, like carrots, to be injured by severe weather: however, the author made it a general rule to take the whole crop up before Christmas, clearing and laying them in sand, like other roots, under cover; where, if properly protected, they will continue good till May of the following spring.

In taking up parsnips, the greater their length, the better they keep; hence a trench should be opened of sufficient depth for a proper hold to be taken to pull them up, which is better than cutting them off with the spade.

43. PEA. — *Pisum*.

Pisum sativum. The Latin name of *Pisum* is supposed to be derived from *Pisa* (a town of Elis), where peas anciently grew in great plenty: the latter name has been often before mentioned.

The English name is evidently a corruption of the Latin, as both Tusser and Gerard (old English authors, who wrote in the reigns of Mary and Elizabeth) called it *peason*, which, by the omission of the two last letters, has formed the name of this popular vegetable for the last hundred years.

At what period the garden pea was first cultivated in England is left to conjecture; but it was most probably in the reign of Henry VIII.; though garden peas appear to have been rare even in the early part of Elizabeth's reign, and even those made use of were generally brought from Holland. But in the latter part of the same reign, gardening had made so considerable a progress, and, at the same time, the cultivation of peas, that a supply nearly sufficient to answer the demand, was raised in the vicinity of London; and since that time they have more than kept pace with the increased population of the immense metropolis; and through the art and industry of the gardener this luxury is now furnished so plentifully that green peas are often sold at 4*d.* and 6*d.* the peck.

Peas, when green, are a pleasant and nourishing food; but they are considered somewhat flatulent; though this quality may generally be corrected by the use of mint. They are excellent in sweetening the blood, and in correcting scorbutic humours.

The following method of keeping green peas and French beans is given by a celebrated French author (Sonninis): — Into a middling-sized stew-pan, filled with young green peas, put two or three table-spoonsful of sugar, and place the pan over a brisk charcoal fire. As soon as the peas begin to feel the heat, stir them twice or three times, and when they yield water, pour them out on a dish to drain; when drained, spread them out on paper in an airy room, away from the sun, and turn them frequently, that they may be dry the sooner. It is necessary, for their keeping, that they should not retain any moisture; for if they do they will soon grow mouldy. French beans may be managed in the same way, and will thus keep till the next season, nearly as well flavoured as when first gathered. Peas may be dried when gathered green; and are much better for soup than those gathered quite ripe.

As the two following very excellent dishes, made from green peas, may not be in the immediate recollection of young cooks, it will certainly augment the reputation of the gardener who recommends them.

The first is what has been frequently called delicious “green peas soup,” made of “marrowfat” peas nearly full grown. For this purpose any of the new kinds (the old dwarf marrow being nearly lost) will answer; but none better than Knight’s tall and dwarf green marrow, as the pulp which such peas produce is the principal thing wanted.

For making the soup, a good sized knuckle of

veal will be required, which must be put into three quarts of water; and by the time this is reduced by boiling, to nearly two, the strength of the knuckle will be mostly drawn out; but previously to this, the peas (full three pints or more), after being shelled, should be put in to boil (some boil the peas separately), and, when sufficiently soft, the whole should be strained off, the peas separated, and the pulp rubbed through a fine sieve. The pulp should then be mixed with what the veal was boiled in, and the whole should again be put into the stew-pan, with the addition of a good Cos lettuce (either the white or Silesia), some "powdered mint," with the other seasoning of pepper and salt according to the taste. The whole should be allowed to remain in a moderate stewing state till the lettuce is thoroughly done, when the soup will be ready for table, with thin toasted bread: some advise a little ginger, but that is optional.

The second dish, which was a favourite and fashionable one some fifty years ago, is made of the sugar pea, when young, dressed with the pods entire, requiring only the outside edges to be stripped off. These are to be put into a stew-pan with some good gravy, thickened with flour and butter, with a little mace, ginger, and nutmeg, and allowed to stew gently until the pods are quite tender, as they are unlike any other sort of pea, not having a tough coating inside the pod. The sugar pea dressed after this manner, forms a most delicate side dish at the table.

There are numerous varieties and subvarieties of the pea at present in cultivation: each successive

season generally ushers in new ones, which are of course proclaimed by their possessors as being very superior, and some of them really are so, as will be observed by the following notice of their qualities, &c.; but very many are found, after a few trials, not to have such excellent qualities as to recommend them for general cultivation: hence they soon lose their popularity, and, after a while, are seldom heard of.

1. Early Single-blossomed frame, a most excellent early pea, and very proper for gentlemen's gardens, where, if sown close to a south wall in November, with some sort of shelter, such as yew, fir, or such like, and as they advance in growth kept close to the wall with lines of packthread, they will very early show bloom, when, after a few on each branch are opened, they may be topped. By this means the author has raised peas fit for gathering, above a fortnight before his neighbours. The usual height of this pea is from three to four feet; but as in this respect much depends on the weather and sort of soil, only the average height has been stated.

This pea was first noticed accidentally by a mechanic who had to go through a field of early Charlton peas, near Wingham, in Kent. The discovery was instantly communicated to Mr. Russell, proprietor of the Lewisham Nursery, who was indefatigable until he had a stock with which to supply his customers. There is another instance of the quickness of growth which the author will mention: he had an excellent crop of this sort of pea towards the end of October, from "new" seed saved from four acres sown the

second week in March for stock and "rouging," (which latter has been alluded to under the head of parsley); and it is to the adoption of these means, and to the care and vigilance of the seed-grower, that we owe the perfection of the different sorts of peas at the present day; and none more than the pea now treated of, which may be had equally as true and good as it was fifty years ago.

2. Early Double-blossomed frame, a chance variety of the former, possessing nearly all its good qualities, with the addition of a double bloom instead of a single one, which has rendered it so very popular for the first principal early crop, either in the field or garden. With both sorts hundreds of acres have been annually sown in the neighbourhood of Dartford, in Kent, for the supply of the London markets, during the season for which waggon loads in sacks are continually going night and day.

3. Early Warwick (of late introduction), an improvement of the double frame in the pod. It is certainly a good early pea, prolific, and averaging about the height of the early frame.

4. Early Charlton, or Golden Hotspur, a charming pea, if it can be had true, of which the author has his doubts. It was the leading early pea seventy years ago, and is still good to back either of the above sorts as a principal crop. It is a prolific bearer, growing from four to five feet in height.

5. Early Racehorse. This variety is of very recent date, and has already become very popular. It is very prolific, grows to the height of not more

than three feet, and is particularly well adapted for a first crop, coming into bearing ten days or more before any other sort in cultivation.

6. Bishop's Early Dwarf. The name is very appropriate, as it does not grow (except in very warm and moist seasons) to much more than a foot in height. It is very early, most prolific, and, from its dwarfish growth, a first-rate pea for forcing: it requires no sticks for support, as a regular earthing will be sufficient. All other sorts of peas — at least such as are here described—are to be sticked, otherwise the taller varieties must be excluded from small and private gardens. Sticking not only, in a great measure, protects peas from the weather, but also causes them to produce a more regular and abundant crop.

All the earliest crops, more especially those intended for culinary use, require to be sticked, or they will not come nearly so early: but where large quarters or acres are sown, sticks are out of the question, and recourse must be had to a regular earthing, and the final laying down to one particular aspect, and if the lines or rows run from north to south so much the better.

7. Marquis of Hastings, a fine large pea, which grows to the average height of four feet, and comes in rather late.

8. Knight's Dwarf-wrinkled Marrow, one of the best of peas, and only exceeded by the following: —

9. Knight's Green Dwarf wrinkled, without exception the finest pea in cultivation. Its average height is from three to three and a half feet; it

comes late, is very productive, the pods being always very large and full, and the peas, when boiled, most delicious and well flavoured. The seeds of this variety are even sweet in their dry state, and are selected in preference to any other by the birds and mice: thus the saving of the seed is attended with considerable trouble, especially in cold ungenial seasons, and renders its cultivation very expensive, but its productiveness, tenderness, and delicious flavour amply compensate for every outlay.

10. Dwarf Blue Imperial, a very productive pea, tender and fine flavoured: average height three feet. It is, and deserves to be, extensively cultivated by the cottager and market gardener.

11. Royal Dwarf, of late introduction, is good, from the average height not exceeding two and a half feet. The pods come in clusters, and are very plentiful: it may be called a second early variety.

12. Groom's Superb Dwarf. This pea grows very dwarf, not exceeding one foot and a half in height; it comes about ten days after Bishop's Dwarf, and is equally tender and fine flavoured, with the advantage of boiling very green. It is in much estimation for small gardens and for forcing.

13. Scymetar-podded (so called from the shape of the pods) is a fine pea in taste and flavour, but does not yield quite so well as some others. It may be classed as second early, and averages three feet in height.

14. Green Woodford, or Nonsuch. This sort boils remarkably green, and is even greener in its dry

state than any other variety. The height is three feet. It is very prolific, but the peas, unless gathered young, are not the most delicate, as they have rather thick and tough skins. It is an excellent market pea, and mostly cultivated as such. It comes in at the same time as the scymetar-podded.

15. Dwarf Blue Prussian, a well known and excellent pea. At one time it was sadly run out; but, from the care taken by the seed-growers, it may now be had in its primitive state. These peas come late, which renders them most useful to sow with the early sorts in spring, and in the course of the summer, so that the luxury of a daily dish of green peas will not be wanting, as the tall marrows follow up so closely. Blue Prussians, when dressed, are of the finest green, and very tender: no other sort produces a more regular crop. The average height is about three feet.

16. Royal Victoria, a fine large marrow pea. From its recent introduction, the author has not been able to give it a trial, but he is informed it is of first-rate quality.

17. Matchless Marrow. This is a large pea, very productive, and fine marrow-flavoured. It comes rather late, and grows from four to five feet high, and will therefore require tall sticks.

18. Blue Spanish Dwarf is very similar to Groom's Superb, as is likewise the Spanish Dwarf or Fan to Bishop's Dwarf. There is but little or no difference between them: they are mentioned only on that account.

19. Oyster Pea, so called from a singular roughness on the outside of the pods. It is a fine pea,

and very useful for a late crop. The average height is about four feet.

20. Waterloo, a fine large pea, and good for a late crop. It averages four feet in height, and is an abundant bearer.

21. Tall Marrow. This variety has long been cultivated in our gardens under the above name. It was formerly considered an excellent and delicious pea, but in consequence of the superiority of some other kinds, it has lost its high character, and is now but seldom planted.

22. Original Dwarf Marrow. Its height averages from four to five feet. It has been wrongly named, but it has gone by this appellation during the last century. The true sort is nearly extinct, as what is at present sold for the dwarf marrow, though a good pea, grows much higher than the original, and the seed is more round and smooth. The seed of the original sort was much larger, and the outside of the seed or pea had a rough coating. It was a most prolific bearer, especially when it had sticks to run on.

23. Dwarf Sugar Pea is of ancient date, having been first introduced from Holland above 100 years ago. It is a prolific bearer, and excellent for the purpose of stewing, as before mentioned. There is a tall variety of the sugar pea, but the dwarf sort has nearly thrown it on the shelf. The average height of the dwarf is from twelve to eighteen inches, or more.

24. Knight's Tall Wrinkled Marrow Pea, of high repute from its superior qualities. It would be more cultivated but for the large space of ground

which it requires, and the great height of sticks, which are not at all times to be obtained, as they ought to be from eight to ten feet high.

25. Knight's Tall Green Marrow, of late introduction, is a most excellent late pea; and, if sown in the beginning of July, will keep in gathering till October. It is very prolific, and for all culinary purposes is in as high estimation as the dwarf variety.

26. Tall Imperial, a fine pea, but in no way superior either to Knight's Green Marrow or the Green Nonpareil. Average height from six to eight feet.

27. Nonpareil Marrow should be good from the name. It is a fine late and prolific pea, and should have a place with others of a similar nature. Average height from six to eight feet.

28. Egg Pea, so called from the large size and shape of the seed. This is one of the largest marrow variety at present in cultivation. It is certainly a fine pea and a prolific bearer, when it has sticks of a sufficient height to support it. The average height is from seven to eight feet.

29. Spanish Marotto, which, with the next mentioned variety, were leading peas at the first tables during the reign of George the First, but neither of them are at the present time in much repute. Still the Spanish Marotto will be found very useful where there is a large family to be supplied, as they keep in gathering some time longer than many other sorts, but they should have sticks, as the pods are large and generally well filled: the average height is from five to seven feet.

30. Roundcival, an old inhabitant of this country. There are four varieties; but the white and green

are the best. They are very prolific, and, like the Egg Pea and Spanish Marotto, very hardy, which qualities render either of them very beneficial to the cottager who can procure sticks to support them, such being absolutely necessary for their full production: the average height is about six feet.

One property in the Roundcival pea is, that it bears the droughts of summer better than most other kinds. Neither it, however, nor the Spanish Marotto, is so delicate eating as many others, and they are both now nearly out of date.

The author has been induced to enlarge upon the list of peas, in order that the public may be guided in selecting such sorts as they may deem most suitable for their gardens; he will only observe, to those who have but small gardens and wish to make the most of them, that No. 5. in the list may be selected for the first crops; Nos. 10, 11, 12. and 15. for the second or medium crops; and Nos. 9. 16, 17. and 25. for the third or latest crops.

Culture. — The soil in which an early crop of peas is sown should be light, dry, and the more sheltered the better; and if it had been well manured the year before, so much the better, fresh dunged land being more an enemy than a friend to the peas sown upon it, as it causes them to run more to haulm.

The land for the later crops, or such as are sown from March to July, should be (if possible) of a more moist and holding nature; otherwise much labour must be bestowed in watering during the months of June, July, and August.

For the method of raising an early crop of peas, as practised by the author some score years ago, the reader is referred to the description given of the frame pea, under the head of varieties.

There is another method, long practised, of sowing peas on warm borders either lengthways or across (the latter the most eligible), for which purpose the border should be laid on ridges of two feet breadth at the base (on the warmest side, near the bottom, let drills be drawn about an inch and a half deep, not more at this season), and after sowing the peas, cover them carefully up when they are observed to break ground, which they generally do towards Christmas; when sown about the third week in November, they should in some way be guarded against their enemies, by strewing soot mixed with slacked lime over the rows, or finely sifted coal ashes; either will be a great check or preventive, as will also a light stirring of the earth on each side.

After being sufficiently up (for a first earthing say about an inch high), the sooner they are sticked the better, if only for protection, for which purpose two rows will be required; and on the side where the sun has the greater attraction, the sticks should be set thicker than on the other; and the advantage will be very considerable, if sticks can be procured whose length will extend a foot more than the average height of the peas; and as they should have a second earthing, the sticks will be no hinderance to it. In mentioning this subject, the author has to observe that the sticks, for every sort of pea that requires them, should be of a full height, and not

set too close to the peas at the bottom, and by no means crossed at top, otherwise they lead the peas out of the way, and break down the pods when they begin to fill, thereby lessening the crop, and rendering it most inconvenient to gather.

The most sure season for sowing the early kinds of peas for a principal crop, is about the end of November, so that they are up by the end of December. But it frequently happens, should this crop survive, that the same sort of peas sown in the beginning of February will not be a week later than those sown in November, which they often equal in point of gathering.

The distance which peas require to be sown, from row to row, either with or without sticks, is various. The average height being ascertained, the distance can be regulated accordingly. Three feet will not be found too much for such as may be called the Hotspur, as likewise for some of the dwarf kinds of marrows, or any that do not exceed three feet, while such as exceed that length should have four feet space between each row, and the taller kinds full five, while the dwarf kinds, as Bishop's dwarf, the Groom's superb or Spanish, will not require to be more than two or two and a half feet apart.

There is nothing gained by sowing peas too thick; and, as observed in the former part of this work, the broader the bottom of the drills for sowing small seeds (particularly for peas of a small size) the better; they should only touch each other. The same may be said of the newly introduced dwarf marrows, and others of a similar height. For the

tall and larger kinds of peas, particularly for Knight's tall wrinkled, the egg-pea, and such like, full an inch apart is required.

In respect of earthing peas: such as are to have sticks should have two earthings: the first when they are a few inches high; after the hoe is used between them, a little is to be drawn on each side; and the second, previously to their being sticked, when six inches high. Those intended to be laid down may also have a little earth drawn up on each side, but not so much as to draw them from the side where they are to be finally laid, which should be the warmest of the row, and the earth should be in sufficient quantity to keep them in that position, by which means not only will the peas be strengthened, but the wind will have less power over them.

Where a constant succession of peas is required, they should be sown more or less every three weeks or a month — from February to July; and, from the hint here given of sowing early and late sorts at the same time, a succession may be kept up, not only during the summer, but till October, and in some years until the middle of November; for it is a well-known fact (which the author has proved) that Knight's tall green marrow, sown about mid-summer, will produce a supply from the middle of September till the end of October, or longer, should the weather continue mild and open. If it so happens that the weather is very hot and dry when peas are to be sown, the following hints should be attended to: — After the drills are drawn they must be well soaked with water, and the peas likewise, during the previous night, which will cause them

to come up quick, and keep them in a regular growth ; and if repetition of the watering is necessary, earth may be drawn up on each side the rows, which will contain water sufficient for the purpose, and not a drop will be wasted.

The following mode of sticking peas, and especially the taller varieties, is both cheap and simple, and possesses many advantages. Procure a number of strong thick stakes or thin poles, in length according to the height of the peas, — from five to ten feet, and drive them into the ground on each side of the row, at the distance of three or four yards ; pass a small line along the poles, taking a turn on each, within a few inches of the ground, and, as the peas advance, raise the next turn a little higher, and so on in succession till they have attained their full height. Seize the tendrils of the peas and twist them round these lines, by which they will be supported in a better manner than by the common method of sticking. When spread regularly along the lines, they have a fine circulation of air, and pods can be pulled at all times without injuring the haulm ; and as the birds have no twigs to alight on, the portion of the crop which they otherwise would devour and destroy is saved. An excellent way to preserve peas or beans from mice is to chop up the tops of the last year's shoots of furze, and sow them in the drills : the author has known it to have been an effectual remedy in several instances where these mischievous little animals had been very prevalent.

Artificial culture. — Peas may be successfully raised so as to produce a very early crop, in hot-

beds, under glass, in pits, and also in early-worked peach or grape-houses.

For forcing in hot-beds under frames: such should be made and earthed up as advised for kidney-beans; and on the whole a similar treatment should be adopted.

For this purpose the peas should be sown in pots or pans, rather thick, and placed in a frame under lights, until they are sufficiently strong for transplanting, when they may be carefully taken up with the roots, as entire as possible, and planted in frames or pits, from front to back, in lines fifteen inches apart, and two or three inches asunder, giving plenty of air by day, should the weather admit of it; but keeping them well covered at night. It may be observed that in whatever way peas are raised for forcing, they should invariably be transplanted; indeed, it would be well worth while to transplant the earliest crops in the open ground.

For peas in frames or pits the temperature may be progressive, beginning at 40° Fahrenheit, and raising it to 52° or 66° from the commencement of the growth of the plants to their state of flowering; and after flowering, increase it from 55° to 70°, or in a regular heat between the latter limits. When they seem dry, moderate refreshments of water will be necessary; but more especially when in blossom, and the pods setting and swelling to perfection.

Bishop's or Groom's early dwarf are to be preferred to any other sorts for frames and pits; and the single-blossom, early frame, or the racehorse for peach or grape-houses.

The following excellent mode of raising an early crop of peas was communicated to the author, through that most useful of all works on gardening, *Loudon's Gardener's Magazine*, a few years since, and he has practised it with perfect success. About the first or second week in November, select six dozen pots of the 16 size, and fill them within two inches of the top with light rich mould. Then sow over the surface of each pot, with early frame or racehorse peas; but not so thick as to touch each other: little more than a quart will sow the whole. The pots are then filled up with the same mould, and placed in a cool frame or vinery, protected from frost and the mice. In the first week in March they will be about six inches high, and the pots well filled with roots. Having made choice of a warm spot on a south border, they are now transplanted, by digging a hole sufficiently large to receive the contents of each pot; care being taken not to disturb the roots, but to preserve the balls entire. They are planted in rows, four feet apart, and two feet in the rows, in the alternate or quincunx manner. If the nights should prove frosty, cover each tuft with a flowerpot, and take it off every morning, which prevents them from receiving the least check. At the latter end of the month the pots are taken away, and the peas are sticked, each tuft separately, and inclining a little outwards at the top, to allow the plants plenty of room to spread. This method is quite applicable to all dwarf-growing peas, which will never be found too thick: the air having a free circulation round each tuft, they begin bearing nearer the ground than

those grown in the usual way, and in parallel lines, besides being more productive.

Peas are in general sown too thickly in drills, and by that means are drawn up so weak that they seldom produce any pods till they have arrived at their full growth, and then only near the top,

By following the above directions a first dish of green peas may generally be gathered early in May; and the number of pots mentioned will supply a family, upon an average, with three dishes of green peas per week till the other crops come in, the first or second week in June.

44. POTATO. — SOLANUM.

Under the ancient name of *Solanum* (which is not well defined) is classed the *Tomato*, Egg-plant, and several other species, and accounted of a poisonous nature. The nightshade belongs to this class, and is well known to be a deadly poison; but the varieties above named, including the root of the valuable potato, have happily proved otherwise. This root has now, and for some years past, formed, alike, the rich man's luxury and the poor man's bread. It is distinguished from the other varieties by the specific name *Tuberosum*, signifying tuberous-rooted.

Potato, the English name of this vegetable, is derived from its similarity to the Battata, the sweet potato of South America. It is supposed to be a native of that country, being grown in the neighbourhood of Quito, where the Indian name of Papas (from the root) is given to it by the natives,

and which formed a part of their food. There is no doubt but from that country, while it was in the possession of the Spaniards, the potato was early introduced into Europe, and particularly into Italy, where it was cultivated for some years before England was "blessed" with this "invaluable root."

The potato now in use was brought to Britain by the colonists sent out by Sir Walter Raleigh, under the authority of his patent granted by Queen Elizabeth, in the year 1584. Some of Sir Walter's ships sailed the same year, and returned in July, 1586; but it seems uncertain whether he brought the potato root to England himself, or afterwards had it sent to him by Sir Thomas Grenville, or Mr. Lane, the first governor of Virginia. The potato was first introduced into Ireland by Sir Walter Raleigh, who had an estate in that country, where it was certainly used for food some time before its introduction into England; and it is alleged that its virtues were communicated to England from some of the roots having been accidentally thrown on our shore from a vessel that was wrecked on the coast called North Meoll, in Lancashire — a place even now famous for producing this vegetable in great perfection.

The potato appears to have been a great delicacy in the time of James I., but it was not until the year 1663 that it first became an object of national importance, when a recommendation was issued from the Royal Society to plant it in all parts of the kingdom, to prevent famine. Notwithstanding all this, it was a long time before potatoes were brought into general use; and even

in the author's time (above seventy years ago) they were not held in the highest estimation. It was not till the beginning of the present century that they were used as a substitute for corn bread in the greater part of England, and then only through the fear of want. The lower classes, to whom this vegetable is the greatest blessing that the soil produces, forming as it does flour without a mill and bread without an oven, were the last to become acquainted with its value, so difficult is it to overcome prejudices in certain minds.

This palladium against famine was not cultivated in Scotland before the year 1683. In 1728 Thomas Prentice, a day-labourer, first planted potatoes in the open fields in Kilsyth; and the success of the experiment was such, that every farmer and cottager followed his example. What honour does he not deserve?

The discovery of this inestimable root has been of the greatest consequence to mankind; and the cultivation of it has now become almost of equal importance with that of corn. Young, in his account of Essex, so far back as the year 1807, states that Mr. Pittman, of Barking, in that county, was one of the greatest growers of potatoes in the kingdom, having in general 300 acres annually planted with this useful root, and sending to market 3000 tons, all washed ready for sale.

It has now become a question of great importance, and one which deserves the most serious investigation, whether this root, justly styled the bread fruit of Great Britain and Ireland, degenerates or loses any of its good qualities by the continued practice

of raising it from eyes: the author thinks it does not; the question is, however, open to discussion.

On the quality of the potato, as used for food, a few words will suffice. It is the most nutritious of vegetables, where it agrees with the constitution. But this is not the case in some few instances, and particularly where there is a spare or thin habit of body. To those who are in the habit of taking much exercise this root is excellent food, as it strengthens the fibres, and yields a very considerable degree of nourishment.

Too little attention is generally paid to the dressing of it; for an indifferent potato becomes good when well cooked, and a superior one forms a delicious and most wholesome diet when cooked with attention. The following method was communicated to the author by an Irish gentleman, who was most particular with regard to the dressing of his potatoes. It is extremely simple; and, if generally practised, few complaints would be made of the watery and seemingly half done quality of the potatoes so often sent to table.

An untinned iron saucepan is always preferable for boiling potatoes. In preparing them they should never be peeled, or they cannot be well cooked, and much of their nutritious quality will be lost; they only require to be washed clean, and at farthest to be lightly scraped. After soaking for about an hour, put them into the saucepan with cold water enough to cover them, and when it begins to boil (which is the chief point to be observed in the cooking of them), let a teacup full of cold water (rather more or less according to the quantity) be put in,

which will check the boiling and allow time for the potatoes to be done all through, without their being in any danger of breaking; when they are sufficiently soft, which may be known by trying them with a fork, pour off the water, and let the saucepan with the potatoes continue for a short time over a gentle fire, and the heat will cause any remaining moisture to evaporate, when, after having been peeled, they will be fit for table. By this method of cooking (if strictly adhered to) they will be found, especially if of a good kind, to be very mealy, floury, and delicately tasted.

Various counties and places have their favourite sorts; which are perhaps equally good with those above enumerated. That the soil and climate, even of this country, will alter the nature of the potato, the author can abundantly prove; for having planted, in the vicinity of London, some very fine early and mealy sorts which he had received from Cheshire, upon taking them up he found them both waxy and ill-flavoured.

There are two general kinds of this plant, which are distinguished into the red-rooted, with purple flowers; and the white-rooted, with white flowers; but in raising the root from the seed, or apple, numerous kinds are constantly being introduced. The following are much esteemed and in general circulation, either for early or late crops:—

1. Ash-leaved Kidney. This is certainly the first for early forcing, and also for planting early in the open ground. It is naturally delicate, of a dry, mealy nature, and very prolific. Two crops of

this potato may be advantageously raised on the same piece of ground in the course of the year.

2. Broughton Dwarf, so called from a village in Cheshire, where it was first raised. It has for a long series of years been called the early frame, to which it is entitled, and is nearly equal to the ash-leaved kidney for producing two crops in the course of the year, on the same piece of ground.

3. Foxe's Seedling, round shape, a prolific bearer, growing to a larger size than either of the two first sorts: when cut it has a yellow cast, and is much cultivated for the London markets.

4. Manchester Red, similar in quality to the Broughton Dwarf, though not so much cultivated for the London market, and in the western part of England.

5. Early Champion, a very excellent early potato, and a good bearer; its only fault is that the larger roots are apt to get hollow in a moist season, if left till autumn, but its other good qualities fully make amends for this defect. This and Foxe's Seedling take the lead at market.

6. Early Manley, a very excellent potato, a great bearer, and one of the first for a principal crop, for use late in autumn and early in winter. The above six varieties, if true, ought never to blossom.

7. Shaw's Early, very similar to the Early Manley and Champion, one of the first rate for general use. The three last sorts are recommended to the cottager and market gardener, as they come early, and are generally of a large size.

8. White Lancashire Kidney, is very mealy, and

of the most delicate taste and flavour; but unfortunately it likes home so well, that when it travels, it does not carry all its good qualities to its new place of residence. When removed from its native county it is seldom so good; and in order to keep it in its genuine state, the potatoes for sets should be procured thence every three or four years at farthest. The same may be said of other sorts.

9. Red-topped or Red-nosed Kidney, one of the best, bringing the first price in the London markets. But few other sorts are cultivated to any great extent in Yorkshire, whence large cargoes are sent to London. It is certainly a potato of first quality, mealy, prolific, and keeps well. But, upon the whole, it seems to thrive best in that quarter, at least much better than in any more southern counties.

10. Late Bright-red, a first-rate potato, mealy, prolific, and (by frequent turning and picking out the eyes, so as not to let them draw out the nourishment) keeps a long time, as the author, when in Devonshire, had them frequently in good condition till towards the end of July.

11. Lancashire Pink-eyed, a good potato, mealy, keeps well, and grows its tubers or roots more even in size than most others.

12. Purple or deep red, good, and one of the best and latest keeping varieties.

13. The Bread-fruit originated in 1810; it is properly so named from its farinaceous qualities. The colour is a fine white; it is very prolific, and as it keeps well, is proper for a principal crop.

These sorts the author can confidently recommend, but, as before observed, almost every town and district has its favourite varieties.

From the above list the Ox noble has been omitted; it is rather a coarse potato, and more proper for agriculture than private gardens.

There are several varieties of the potato lately introduced, which are said to have the appearance of being new all the year round. A few, presented to the author by a gentleman in Southampton, certainly had this desirable quality in great perfection, their flavour being extremely delicate, and indeed very similar to that of new ones; and without doubt, as the cultivation of this most useful vegetable continues to advance, many very valuable kinds will yet be discovered, to add to the comforts of mankind.

Culture. — The culture of the potato, propagated as it is from the root, is so well known, that any laboured dissertation on that subject would be deemed superfluous.

The first matter to be considered is the soil, which if of a sandy nature, is better calculated for the potato than a heavy soil, though both will do; but it may be observed that the roots come sweeter and much more mealy in a light than a heavy soil. A light rich loam, neither too dry nor too moist, is best adapted for the growth of potatoes of the finest quality.

To obtain new varieties of the potato from seed, (of which one single sort will produce a score,) gather the ripest apples, as they are called, in September or October; separate the seeds, and

wash and dry them from the pulp, and preserve them in paper bags till spring. About the middle of April they should be sown thinly in shallow drills. When about two or three inches high, thin them to five or six inches' distance. Let them remain (keeping the seeds down) till the end of October, when the roots will furnish a supply of small potatoes. They must then be taken up, and a portion of the best preserved in sand for planting next spring in the usual way. Plant them, and let them have the ensuing summer's full growth till October, at which time the tubers will have obtained a sufficient size to determine their properties. Having considered not merely the flavour of each new variety, but the size, shape, and colour, and also the comparative fertility and healthiness, earliness or lateness, reject or retain it for permanent culture accordingly.

Some persons, anxious to have new varieties, sow the seed on a slight hot-bed in February. When the plants rise to a few inches in height, some light rich mould should be put between them; give a little water occasionally, with plenty of air at such times as the weather will admit. Towards the end of April prepare some trenches similar to those made for celery; the plants must then be carefully taken up from the seed-bed, and planted at about eighteen inches distance, when a garden-pot should be placed over each till they are rooted, and they must afterwards be occasionally earthed up. The next year they will require a similar culture to that previously mentioned.

Early potatoes in the open ground. The two

best sorts for that purpose are the ash-leaved kidney and the Brighton dwarf or frame.

Two methods of planting in the open ground have been practised with success, both in the south and north of England, but more particularly in Lancashire, where fine potatoes (raised according to the following method) have been on sale in the Manchester market by the 12th or 15th of May, and in some years as high as three shillings a pound.

For this purpose full-sized sets should be planted the first week in October, either on a south border or in any sheltered situation, (the more dry the better,) on which, after having been well dug up, the potatoes should be planted eight or nine inches deep, and about ten or twelve inches asunder, covering them up, and leaving the border as light as possible; and as a good covering of dry mulchy litter will be required, a crop of radishes may be sown, which will be cleared off in March, as by that time the plants will be showing themselves above ground; and if the weather should happen to be severe, a covering will be requisite. When the plants are fairly up, the hoe should be applied, which, in the course of a fortnight or three weeks, will want a repetition. They need not be earthed up unless very much exposed to the wind, when a little may be drawn about the plants to keep them steady. By this method the author has known potatoes gathered, and that not in the most favourable situations, before the above time.

The second method is from single eyes; and to forward their sprouting they should, early in the year, be laid upon dry straw in a warm loft or room, and

when sprouted to the length of half an inch, or an inch, they should be carefully cut to a single eye, leaving a sufficient portion of tuber for support, and after laying a few days to dry, they may be planted in some warm place, from the middle of March to the beginning of April (choosing a dry time for that purpose), in drills about two inches deep, a foot between each row, and six inches apart in the row. The covering in such cases will depend on the weather. Ere now the author has planted the dwarf frame (the ash-leaved kidney not being then known), close under a south and west wall, which has come into use early in May. In the most southern parts of England potatoes planted whole in September have produced a crop of a good size at Christmas.

Potatoes intended for keeping should be fully ripened before being taken up; and for storing they should be laid up dry, and not in too large heaps, either in pits or otherwise; the pits should be three feet deep from the level of the ground (supposing them to be dry), from six to eight feet broad, and of a length according to the quantity. They are best protected by a sort of thatch, to keep out the wet and frost, taking care that the ground is sufficiently dry round the edges to keep out heavy rain or snow. There are many other ways of storing up potatoes; the best is certainly that by which they can be kept most effectually dry, and at the same time free from the influence of frost. Putting them into close houses and covering them well with straw is the most effectual method, and the one (when there is the conveni-

ency) generally adopted. Placing the potatoes nearly upon a level with the surface of any spot of ground in a heap, and covering them with plenty of straw, then with turves, and lastly with earth, is also a simple and good method, especially if in very severe weather some dry mulchy stuff be thrown over the whole. Always be careful that the potatoes are in a dry state before being stored away, as in that lies the principal art of keeping them.

In whatever place potatoes are laid they should be frequently looked over and kept loosened up so as to prevent them as much as possible from vegetating, which, if it goes to any extent, will deprive them of much of their farinaceous quality. None suffers more from this than the ash-leaved kidney, on which account it should not be stored much before Christmas, and should again be taken out at the end of February. If wanted for early planting, and the eyes are backward in growth, the method of forwarding them has been noticed.

In preparing the sets for planting, one strong eye is sufficient for any sort of potato, whether planted early or late; and in cutting, neither of the ends should be planted, these being more fit for the pigs, and, as before hinted, they are to be laid to dry for a few days previous to planting; and in planting, keep the eye uppermost, and the stronger the eye has sprouted so much better will be the crop.

Potatoes of the middle size should be chosen for the sets; and it is held to be a good method to sort the potatoes before cutting them, as the smaller ones, if wanted, may be planted closer together.

Fresh stable dung should on no account be used

as a manure for potatoes, as its powerful saline qualities not only affect the taste but also cause canker, while any undecayed litter lightens and gives free scope to the lateral shoots of the plant. Where manure is required, which is more likely to be the case in the market and cottager's garden than the gentleman's, the following composition will be found to suit the potato, in whatever way it is applied, whether in the drills or in beds, covering the sets with it, more or less, according to the state of the ground, and the whole about two or three inches thick with mould:—

Half rotten leaves of oak, beech, or any other trees, with decayed horse litter, thatch, or such like, with a tolerable quantity of well-sifted coal ashes, the whole blended together, and applied more or less according to the state of the ground. If strong, it will be the means of lightening it; and if moist, of keeping it open.

Potatoes, with proper care, by going over the rows and rooting out such as have the least variation from the sort planted, either in leaf, bloom, or root, may, when once established, be kept true to their kind for many years; and, if planted annually on the same piece of ground, allowing at each planting a moderate covering over the roots with the compost before alluded to, or something similar; and, as a most essential matter, if the ground be kept clear of weeds, and as light as possible, they will produce equally as fine.

The time for planting potatoes for a principal crop rests principally with the proprietor or gardener, as they have been known to have done well

from the end of March to the beginning of August; and, as a case in point, there have been produced on two acres two rood and twenty-four perch 858 bushels of fine potatoes, the sets not being planted before the 28th June. And the ash-leaved kidney, as mentioned by A. Knight, Esq., a gentleman to whom horticulture is so much indebted, when planted in a mild season, has produced 650 bushels an acre, each bushel weighing nearly eighty pounds; and great as this crop may seem, more have been produced on an acre, from two crops in one season, on the same ground: such is the astonishing increase of the potato.

General culture of the early and late kinds of potatoes. — For the first early crop, either for the private market or cottager's garden, the following sorts are recommended: — Ash-leaved Kidney, Foxe's Seedling, Early Manley, and Shaw's Early: they succeed each other, and are much esteemed in the London markets.

For planting these early sorts, if on a small scale, when the plough is not used, deep drills should be drawn at eighteen inches' distance, and the sets put in from eight to ten inches asunder; but more or less depends on how long they are to remain. In setting, let the sprout or eye be uppermost; and in respect of manure for this crop, if the land should be in good strength manure may be omitted, the earth being drawn carefully over them. By this method of planting, the sets will come up more regularly, as well as the crop earlier, than when planted in a promiscuous manner, many with the bottom part upwards.

As soon as the plants are discernible, the hoe should be used carefully, and as deep as possible. In about a fortnight or three weeks, more or less according to the weather, the same operation should be repeated; and when the plants are eight or ten inches high, a little earth drawn up on each side will be of service, but if this is not done, they will be the sooner in want of a final earthing, which should be of a moderate height, and if drawn so as to form a sort of flat surface at top, so much the better, as it contains the moisture better than when drawn to a slope. Some persons allege that the earthing is of no service, and causes the potato to be of a more watery nature. Where the whole crop is to be taken off before coming to maturity, an earthing may be dispensed with, but otherwise a full earthing is very necessary.

For planting the large and late kinds of this root, two-foot rows should be allowed, and the sets should be ten to fourteen inches apart; and whatever state the land is in, particularly if it is of a strong nature, manure must be applied, as it leaves the ground in a more pulverised state for any succeeding crop. Should it happen to be the same as that taken off, still a little manure will be necessary.

The author observed, when in Devonshire, the method which the cottagers take in planting their small allotments of land with potatoes, by which he has seen large and fine crops produced. It is similar to the method pursued by the peasants in Ireland, and is there called the "lazy bed" way of raising potatoes; but the term "lazy" is not

properly applied, as much of it consists in hard work.

It is as follows:—beds are marked out from three to five feet wide, according to the nature of the soil, with from two to three feet alleys. The earth of the bed is then thrown out to the depth of four and five inches, and laid on each side: the bottom is stirred up, and the potatoes set from six to eight inches apart entirely over the surface of the bed, and what little manure they can get is sprinkled over them. They are afterwards covered about two inches deep with the earth thrown out in the alleys, and must afterwards have one or two more coverings (the earth being well broken with the spade) should they seem to want it. Where there is plenty of manure to be had for covering the sets, this mode of culture has produced most abundant crops.

In many parts of England potatoes are stored in the same field in which they were planted, in moderate heaps or long ridges, covered with straw and earth sufficient to keep out the frost, by which means they keep well, but it is not convenient for turning them over, &c.

The curl in the potato.—This is the distemper to which the plant is most liable. It shows itself very early in the season, by a curling in the leaves, and too frequently affects the crop to an alarming degree. The cause of this disease is not yet perfectly understood; and there are various reasons assigned for it. By some persons unripe tubers are supposed to be the cause, by others a worm in the root, injudicious storing, and letting the roots remain too long before they are turned over, which per-

haps is not done till they have grown out several inches. This also causes a fermentation, whereby every original eye is forced into a shoot, which considerably lessens the strength of the sets hereafter. Under these and similar circumstances there is no reason to expect a healthy growth or a good crop, as it is quite impossible that plants with their vegetative powers nearly exhausted, can fully develop their respective parts, and hence the foliage suffers.

For the prevention of this disease, change of seed has been advised, which the author considers from long experience to be of the first importance; it will in most instances prove efficient, but many of the sets, if due care is not taken, will relapse into their old disorder.

The author has tried many of the supposed preventives, but found none better than always planting well ripened sets, and turning frequently over the heaps of potatoes intended for seed, to prevent a premature growth of the eyes.

Artificial culture. — The term artificial is applied to all vegetables which require the warmth of dung or fire to bring them forward: and is therefore applicable to the potato in the present instance.

Various are the methods by which potatoes are forced, such as in pits, frames, under glass, in pots, boxes, &c.

Pits, in which cucumbers or melons have been recently raised, will do well for a very early crop of potatoes; by taking the mould out to within two or three inches of the dung, or whatever else the pit has been filled with. On the surface plant well

prepared sets, such as have been mentioned, at about six inches apart; cover them with light dry mould to the depth of four inches, after which a lining of hot dung may be applied, so as to throw in a moderate heat, to be renewed if found necessary. On the appearance of the plants, a little air should be given, more or less according to the state of the weather, against which, if severe and frosty, they should be well protected by covering the lights with single or double mats. The more stocky the plants are grown, and the less they are drawn the better; slight waterings should be given at times, but no more than will keep the earth in a moderate state of moisture.

By the above method, sets, when planted early in November, have produced good sized potatoes in January.

In the absence of either pits or frames, early potatoes may be successfully raised on dung hot-beds, about four feet broad, (the length according to the want,) to be made with well prepared hot dung, about thirty inches in height, towards the end of February, and covered after the extreme heat is over, with three inches of light fresh mould, on which place the sets six inches apart, and afterwards cover them with the same sort of mould to the same depth as that put on the bed, which (to make the most of it) may be sown with radish and lettuce (the Cos variety). Both will be off in time (the one for use and the other for planting out) so as not to injure the sets in their growth. After the seed is sown, the bed having been previously arched over with hoops, or with something similar, must be well

covered either with mats or straw, but mats are the most eligible.

Potatoes may be raised in pots or boxes for moving into the stove or any other forcing-house. If in pots, those of about six inches in diameter, or those called 16s., should be chosen; in these lay about two inches of earth on the bottom, on which place the sets, and cover them with about the same depth of soil. They are then to be removed into any forcing-house, as above mentioned; and when the plants are grown to three or four inches high, some additional mould to that depth must be put round them.

In boxes the only difference will be in the number of sets, which should be placed about four or five inches apart; and when they are grown to the proper height, let them be carefully moulded the same manner as in the pots.

45. PURSLANE. — PORTULACA.

The origin of the ancient name *Portulaca* has exercised the ingenuity of the learned, but concerning it no explanation has hitherto been adduced.

The purslane is a native of Europe, America, and the East Indies. It is also said to be one of the few plants found on the little island of Ascension. It was early introduced into France, and thence into this country many years ago.

There are two varieties cultivated; the green or garden purslane (*P. oleracea*), and the round-leaved golden purslane (*P. anacampseros*). They were

formerly much used in soups and salads, but at the present time little use is made of them.

Culture. — The purslane is a hardy annual, and easily propagated from seed, which should be sown in slight drills, or broad-cast over the surface, on a warm border, about the middle of April; and when up about an inch high, they should be thinned out to the distance of five or six inches, and in six weeks they will have grown sufficiently large for use. In gathering them the young tops should be cut off with a knife, and they afterwards shoot out again. The green sort is best, and chiefly used for soups, and the golden for salads.

46. RADISH. — RAPHANUS.

Raphanus, the ancient name for the radish, is derived from a Greek word signifying *quick*, in allusion to the quickness of its vegetation.

The native country of this well-known plant is not ascertained. Linnæus mentions China, but does not state his authority. It is valued by us for its grateful pungency, and agreeable relish when mixed with salads, or eaten raw with bread and butter.

There are some good medicinal qualities attached to radishes; they abound with a penetrating nitrous juice, which renders them a good antiscorbutic.

Radishes afford but little nourishment; and whenever eaten, especially in a raw state, they should be crisp, and not in the least tough, stringy, or overgrown; neither must they be eaten to excess, as ill effects are apt to follow.

The syrup of radishes is as good as that of turnips for all complaints of the chest in which respiration is difficult, as well as for hoarseness of the voice ; it is also of much efficacy in the whooping-cough.

Radishes make an excellent dish when boiled, and served to table as asparagus. The seed-pods are esteemed by many as an agreeable pickle, either alone or mixed with other vegetables ; for which purpose they should be gathered young on a dry day, and pickled as soon afterwards as possible.

The varieties of the radish most worthy of cultivation are the following : —

1. Scarlet Short Top. — Of this there are several subordinate varieties ; but the scarlet is the leading and best. The short-topped is most commonly preferred by the gardeners near London, as it requires much less room than those with large tops.

2. Purple Short Top : very good and early, but in part superseded by the scarlet.

3. Early Salmon-coloured. — A fine crisp radish, and excellent for a second spring crop.

4. Long White Transparent. — A very crisp and delicate variety, which makes a pleasing contrast at table when mixed with the scarlet.

5. Common or Long Purple. — The author recollects this as a leading radish seventy years ago, but it is now principally raised for the seed under the name of salad radish, and for producing the pods for pickling. When the green tops are required for salading, the seed is sown in drills for

the plants to be cut young, similar to mustard and cress.

6. White Turnip-rooted is highly esteemed in the spring and early part of summer; when young, it is very delicate and crisp.

7. Red or Crimson Turnip-rooted is held in the same estimation as the last.

8. Black Turnip-rooted Spanish. — This sort grows as large as middling-sized turnips; the root is white within, but it has a black or dark brown skin. They are esteemed by many for autumn and winter eating, for which purpose the roots should be drawn before hard frosts come on, in a dry day in November, and after being divested of their leaves, laid in dry sand, as practised for carrots; if guarded from wet and frost, they will keep good in this way till spring.

9. White Spanish. — This variety is principally cultivated for an early autumn crop, and when grown in a light sandy soil, will be found an agreeable addition to the salading at that season of the year.

Culture. — The soil in which the radish seems to thrive best (either the long or turnip-rooted kind) is a light, rich, sandy loam, dry for early sowings, but more moist for the later.

Few vegetables require less artificial culture than the radish, as the immense quantities sent to the London markets in March and April fully indicate. These are raised in oeds, the seed being sown in January and February, and covered with garden mats or dry straw for protection during frosty nights and bad weather.

When radishes are required early, the seed should be sown in a frame, if there be any to spare, about the end of October, and covered with the lights. The plants usually come up in about a week; and when they appear, the lights should be lifted or taken off occasionally in favourable weather; for if once the plants are drawn (which is the cause of the failure of many crops), especially if sown on a slight heat, they seldom make much progress afterwards.

Should they be too thick when fairly up, a thinning will be necessary to the distance of an inch and a half; then, over the whole, give a light sifting of dry mould; and by giving air when the weather will permit, and protection from wet and frost, fine young radishes may grace the table at Christmas.

Where there are no frames to spare, the beds may be covered with mats over hoops, and the sides secured by boards and straw-bands.

The best radishes for an early principal crop, are the scarlet long-rooted, and the red and white turnip. These should be sown towards the end of January, if the weather permit, in three or four feet beds, not too thick, in some warm sheltered spot in the garden, and covered with straw or fern (this last, as before stated, is one of the best of coverings, admitting air at the same time that it protects). After the plants are fairly up, they should be carefully covered at all times when the weather is likely to affect them, and frequently looked at, to see that they are not drawn up. When the crops have got their rough leaf, they should be thinned out, where they are too thick, to the distance of two inches, as

there will be constantly more thinning by the daily drawing of the young radishes.

For successional crops, seed of either of the sorts should be sown once a month or earlier, from February till June, choosing (if it can be had) a moist spot of ground, which will not only forward the growth of the crops, but increase the size of the roots, and render them more mild and crisp in eating: it will also save much watering in the early part of summer; otherwise, in a dry season, the radishes will be hot and stringy.

If the large salmon radish is required, the seed may be thinly scattered among the stationary crops of carrots, parsnips, or such like, and by coming off quickly, will not do any injury; but this practice, especially when there is sufficient room, is not to be recommended.

For raising the two sorts of Spanish radish, the seed should be sown about the beginning of August in beds; these should be thinned to a greater distance than the common sort, as the roots come much larger. If the weather happens to be very dry at the time of sowing, a little moisture will be necessary to cause the seed to vegetate, and it will likewise be of much service to the roots, in rendering them better flavoured and more tender.

47. RAMPION. — CAMPANULA.

The Latin name of this plant is derived from its bell-shaped flowers, and the specific *rapunculus* from the root delighting in moisture. The English

name rampion is considered a corruption of the latter.

Rampion is a native of this country, and of several other parts of Europe. It has a long spindle-shaped root of a whitish cast: the leaves grow close to the ground, till the stem shoots up into blossom about two feet high, in which state its bunches of blue flowers render it a very ornamental plant.

The root is the part which is used: it is eaten raw, like a radish, and has a pleasant nutty flavour; it is also sometimes cut into winter salads, and then the leaves as well as the roots are used; but of late years the use of this vegetable has been on the decline.

Rampion is a biennial plant, and requires a light rich soil. The seed should be sown as soon as it is gathered, when ripe, about the end of July or the beginning of August; for if kept out of the ground till the spring, it often lays a year in the ground before vegetating. It does not bear transplanting well, otherwise plenty of plants might be procured from the self-sown ones.

After sowing the seed, it must be lightly raked in, and when the plants are sufficiently up they will require to be thinned out to three or four inches apart, and, from their nature, to be kept in a tolerably moist state throughout the season. In November the plants will be fit for use, and will continue good till April; if wanted in frosty weather, they should be covered with some dry litter, as they are best if taken up when required for use.

48. RAPE. — Var. BRASSICA.

Brassica is the generic name of this plant; according to the Linnæan system, the original Latin name of *napus* is made the specific.

Wild rape or navew is a native of Britain, and is exceedingly hardy; it is chiefly used as a small salad, and is cultivated for that purpose both in winter and summer, similarly to the mustard and cress. The seed of rape being cheaper than mustard, large quantities of it are substituted for that herb in the London markets; but it is not nearly equal to the latter either in virtue, tenderness, or taste.

It is often cultivated by the country people and cottagers, who find it a good substitute for greens during the winter; for which purpose it should be sown in July or August, and when of a proper size transplanted to half a yard apart; and after being frost-bitten, it will be found tolerably good and tender.

49. RHUBARB. — RHEUM.

The botanic name *Rheum* is supposed to have been given to the rhubarb from its superior medicinal qualities; and its specific *Ponticum*, as coming from Pontis: the other names are derived from the habit of the plant.

The Genuine or True Rhubarb is principally grown in China, where it is dried and prepared for exportation. It is chiefly purchased by the Turks, Jews, and Gentiles, who monopolise the trade as much

as possible, from which they reap a large profit, sending it to different parts of the world.

Rhubarb has been for centuries held in the highest estimation on account of its active medicinal properties ; few drugs being of more efficacy in various complaints. It is a mild cathartic, and commonly considered as one of the safest and most innocent of the substances of this class. Besides its purgative virtue, it has a mild astringent one : hence it is found to strengthen the tone of the stomach, and to be one of the most useful purgatives in all disorders proceeding from a debility and laxity of the fibres.

In addition to the qualities of the rhubarb above mentioned, it is allowed by all medical men to make one of the most cooling, wholesome, and delicious tarts sent to table ; many persons prefer it indeed either to green gooseberries or apples. In the early part of the season the stalks of rhubarb are cut up and mixed with these fruits ; with the former before they have obtained their flavour, and with the latter after losing it by long keeping. As a plant, the rhubarb, particularly the *Rheum palmatum*, is highly ornamental in many situations in the pleasure-ground ; its luxuriant foliage, height of growth, and large palmated leaves, render it striking and beautiful.

The varieties of the Tart Rhubarb, by which name it may be justly designated, form an object of much interest and profit to the market-gardener ; and to the cottager it cannot be too strongly recommended as a most salubrious vegetable for his family, either in tarts, puddings, or when baked whole in a dish.

It is of the easiest culture, and can be planted in any light soil, either in an open or sheltered situation in any part of his garden.

Few vegetables have made a more rapid progress in their cultivation, within the last forty or fifty years, than the tart rhubarb; for not only are large quantities annually forced for the London markets, but many acres are planted for the same supply; and the waggon-loads of stalks tied up in bundles and sent thither during the season would almost exceed credibility.

The following are the most esteemed varieties, which are cultivated more or less for the above purposes: —

1. *Rheum Rhaponticum* — Rhapontic Rhubarb. — A native of Asia: introduced and cultivated since 1573. From the date it will be observed to be an old inhabitant of the English garden.

2. *Rheum undulatum* — Waved-leaved, or Chinese Rhubarb. — A native of China; and introduced in 1734.

3. *Rheum hybridum* — Hybrid Rhubarb, a mixed variety. — A native of Asia; and cultivated since 1778.

4. *Rheum palmatum* — Spreading, or Palmated-leaved Rhubarb. — A native of China and Tartary; and first introduced into this country, according to the *Hortus Kewensis*, in 1763. The roots of this and the *undulatum* species constitute the drugs sold in our shops under the names of Chinese and Turkey rhubarb; the other varieties also possess the like medicinal properties.

There have been several attempts made to cul-

tivate the rhubarb for that purpose, and to prepare and dry it in a similar method to the Chinese; but from some cause or other, and principally for want of a stock of roots of sufficient age, it has been laid aside. What had been prepared, however, was found equal to that of foreign growth.

5. Buck's, or Elford Rhubarb. — This esteemed and valuable variety was raised from some seed of the *Rheum undulatum*, a few years ago, by a Mr. Buck (whose name it now bears), of Elford, near Lichfield, in Staffordshire. It comes very early, and may be forced in various situations, retaining its fine scarlet colour to the last, though it prefers darkness to light: its flavour seems to be more heightened than diminished.

6. Tobolsk Rhubarb. — This variety is of late introduction, and is stated to be very superior for all the purposes of forcing: the author has heard it highly extolled by many who have given it a trial; and for delicacy and fine flavour it stands pre-eminent.

7. Giant Rhubarb. — This is an excellent and profitable variety, producing leaves of an immense size, and stalks from two to three feet long, which are thick and fleshy, and abound with the fine acid juice: when cooked, they are tender and well-flavoured. A few of this sort should be grown in every garden, and especially in that of the cottager.

The Pontic and the Waved varieties, being the most hardy, are proper only for the open air, as neither improves by forcing; hence a good stock of the Tobolsk and Elford should always be kept up for forcing.

The Hybrid variety is said to be the most succulent ; and perhaps it might be so in some soils ; but the author could never observe any difference between it and the waved-leaved.

Culture. — There are two methods by which rhubarb is propagated — from seed and from offsets or slips : the former is the best and principal ; the latter is only resorted to at times when the stock of plants is short, or more particularly when they are required for forcing, as, by having good strong slips for that purpose, nearly a whole year will be gained. For making a permanent plantation, slips are by no means recommended, as they never root so well as seedlings.

The soil most suitable for the rhubarb is a light rich loam, of a sandy nature, neither too dry nor too moist ; and where there is a depth of eighteen inches or more in such land, for the roots to run down, so much the better, as the plants will attain a greater size every way.

In raising the rhubarb from seed, it should be sown about the beginning of April, in a three or four foot bed of light rich soil, the length being according to the quantity of plants required ; sow thinly, and afterwards carefully cover with the same sort of mould, about half an inch deep : should the weather happen at the time to be cold and unfavourable, a slight covering with a mat will be necessary.

One or two seasons having proved unkindly during the author's practice, he had the seed sown on a slight heat, by which means the plants gained a more considerable growth by far than they would have

done without it; but the practice, though sometimes adopted, is not much to be recommended.

As soon as the plants are fairly up, they should be thinned out to seven or eight inches distance, and so remain, keeping them clear from weeds during the summer, and until they are finally planted out in autumn, at which time a piece of rich ground should be selected; and previously to planting, a good coat of well-consumed dung, worked in about a spade deep, will tend much to the vigour of the plants.

The plants should be set out in a row or rows from three to four feet apart, according to the richness of the soil: if planted in the quincunx manner, they will have the advantage of more room and air. No further after-culture is required beyond keeping the ground clear from weeds; and in the autumn or spring giving a dressing of rotten manure, stirring it in as deep as possible with a spade or fork. Rhubarb so planted and treated will continue many years in perfection without decaying.

In taking the stalks for use, first scrape away a little of the earth; then bend down the stalk you wish to remove, and slip it off from the crown without breaking it, and without using a knife. The stalks are fit to gather when the leaves are about half expanded; but a larger produce is obtained by letting them remain till full grown, as is practised by the London market-gardeners. When the rhubarb is propagated by the root, care must be taken to retain a bud on the crown of each offset, together with a small portion of the root itself,

with, if possible, some fibres attached to it. These offsets may be taken from roots of three or four years old, without injury to the plant. They may be planted where they are intended to remain, at the same distance and in the same manner as advised for the seedlings; but, as before observed, they seldom succeed so well.

Artificial Culture.— For forcing rhubarb the following methods will be found to answer the expectations of those who put them in practice. The varieties which stand first on the list for this purpose are the Tobolsk and early Elford.

For forcing in the open ground large pots will be required to be placed over the roots, and covered with fermented dung. When the plants are fairly up, which will be soon, and they are observed to get too large for the pots, larger pots must be substituted in their room, or large hand glasses, if there be any to spare: they must be well covered with mats every night, and in unfavourable weather. It has been observed that under such a mode of culture rhubarb comes very delicate and fine-flavoured, and quite equal to that forced in pots.

In respect of the dung to be used in covering the pots, it may be noticed that it makes but little or no difference whether it has been previously prepared by turning, or procured fresh from the stable, provided it is not suffered to heat too violently, as the internal heat should be kept to between 55° and 60° of Fahrenheit.

Those persons who dislike the trouble, and others who have neither large pots nor dung at command, may be told, that covering the roots of rhubarb in

the open ground with dry mulchy stuff about six inches thick, will forward the leaves for use nearly a fortnight before those that remain uncovered.

For forcing rhubarb in pots, plants of one (if strong), two, and three years' old will be eligible, and also cuttings, after one year's growth.

As soon as the leaves are decayed in autumn, the plants may be taken up and potted in deep pots, allowing for an inch of earth at bottom, and the same thickness round and over the top of the root. The mould should be light and rich, and after the planting a good soaking of water will be necessary on purpose to fill up any hollowness between the roots; the pots are then to be placed in a vinery or in any part of a forcing-house, and where no other plants would thrive for want of light and air. When the rhubarb plants begin to grow, they must be copiously supplied with water, which will cause them to produce stalks for use, early, and in abundance. As it may be perhaps difficult to find a really dark place in a forcing-house of any description, pots similar to those used for forcing in the open ground should be inverted over the pots of rhubarb, which will certainly exclude both light and air.

After the plants have done producing stalks for culinary use, they may be turned out in a rich piece of ground, when after a year's growth they may again be taken up for the purpose first assigned them.

Hot-beds, frames, or pits, where a gentle heat can be kept up, will do extremely well for forcing rhubarb, provided the glasses are kept darkened.

Care must be taken that the roots are planted of sufficient depth to allow for the leaves growing and expanding to their full height and size.

The advantages of blanching the stalks of rhubarb are twofold; namely, the desirable qualities of improved appearance and flavour, and a saving in the quantity of sugar necessary to render them agreeable to the palate, as the leaf-stalks when blanched are infinitely less harsh than when growing under the influence of light, in open situations.

The pots for the purpose of blanching sea-kail and rhubarb should be deep (particularly for the latter), and with covers to fit close, these being more convenient than taking the larger pots entirely off, though for sea-kail it will be necessary, as they require to be cut close to the ground.

50. ROCAMBOLE. — Var. ALLIUM.

The generic name *allium* is the same as for the onion, with which the rocambole is classed; the specific *scorodoprassum* is a compound word, signifying growing in bunches on the stem.

The rocambole, of which there is but one variety, is found wild in Sweden, Denmark, and Germany, and has been cultivated in this country since the year 1596. It has compound bulbs, like the garlic, but much smaller: the root is heart-shaped, solid, and generally stands sideways of the stalk: the stem rises from two to three feet in height, and produces many small bulbs at the top of the joints, which may be made use of, as well as those of the root. Rocam-

boles are cultivated for the same purposes as garlic, and by many persons are considered milder; but at the present time they are not in much estimation.

Culture. — Rocambole may be propagated, either by the offsets of its roots, or by the cloves produced on the joints of the stalks. The cloves are planted in the same way as directed for garlic, about October or November, as they generally grow to a larger size than when planted in the spring season. The richer the ground, the more cloves on the stem may be expected, which are considered more delicate than those from the root.

51. SAGE. — SALVIA.

The ancient name *salvia* is supposed to allude to the healing and salutary qualities of the plant. The English word sage is derived from the French word *sage* (wise), having the property, it is said, of strengthening the memory.

The Garden Sage is a native of rough stony ground in the South of Europe. It was first cultivated here in the year 1573.

In ancient times sage was celebrated as a remedy of general efficacy; but at present it is not considered as an article of much importance in medicine.

It is sometimes employed as a sudorific, and is also drank in the morning, in the form of tea, for strengthening the nerves or in cases of weakness of the stomach.

Sage is principally used in this country as a seasoning for strong meats, ducks, sausages, &c.

Sage cheese is now not in much demand, though, in the author's younger days, seventy or eighty years ago, it was held in high estimation.

There are three varieties of the sage generally cultivated: the Narrow-leaved or Tea Sage, which will be noticed in the list of physical herbs; and the Green and Red Broad-leaved, which are the two sorts to be preferred for culinary use, but more especially the latter.

Culture.— All the varieties of this plant are easily propagated by taking off slips or cuttings, and planting them in April in any light dry soil, the less enriched with dung the better. Slips both of the former and the same year's growth may be used; but the plants raised from young slips are generally the strongest and most bushy.

All that is requisite in the after-culture is keeping them clear from weeds in summer, cutting down the decayed flower-stalks in autumn, and slightly digging between the rows.

In preparing sage for drying, the reader is referred to what has been said under the head of Mints; only, in gathering it, care and attention should be given not to cut the tops too close, so as to render the plants naked and stubby, especially when late in autumn and winter, as they would be more liable to suffer from severe frost than when the head is preserved somewhat full and regular. Sage, from the thick texture of its leaves, will retain its virtues, when in a dried state, for many months.

52. SAVORY. — SATUREIA.

The generic name of this plant seems most probably to be derived from the Latin word *saturo*, to cram or satisfy, in allusion to its use in seasoning broths, soups, and stewed meats; whence also arises its English name savory.

There are two varieties of the savory cultivated for culinary use, both natives of dry open situations in the South of Europe.

1. *S. montana*—Winter Savory: perennial, hardy, and shrubby.

2. *S. hortensis*—Summer Savory.—A hardy annual. Its scent is sweeter than that of winter savory, and more like basil.

Savory has a very hot, penetrating, and aromatic taste. It is an excellent seasoning for farinaceous food, as peas, beans, &c., preventing wind in the stomach. It was formerly much used in cakes, and considerably more in made-dishes than at present. It has been cultivated in this country since the year 1562.

Culture.—The summer savory, being annual, is raised from seed sown on any light soil about the middle of April. When of a sufficient height, the plants are to be thinned out to about five or six inches apart, where they are to remain to be cut or pulled up occasionally for use, as they do not produce a succession after being cut.

If required for drying, the whole plant should be pulled up, and, after cutting off the extreme roots, dried similar to other herbs for winter use.

The winter savory may be raised from seed or by planting slips, which latter is the best method. If the slips or cuttings are planted in spring, they will readily take root, and form good plants, which in the autumn may be taken up, with balls to their roots, and transplanted out, in beds or rows a foot apart.

The plants should afterwards be kept clear of weeds, and be managed in the same manner as has been directed for sage.

53. SAVOY. — Var. BRASSICA.

It will be observed, by the Latin name of the savoy, that it is classed with the cabbage tribe. This particular variety is known by the specific name *sabauda*, from the wrinkled appearance of the leaves.

The popular English name of savoy is derived from a district so called adjoining Italy, where it first originated; it was first introduced thence into France, and thence again to England, about 150 years ago.

The same qualities are assigned to the savoy, with regard to nutriment, &c., as to the cabbage; and in order to make it quite as delicate and well-flavoured, it should always be a little frost-bitten, and not allowed to get too hard before being gathered for use.

The varieties in cultivation are but few: the following are the most esteemed: —

1. Large Green Savoy. — This sort grows to a large size, nearly round, and a little flattened at

top: it is principally grown by the market-gardener.

2. Dwarf Green. — A very excellent variety, the most proper for small and private gardens: it is very hardy, and keeps longer in use than the other sorts.

3. Yellow Savoy is very good and hardy of its kind: a few may be raised by way of variety.

Culture. — The savoy, like all the rest of the cabbage tribe, requires a good soil, and one that has been previously well enriched with dung; if not so, a good coat must be worked in at the time of sowing or planting: the former method is preferable, as in *very* rich ground, or ground newly manured with rank dung, savoys and any of the *brassica* tribe are not so well flavoured.

If savoys are required early, seed must be sown towards the end of March; but for the principal crop not before the middle of April, as then there will be plenty of time for them to grow and get full-headed before they are required for general use in November. The savoy is a very useful vegetable, and every garden should have a share of them.

Some authors advise three or four sowings for a succession; but in private gardens the author thinks it needless; much, however, depends on the ground there is to spare, and other local matters, of which the gardener will be the best judge.

In regard to planting out, &c., the reader is referred to what is stated under the head of Brussels Sprouts, as the culture of that vegetable entirely coincides with that of the savoy.

It is sometimes customary to plant out the sum-

mer crops between rows of forward beans, peas, cauliflowers, and other plants that stand at some distance apart, and soon come off the ground. By this practice some ground is gained ; but the plants are generally finest when planted out in a clear open spot, previously well dunged for their reception.

If the weather is dry at the time of planting, water must be given until the plants have struck root.

All the after-culture is simply to use the hoe to destroy the weeds, and to draw a little earth about the stems occasionally.

As this is the last variety of the cabbage tribe the author has to treat of, a word or two on that fatal disease called the "Clubb," which severely attacks many gardens more or less every year, will not be out of place.

The plants soon show that the disease has commenced by the drooping appearance of their leaves: and on searching the root, there will be found a sort of maggot enveloped in a hard case, formed similar to a small nut ; this increases rapidly ; and on examining the root, the small fibres will not only be found eaten off, but also the rind of that portion of the stem within the ground.

This disease appears to be more prevalent in confined gardens, especially if heavily manured, than in open and free situations, and in light sandy soils more than in loamy ones. When once the disease is established, it can never be wholly eradicated ; hence all young plants, before being planted, should be looked over ; and if the least bit

of "clubb" is noticed, it should be carefully picked off, and, in the holes made for their reception, a little soot, mixed with lime, may be sprinkled; but nothing has been found to arrest this disease better, than keeping the uncropped and vacant spaces of ground constantly dug and turned up to the influence of the weather.

54. SALSAFIE. — TRAGOPOGON.

The botanic name of this plant is derived from two Greek words, signifying a goat and beard; hence it is called in English, Goat's-beard, from a supposed resemblance of a portion of the plant to the beard of that animal. Salsafie is a species of the above; and being the most popular name, and more generally known, not only in this country but in many parts of the Continent, it is retained in preference to the silly-sounding name of goat's-beard. The specific name of this plant is *porrifolius*, from the likeness of the leaf to that of the leek, *Porrum*, so called by the elder botanists.

Salsafie is a hardy biennial, a native of meadows in Switzerland, Germany, and of some of the southern counties of England, where it displays its purple flowers towards the end of summer.

It is deemed wholesome and nutritious, and is much esteemed by the higher classes, in whose gardens it is principally cultivated. It has a sweetish delicate flavour, and forms an excellent variety and agreeable side dish for the table, throughout the winter season.

There are several modes of cooking this root:

when dressed with cream, they are very delicious; but the following is recommended by the author as one of the best. Previously to boiling the roots, let them be lightly scraped, and then laid in water for about an hour, to draw out any little bitterish taste they might happen to have; this, however, is rarely the case, except when they are grown in moist heavy soils. After the roots have been in the water the time mentioned, they should be boiled till they are quite tender, when they are to be taken out and laid to drain for a short time, during which a thick batter should be made with the white of eggs, beat up with a little flour, in which the roots are to be dipped, and, after having been rolled in crumbs of bread, fried with a small piece of melted fresh butter, previously put into the pan; they should be frequently stirred, and when observed of a deep brown colour, they will be ready for table.

The next mentioned vegetable (*Scorzonera*) may be dressed in a similar manner, and either of them, or both, will form, when cooked after the above receipt, a most agreeable and delicious dish.

Culture. — The salsafie, as before observed, being biennial, can only be propagated by seed, which should be sown in a light rich piece of ground, previously well worked to the depth of twelve or fifteen inches, towards the end of March, but not sooner, otherwise the plants will be apt to run to seed. The best way of sowing the seed is in shallow drills drawn about a foot apart, where, after being regularly covered, the plants will soon make their appearance; and if observed to rise in clusters, they must be thinned to the distance of

two or three inches, either with the hand or with a small hoe.

In the course of a month or six weeks, they may be finally thinned out to six or eight inches apart. But little more will require to be done, except keeping them clear from weeds, till the end of November; when, after being cleared of decayed leaves, they are to be taken up (taking care not to cut or injure any part of the root), and laid in dry sand for occasional use throughout the winter. When that season is mild, the roots are apt to take a second and early growth, which must be checked by their being taken out and relaid, otherwise much of their nutritious qualities will be lost. The same holds good in regard to all culinary vegetables of a like nature, when preserved in a dry state under cover.

55. SCORZONERA. — VIPER'S-GRASS.

The botanic name of this plant is placed first in this instance, from its being by far the most popular. The derivation of *Scorzonera* and Viper's-grass arises from the similitude of the long tapering root to the body of a viper. This variety is distinguished by the specific name *Hispanica*, from its being a native of Spain. It was first cultivated in England in the year 1576. In regard to the qualities of this root, there is but little difference between it and salsafie; if any, the *Scorzonera* is superior in point of delicacy, and perhaps would be more generally cultivated, if it had a greater substance of growth in the root.

The same directions as were given for cooking the salsafie, will serve for this vegetable.

Culture. — The cultivation varies but very little

from that of the salsafie ; the only difference is in the time of sowing the seed, which will admit of being done a fortnight earlier.

56. SEA-KALE or SEA-KAIL. — CRAMBE.

Crambe maritima — Sea-Kale or Colewort.—The botanic name of *Crambe* is of ancient date, and supposed to be derived from the growth and habit of the plant. The specific *maritima* is from its being only found growing on the sea-shore.

Sea-kale is a native of the southern shores of Britain ; and there is none finer than what is to be found growing on the sandy beach round Calshot Castle, between the Isle of Wight and Southampton. It also grows in great abundance on the sandy shores round the Bay of Dublin, and was for a long time used by the inhabitants of that city as a culinary vegetable, before the English thought of it for that purpose.

The use of sea-kale as an esculent vegetable is of recent date. The first person who brought it into repute was Dr. Lettsom, who had it under cultivation in his garden in the year 1767 ; and at the same time the Bishop of Carlisle had it in his garden, where it was treated like asparagus.

About that period Dr. Lettsom wrote a short treatise on the culture and qualities of the plant, which brought it into more general notice ; though it did not establish the fame of sea-kale as a culinary vegetable of the first class, to which it is so well entitled, so much as a treatise written a few years afterwards by that worthy and scientific man, the late Dr. Curtis, with whom the author was well ac-

quainted at the time he lived at Brompton, near London. One day, when discoursing on the qualities of the sea-kale, the doctor observed, that in the course of a few years it would be the most popular, as it was the most salubrious, in the whole range of culinary vegetables, — a remark which has been most truly verified. The doctor further observed, that all the good qualities of the cabbage tribe centred in the sea-kale; and as a sweetener of the blood in spring, it cannot be too strongly recommended, especially in such a country as England, where animal food is consumed in such immense quantities. It was also remarked at the time by the doctor, that the cottager, with trifling expense and little trouble, might regale himself with a dish of this wholesome vegetable for many weeks throughout the spring, at which time it is of the greatest efficacy, and, with the rhubarb (noticed before), may save many a pound for medical attendance: besides he can say, with some degree of pleasure, “I grow my own medicine.”

Upon the whole, sea-kale is allowed to be one of the most valuable acquisitions made to our culinary vegetables within the last fifty years, none furnishing a more salutary esculent for four or five months of the most dreary season of the year; and it has been observed that no vegetable improves more by forcing; for by that means, the sea-kale produced at Christmas is more crisp and tender than any grown at a more advanced period.

For dressing sea-kale, the three following methods, as communicated to the author, may be of use to some of the readers of this work: —

The first is, that sea-kale growing in its natural element, near the sea-shore, if intended for use, should be cut as soon as it is discernible; and after lying an hour in soft-water, should be boiled in two waters, in the first for about a quarter of an hour, and in the second (which should be boiling when the kale is put in) until it is sufficiently done for use: which may be known by the softness of the stalk adhering to the bottom of the sprout. After being taken up, it should be laid to drain for a few minutes, when it will be ready for use; and whatever disagreeable taste it might have imbibed from its salt-water bed, will by the above method of cooking be completely extracted.

The second mode of dressing sea-kale is similar to the above, but, by its inland cultivation, it does not require a double boiling; only, previous to being dressed, it must be laid in water for half an hour, when, after being well boiled, it should be quickly drained, and then suffered to remain a few minutes before the fire, that whatever moisture remains may evaporate. The sauce generally used at table with sea-kale is melted butter; a little capsicum or Tomata vinegar added to which, will heighten the taste considerably.

The third mode of dressing (which will be found the most superior), is to tie the sea-kale in bundles, and boil it in plenty of water, with a little salt in it, for twenty minutes, observing that the water is boiling before it is put in; have a toast ready, dip it in the water, put it on the dish and the sea-kale upon it; pour a little white sauce over it, consisting of an equal quantity of veal gravy, and cream thickened

with flour and butter. If desired, a less rich sauce may be made by leaving out the gravy, and substituting milk for the cream.

Culture.—No culinary vegetable hitherto introduced can be raised, either naturally or artificially, with less trouble, or with a greater certainty of success, than the sea-kale, as in both cases the same plants will last many years; and in the annual forcing they give the gardener little or no anxiety, as there will be no fear of the bursting of boilers (in the hot-water system), the firing of flues, or an over-heated dung hot-bed; but in the end an almost certainty of success.

There are three methods by which sea-kale can be propagated—by seed, slips, and pieces of the root; but that from seed is the most preferable method, for which purpose any piece of ground that has been previously manured for other crops will answer.

The seed may be sown from the middle of March to the end of April, either in drills, or broad-cast in a four-foot bed: the quantity of seed to be proportioned to the size of the garden; if small, about three pints; but if large, and much forcing is required, full two quarts will not be found too much; the seed being inclosed in a shell renders it bulky. If the seed is sown in drills, such should be drawn with a broad-pointed hoe, about two inches deep, and either in drills or beds the seed should be thinly sown; that in the drills, when covered, to be lightly beaten down with the head of the rake; that sown in a bed, if the ground is light, may be beaten down with the back of the

spade, and afterwards covered with about two inches of earth from out of the alleys.

In about a fortnight or three weeks the plants will make their appearance; and should they rise in clusters, they must be carefully thinned out by the hand to an inch or so apart; when of more strength, they must be hoed out to the distance of three or four inches. They will want but little to be done to them during the summer, except the hoe occasionally, to keep them free from weeds; and in winter, after clearing them of their decayed leaves, a little earth should be thrown over them.

After one year's growth the seedlings will be found to have made strong healthy plants, and early in spring, ground should be prepared for those that are to be finally planted in ridges. For that purpose, a recently-manured and trenched piece of ground (the latter to the depth of fifteen or eighteen inches) should be chosen, where, after having a good coat of well-consumed manure forked in (which mixes it better with the earth than the spade), and the ground properly levelled, beds should be marked out four feet wide, with eighteen inch alleys. In the centre of each bed a line should be drawn, where the strongest plants, after being carefully taken up, are to be planted at two feet and a half from each other, taking care that the crown of the plant is set two inches below the surface of the bed, to allow for the future rising of the crowns, which they are inclined to do more or less every year, being a lasting plant, and producing as strong shoots or sprouts at eight or ten years old as they did at three or four.

After the strongest plants are taken out of the seed-bed for the purposes above mentioned, a few score, if as many remain of the seedlings, may be planted out in a bed about six inches apart, where they will be ready (after one or two years' growth) to be taken up for the different uses hereafter mentioned. Should the weather be dry at the time of planting, a little water may be given, which, if repeated at times the following season, and frequently stirring the earth round the plants, observing to cut down such as are going to seed, will cause the plants to be in a high state of growth for any use required, and particularly for forcing under pots, which is the most general and successful method to bring the above salubrious vegetable to perfection either before or after Christmas. The following process, if strictly adhered to, will answer the purpose.

When the number of crowns or roots are determined, they should be cleared of all decayed leaves, or whatever is growing near them. The bed must have about an inch of well-consumed manure laid on it, and lightly forked in, which will strengthen the plants, and accelerate their growth. After the ground is levelled, the crowns are to be covered about three inches thick with some light sandy soil, none being sweeter or better than such as may be had from the bottom of a running stream or brook; but by no means use coal ashes, for these, of all others, should be prevented from coming in contact with the blanching of sea-kale, as the receptacle whence the material is taken is not in general the most agreeable part of the premises; besides,

if the natural beach-grown kale requires two boilings to extract any disagreeable taste, coal ashes will certainly require three or four.

After the crowns are finished, the pots (which may now be had, at any of the potteries) should be put over them, and sunk a little way in the earth, carefully covering or stopping the holes, so as to exclude any rank steam from entering; when that is done, a layer of fermenting materials, composed of fresh stable dung or litter, with a third of decayed leaves (if they can be had), should be spread all over each pot to the depth of fifteen or twenty inches, which thickness should be regulated according to the state of the weather, but taking care not to make the heat too strong, in case of injuring the young shoots by drawing them up in a weak state; for, if a temperature of heat from 55° to 60° can be kept up, it will be quite sufficient for bringing this vegetable to a full growth for use. In a week or ten days after the pots are covered, the bed should be examined; and if found to be of too great a heat, the covering for a few days should be diminished, or, if otherwise, augmented; and as a necessary precaution to guard against any sudden chillness, which often arises from heavy rains or snow, a temporary covering of dry litter or fern should be thrown over the bed or ridge, which will be found a security against any sudden variation in the temperature of the atmosphere.

If in about three weeks from the time the covering begins to heat, and, upon examining a pot or two, the plants are found to have sprouts from six to eight inches in length, they may be cut for use, which is

to be done by first removing a part of the earth and leaves round the head of the plant. Cut such as are intended for use close to the crown, with part of it adhering, taking care not to disturb the young shoots that appear round it. The crowns are afterwards to be covered the same as at first, the pots replaced, and the covering put on; and if any of the latter be observed to be much decayed, it should be taken away and replaced with good hot dung. By this means a regular heat will be continued; the plants will remain in a vigorous state of growth for six weeks from the first cutting, by which time they generally have done their best; the pots may then be taken away; the covering, however, must be removed gradually, as the root and crown, by being forced, would probably be injured by the severity of the weather, were the entire covering taken away at once.

When the plants are finally cleared of their covering, and the sand or earth laid round the crowns levelled, two or three inches of good manure should be put on the bed, which, after being forked in, will strengthen the plants for a vigorous growth throughout the season, and they will be found, from such a growth, in a high state for forcing any time throughout the following winter.

Thus far on the culture of sea-kale from sowing the seed, the planting and the most general and successful method of forcing one of our most valuable vegetables, forming as it does a most salubrious luxury throughout the winter;—a luxury unknown to our forefathers, though the plant is indigenous in this country.

Besides the above method of forcing, sea-kale has also been successfully forced in frames, pits, or pots. If in frames, the same preparation may be made as is advised for asparagus, both as to the bed and earthing; but, if in the latter, three or four inches more than is there mentioned will be necessary.

The bed being ready, a sufficient number of plants, put out for this and other purposes, should be taken up, so as to fill the frame at six inches apart; and, in planting them, the roots can be set to within three or four inches of the dung. When done, the whole is to be covered with light sandy earth to the depth of five or six inches, and two or three inches deeper after they begin to make their appearance; when they should be totally excluded from the light, otherwise the sprouts would be tough, and lose much of their taste and flavour.

How far it will be necessary to line the bed with hot dung, or give more or less covering, will depend on the weather; at any rate, the same degree of heat as mentioned for the pots should be kept up as regular as possible.

Pits built after the excellent invention of M'Phail, should there be any to spare, will be found to grow sea-kale equal, if not superior, to those in frames on dung heat.

Where there is a stove, sea-kale may be very early raised by being planted in large pots, and placed in any dark corner, where, with a little moisture at times, they will bring good sprouts for the table.

Finally, sea-kale planted in the open ground, and covered to the depth of ten or twelve inches with

any light soil, will produce good sprouts, which will be found, on clearing the ground round them, to be finely blanched of a clear white colour, and when dressed, nearly equal to those blanched under pots in the course of the spring.

57. SHALLOT. — ALLIUM.

It will be observed, from the botanic name of the shallot, that it is classed with the onion tribe. The specific name, *Ascalonicum*, has been assigned to it from its being found near Ascalon, a town in Syria; hence the popular English term scallion.

Shallots have a strong but not unpleasant smell, and are therefore generally preferred to the onion for various purposes of cookery, and for making high-flavoured soups and gravies. They are also much used in pickles, particularly in the East Indies; and are considered by many epicures to be the best seasoning for the old English dish of beef-steaks.

The shallot was first brought to England in the year 1548; and we may safely conjecture that it soon found its way to the breakfast-table of Queen Elizabeth.

Culture.— The roots of the shallot which are bulbous, increase greatly by offsets, the largest of which are the parts of the plant proper for use.

The bulbs are oblong and irregular, and seldom grow large: as they generally increase into clusters, they do not swell like roots that grow singly.

The soil best adapted for growing the shallot is a light rich sandy loam; but as such soils perhaps are scarce, any light dry soil that has been manured a

year or two before will do. They are propagated by dividing the clustered roots into separate offsets, and planting them in very shallow drills in February or early in March, or, as is frequently done, in October and November. When planted in autumn in a dry light soil, they often grow larger, and sooner attain full growth the following summer; but one thing must be guarded against, viz., too much wet, which is likely to rot the roots before they vegetate.

The shallots should be planted in the shallow drills about six inches apart, and slightly covered over with earth. Soot, mixed with the surface soil, has been found of much service in preventing the maggot, which often commits extensive depredations upon this plant. The only culture which they require is that of keeping them clear from weeds, by occasional hand-weeding or hoeing.

Towards the end of July, or beginning of August, the bulbs will have attained their full growth, as is seen by the decay of the leaves. They should then be taken up and laid out in some dry loft, when, after being thoroughly dried, picked, &c., they are to be put up in bags, boxes, or tied in bundles by the stalks, where they will remain for some months fit for use.

The author thinks the following method a safe and great improvement in the culture of the shallot; it was communicated a few years ago by A. Knight, Esq., President of the Horticultural Society.

To guard against the maggot in shallots, Mr. Knight had them planted on the surface instead of burying them two or three inches deep in the soil.

The experiment was attended with such perfect success, that he confidently recommended this new mode of culture to be generally adopted by every gardener. He advises the placing of a rich soil beneath the roots, and raising it on each side to support them, till they become firmly rooted.

This mould is then to be removed by the hoe, and water given from the rose of a watering-pot, when the bulbs in consequence remain wholly out of the ground.

The growth of these plants, Mr. Knight adds, now so closely resembles that of the common onion, as not to be readily distinguished from it, until the irregularity of form, resulting from the numerous germs within each bulb, becomes conspicuous. The form of the bulbs, however, remained permanently different from all he had ever seen of the same species, being broader and shorter; the crop was also much better in quality, as well as more abundant.

The few bulbs which were shown to the author, raised after the above method, certainly surpassed, both in quality and size, all that he ever saw before, or since.

Shallots if wanted early in the summer, may be taken up of a good size in June or July.

The author has been the more diffuse on the culture of this vegetable, on account of the frequent occurrence of a deficiency, arising from various unlooked for causes.

58. SKIRRET. — SIUM.

Sium, the botanic name of this plant is an old Latin word, the derivation of which is uncertain. It is classed with the water parsnip, but does not partake of any of the poisonous qualities of that herb; on the contrary, it forms a most nutritious vegetable, and would be more generally cultivated, were it not for the large space of ground required to raise a quantity for general use. It is distinguished by the specific *sisarum*. Skirret is a perennial plant, a native of China, and known in this country since the year 1548. The roots are composed of fleshy, oblong tubers, about the size of the little finger, and joined together in the crown or head. They were formerly much esteemed as an esculent, but are now laid aside to make room for roots of less value; for when cooked similarly to salsafie, or served up with plain butter, they are declared by many to be the whitest, sweetest, and pleasantest of roots, besides containing a considerable portion of nourishment.

Culture. — The soil in which the skirret thrives is similar to that advised for salsafie, viz. light and sandy; but if of rather a moist nature so much the better. It may be raised either by seeds or slips from the roots; but the first is much the best method, as in the latter mode the roots are apt to become sticky and fibrous.

The seeds should not be sown before the second week in April, otherwise the plants are liable to run to seed in the early part of summer. Sow either in broad-cast over the surface of a four-foot bed, for

which about an ounce of seed will be sufficient ; or in shallow drills, ten inches apart ; the ground being previously well dug to a good depth. The plants generally appear in five or six weeks ; and when they can be sufficiently distinguished by their leaves, the ground should be hoed over with a two-inch hoe, and the plants properly thinned out to about the distance of eight inches. Nothing more will be requisite, except repeating the hoeing as often as necessary, in dry weather, to keep down the weeds. About Michaelmas the leaves begin to decay ; the roots are then fit for use, and will continue so till the spring. The longer they remain in the ground during open weather the better ; but on the approach of frost they should be taken up, cleaned, and laid in sand, like other roots.

59. SORREL. — RUMEX.

Rumex is the botanic name of the dock, of which the sorrel is supposed to be a species. It is named by the Latins, from *rumex*, a sort of pike, spear, or halbert, which the leaves in various species much resemble in shape. The generic name by which this variety is distinguished is derived from *acetosus*, sour.

Sorrel is found wild in grassy pastures throughout Europe, from the Alps of Lapland to Greece. It is now scarcely known as a pot-herb in this country, except at fashionable tables ; and the small demand having now nearly banished it from the metropolitan markets, it fetches the price of dainty forced plants. This is owing principally to the

caprice of fashion, which extends even to our vegetable food; rarity being more frequently coveted than excellence.

The use of sorrel is of great antiquity, as are its medicinal properties, which, from its nature, are acid and cooling. It is grateful to the stomach; quenches thirst; allays the heat of the cholera; and is an excellent antiscorbutic. A handful of the leaves, boiled in a pint of whey, is an excellent medicine in April. In short it is one of the most effectual remedies against the scurvy, if the leaves are eaten green, or their juice drunk, at the time above mentioned.

The leaves of the wood-sorrel are said to excel common sorrel in all physical virtues. In France there are few soups or sauces made without a portion of sorrel; and in the vegetable markets in Paris the picking of it is as common as the shelling of peas in London.

In England it is sometimes boiled as a sauce for roast meat, particularly veal and pork; and it is an excellent substitute for apple-sauce with winter geese. It should, like spinach, be put into a saucepan without water, except the little which remains on the leaves, after being washed. It should be boiled slowly, and then be beat up with a small piece of butter, and served at table as spinach. But to form a superior dish, the yolks of eggs and cream should be added to the butter. This is certainly an expensive way of dressing sorrel; but in the early part of the author's life it was very frequent, eggs and butter being cheaper at that time than at present.

The Laplanders boil the leaves of sorrel in water,

and mix the juice, when cold, with the milk of the reindeer, which they esteem an agreeable and wholesome diet. The Irish are generally fond of acids, and eat the leaves of sorrel with their milk and fish.

There are two or three varieties of the sorrel in cultivation, but that called French sorrel is by far the best for all culinary purposes. It is a native of Provence, in the south of France, and can be easily distinguished from the English variety by the largeness and thickness of the leaves, which are nearly round: it also remains longer before running up into flower.

Culture. — The sorrel may be increased by seeds and by parting the roots. The seeds should be sown in a bed or border early in spring, raking them in evenly. When the plants come up, they should be regularly thinned, and when of some growth, planted out in rows, in any light soil, about twelve inches apart, supplying them plentifully with water. The leaves will be fit to cut at the end of the same summer, and they continue for many years. Where plants can be procured by parting the roots, it will be preferable to sowing seed, as in that case the plants are apt to sprout too much, and the seeds saved from the best French sorrel cannot be depended on.

The parted roots may be planted out in the same manner as directed for the seedlings, when they will furnish a plentiful supply of leaves the same summer. They afterwards only require to be kept clean, and to have the seed-stems cut down, as well as the overgrown leaves, in the autumn.

If green sorrel should be required all the winter, a patch of the French sort must be protected early by a proper covering, to keep off the severity of the frost.

60. SPINACH. — SPINACIA.

The botanic name of this plant is most probably derived from *spina*, a thorn, on account of the prickly or spinous nature of its seed.

Spinach is a hardy annual, and was first cultivated in the English garden about the year 1568: Its native place of growth is uncertain, but is supposed to be Spain.

Spinach, eaten freely, is laxative and cooling; it has no hurtful quality; but does not afford much nutriment. It is, however, a useful and grateful vegetable, and very wholesome; and may be eaten in almost all kinds of diseases when no other vegetable would be allowed.

The young leaves of spinach were used in salad-ing, not only in the time of Queen Elizabeth, but as late as the days of Charles I.

The leaves of these plants being of a very succulent or moist nature, must be boiled (as observed for sorrel) without water, except what adheres to them in the rinsing, after having been washed.

There are three varieties of the *S. oleracea*, or garden spinach, in cultivation, which differ in the size and shape of the leaves, and the greater or less prickliness of the seeds.

1. Prickly-seeded, or Winter Spinach: the best for winter crops.

2. Round-seeded, or Summer Spinach : preferable for summer crops.

3. Flanders Spinach : a newly introduced variety, sent a few years ago to the Horticultural Society in London. It is said to be superior to the common winter spinach from its not being so apt to run to seed prematurely : the leaves are also much larger, thicker, and more succulent, being of a dark green colour, and very luxuriant in growth. The seeds are like those of the summer spinach, but larger. The qualities of this sort must, therefore, be excellent, and will no doubt answer their character in a highly cultivated soil ; for in such a soil the author has even had the old well-tried English sorts of an uncommonly large and fine growth.

Culture. — The raising of these plants, which are annuals, can only be effected by sowing the seed every year. For an early summer crop the seed should be sown in drills, not too thick, in the beginning of February ; and for a succession, once in every succeeding month till July. If a large sowing is required, the drills should be drawn a foot apart ; but, as the season advances, there will be room for a drill between various other crops (for such as may be called temporary sowings). For the principal winter and early spring crops two sowings will be necessary ; the first in the beginning of August, the second at the end of that month or early in September.

Spinach succeeds in any common garden soil ; but the more it has been previously enriched with dung the better, and, for winter spinach especially,

it is hardly possible to manure the ground too highly. Always select an open situation, not too near low spreading trees, &c.; as in close and shady places it is mostly drawn up weak, and soon runs to seed, without attaining perfection.

After the ground has been properly dug, the seed may either be sown broad-cast, in four-foot beds, and raked in, or in shallow drills a foot asunder. If by broad-cast, and more than one bed is required, such should have one-foot alleys: sow all over the surface moderately thin, and if the land is light and dry, it can be trodden down evenly, and afterwards raked over, and, if dry weather, smoothed off with the back of a spade, the better to detain the moisture. If in drills (which is generally practised with considerable advantage), they should be drawn with a proper drill-hoe, two inches deep, and about a foot apart: along each drill scatter the seed thinly and regularly, and then cover it over with earth, which beat down with the head of a rake, to prevent what little moisture it contains from evaporating too rapidly.

The drill mode is often very proper and convenient in sowing between other crops, as between wide rows of beans, peas, cabbages, &c., as it admits of hoeing up the weeds between the rows with facility; and if sown thin and the plants are thinned out properly, they grow large and fine, and the produce is very conveniently gathered.

The seeds generally come up in a fortnight, or, perhaps, if sown very early in spring, it may be three weeks or a month before they appear.

In respect to the after-culture of the crops, when

the plants have three or four leaves an inch broad, they should be thinned out to three inches apart, and cleared from weeds, either by the hoe or hand; but the former will be found the most eligible, especially for the broad-cast sown crops. In about three weeks afterwards, they require (unless it is intended to begin thinning out the plants for use whilst young) to be again thinned out and hoed to six or seven inches apart, especially the spring and summer crops of the Flanders and round spinach, which, having proper room, will grow very large, and spread its broad leaves widely, and does not run to seed so soon as if left close.

When the plants have leaves two or three inches broad, they will be fit for gathering. This is done in two ways; either by cutting them up with a knife wholly to the bottom, or drawing and cleaning them out by the root, or only cropping the large outer leaves, the root and heart remaining to shoot out again. Either method can be adopted, according to the season and other circumstances. The author would suggest to the young gardener, who most likely has a table to serve in the depth of winter, when the ground is covered with frost and snow, whether it may not be necessary, in that season, to have one or more beds of spinach protected with garden mats or some other sort of close covering. Such matters speak for themselves, and require but little consideration, their utility being so obvious.

61. SWEET FENNEL. — ANETHUM.

Anethum — *Fœniculum* — *dulce* (sweet). *Fœniculum* was the generic name of the common fennel, but was changed by the Linnæan system to *Anethum*, as a variety of the Dill. That of *dulce* was added to distinguish it from the other varieties. The sweetness lies principally in the seed, which is sometimes used for medicinal purposes.

Sweet fennel, more generally known by the Italian name of *Finochia*, is an annual, a native of the southern part of Europe, and was introduced into England in the beginning of the seventeenth century.

Finochia is but partially cultivated at the present time, as the taste and flavour are not much esteemed by the English gentry. The insipidity of the taste, however, is compensated in some measure by the method of cooking, which was communicated to the author as follows: — After laying about half an hour in water, it should be parboiled; and after being drained a short time, put into the stewpan with some rich gravy or sauce, there to remain until quite tender. But after all, it is a chance if it becomes a dainty dish (to use old Gerard's expression), fit for a queen: it will however occasionally fill up a chasm, as a side dish at table.

Culture. — *Finochia* being an annual, can only be propagated by seed, which requires to be sown on a light rich soil, if rather moist the better, in an open situation; and supposing that a large quantity will not be wanted, a line of eight or ten yards will most likely produce a sufficiency.

About the beginning of April, the place being selected, and the ground previously well broken up, a deep drill should be drawn, at the bottom of which the seed may be thinly scattered and lightly covered. The mould lying on each side will be wanted hereafter; and the reason why this seed is advised to be sown in a drill, is, because it will not bear transplanting, but must remain until it is fit for use.

If the seed is good, it will be up in the course of eight or ten days, and after the plants have gained sufficient strength, they must be thinned out to six or eight inches apart, and a little earth drawn up on each side of them. They will want no further attention for nearly a month, except keeping them free from weeds.

At the end of that time the plants may be earthed up similarly to celery, as high as they will admit of, and in about three weeks afterwards they will be fit for use, which is known by the blanched part being of a whitish colour.

The stalks of *Finochia* (which form the edible parts), grow hollow, and swell to a considerable size in the middle; hence they have a very singular appearance.

62. TARRAGON. — ARTEMISIA.

The derivation of the botanic name of this plant is uncertain. Tarragon is so called from the specific Latin word, *dracunculus*, or dragon's wort, on account of its hot or biting qualities.

Tarragon is perennial, and a native of Siberia

and Tartary ; by Gerard's account, it was cultivated in this country about the year 1548. It is frequently used in salads, especially by the French, to correct the coldness of other herbs. The leaves and young tops are used as ingredients in pickles ; and a simple infusion of them in vinegar makes an agreeable fish sauce.

The leaves are also eaten with beef-steaks, as horse-radish is with roast beef ; they have a fragrant smell, and aromatic taste. In England tarragon has of late years been much used in various kinds of soups. There is but one variety of this plant under cultivation for culinary purposes.

Culture. — Tarragon can be propagated by parting the roots in April, and planting them in a light rich soil, but free from dung that is not thoroughly decomposed. It may also be increased from slips or cuttings, towards the end of May, and throughout June and July. Under a hand-glass, if there be one to spare, they will readily strike root. When well rooted, plant them out in some dry sheltered spot, five or six inches apart, where they will continue to thrive for some time.

In many families tarragon is more or less wanted, both throughout summer and winter ; in which case, to keep up a constant supply, it should be forced in shallow boxes, placed in a pine-stove or any other forcing house in work, and treated in the same manner as advised for the cultivation of mint under the same circumstances. As tarragon is but of short duration, more or less young plants, according to the quantity required, should be planted every year.

63. THYME. — THYMUS.

The botanic name of this aromatic herb is derived from a Greek word, signifying courage or strength, in allusion to its cordial qualities in reviving the spirits.

The common garden thyme is found growing wild on stony hills in Spain, Portugal, the south of France, and Greece. The latter country was celebrated for its thyme, as is proved by the excellent honey which it afforded; and it has long been known in England that the finest flavoured mutton is produced from those flocks which feed on the South Downs of Sussex, where there is an abundance of wild thyme. The highest flavoured venison is also considered by epicures to arise from the same cause.

Thyme has an agreeable aromatic smell, and a warm pungent taste; its medicinal qualities are said to be tonic and stomachic. It was formerly extolled as a nervous simple, and was much used in an infusion, for reviving the spirits and relieving headaches.

The culinary use of thyme is principally for broths and ragouts; it is also a common ingredient in stuffings, to savour meats, and make them more relishing. The lemon-thyme is less pungent than the common garden thyme, but much more grateful; hence it is used as a seasoning for veal and other meats, where lemon-peel would be used, thus answering the purpose of two distinct spices.

The common garden thyme, and the citron-scented

or lemon-thyme, are the only two varieties in cultivation for culinary purposes.

Culture. — The first sort may be easily raised from seed, sown in the beginning of April, on light, rich, dry ground, which should be properly dug over, and the surface made moderately smooth with a spade. As the seed is small, it should not be sown too thick, or be covered too deep.

The plants generally appear in two or three weeks, and when they are grown stocky, with bushy full heads, they may be transplanted to where they are to remain, in a bed or border, at six or eight inches distance; water being given till they are fresh rooted. Afterwards, occasional hoeing between the plants, and stirring the surface of the earth, will much improve their growth.

The cuttings and slips of the young branches grow readily, when planted in the spring season, in a shady place, and well watered; but the former method is preferable, and attended with less trouble.

Thyme that is intended for winter use should be cut when in blossom, and after being well dried in the shade, hung up in paper bags.

The lemon-thyme can be propagated either by slips or by parting the roots; almost every bit of which will grow, provided they are planted in a light dry soil. As this variety spreads very fast, it is improved by being taken up, parted, and replanted in beds about ten or twelve inches distance, every third or fourth year.

64. TRUFFLE. — TUBERA TERRÆ.

The name of Truffle is derived from the Latin *tuber*, or *tuberculum*. The ancients called it *Lycoperdon*. *Tubera terræ* signifies the tubers of the earth.

The truffle is mentioned here merely as a memorandum, with the view of stimulating the horticulturist to its cultivation, which has hitherto been but partially attempted. That it may be cultivated with some success there is but little doubt; but this can only be done by taking the truffle from where it is found growing, and laying it in a somewhat similar situation. This was practised many years ago by the Earl of Thanet's gardener, of whose success the author was an eye witness.

This highly-flavoured vegetable substance was used in France much earlier than in England: the use of truffles does not appear to have been known to the English epicures in the time of Queen Elizabeth.

Truffles were formerly called swine's bread, as these animals are exceedingly fond of them. In Italy the usual method of finding truffles, called by the Italians *tartufoli*, is to tie a cord to the hind leg of a pig, and thus drive him, observing where he begins to root.

The present method of obtaining truffles in England is by small dogs of a peculiar breed, called truffle dogs, who hunt them by their scent.

Truffles are very nourishing, and are said to be strong stimulants. They are often eaten, peeled

raw, thinly sliced, and then soaked in wine, or only roasted in ashes. In Italy, France, and England, they are much esteemed as a great dainty, either sliced and fried in oil, salt, and pepper, or thoroughly stewed in their own broth. They are often used as an addition and seasoning to meat pies, sauces, and ragouts, and a particular dish is made of them nearly alone.

The flesh of truffles is solid, partly juicy, and partly dry, like the kernel of many fruits of trees. Before it is ripe the truffle has no other smell than that of the mouldiness of fertile earth, or decayed vegetables; but as it approaches to ripeness, it attains the truffle smell so agreeable to epicures, which, at first, is fragrant, and often like musk; the nearer it approaches to ripeness, it becomes sharper; and when too ripe, and putrescence or insects have begun to make their attacks upon it, it is disagreeable, and nearly resembles the smell of a cow-house. There are also truffles in many places, which diffuse a strong smell of garlic; but even these are agreeable to some palates.

Truffles are extended over the whole surface of the earth, and are natives as well of the cold north as of temperate and hot climates. Linnæus found them in Lapland, and Kæmpfer in Japan, where they are also eaten as a delicacy. They are dug up in Africa, America, and in great abundance in many parts of Asia. They are found principally in the temperate countries of Europe, in England, Spain, and France, especially in the south of that country; in Italy, in Switzerland, and in the north and south of Germany. In the last country they

are abundant in the kingdom of Wirtemberg, and in the grand duchy of Baden, along the Rhine. Notwithstanding the numerous plans which have been formed, and the many experiments which have been made, to effect the propagation of truffles by art, none, to the knowledge of the author, has yet entirely succeeded; but much still remains to be investigated with respect to their nature, especially as to their origin and increase. As the editor of the *Gardener's Magazine* justly says, no instructions that we could give, either from the treatise of Bornholz or our own consideration of the subject, will be of so much use to the gardener as the inspection of the soils and situations where truffles are found growing.

65. TURNIP. — BRASSICA.

Turnip, *Brassica, Rapa*. — The generic name, *Brassica*, was given to this plant, according to the Linnæan system, from the structure of its flowers, and *Rapa*, the original name, from the supposition that the turnip was a variety of that root.

The turnip has been long known in this country, but was only more recently introduced as a field crop, probably from Holland or the Low Countries. It is found growing wild in England and France, but its original native place has not been clearly ascertained.

It is rather singular that the turnip, though so many years in this country, should have been overlooked as a culinary vegetable. The first notice we had of it for that purpose was from the remarks of

Gerard, a name frequently mentioned in this work, who says that turnips were not much grown in his time, except for domestic purposes, and then principally in the light sandy grounds round the village of Hackney, near London (there is not much turnip ground there now); and that they were brought to the cross in Cheapside by the women of the village; the cross at that time being the principal vegetable market in London—a striking contrast to the waggon loads of turnips now sent in during the season.

Turnips are accounted salubrious, but are sometimes liable, in weak stomachs, to produce flatulency, and to prove difficult of digestion. They are often used medicinally in coughs, hoarseness, and other disorders of a similar nature. The syrup of turnips, after being extracted by baking, and mixed with honey, has the same beneficial effect. They are principally used at our modern tables with boiled meat, for which purpose middle-sized turnips are better than large ones, as the latter, being of a spongy nature, contain a greater quantity of water than those of a smaller size. There is an agreeable dish made of mashed turnips, by first straining out the water, and then mixing them up with some thin melted butter, serving them up to table as for roast ducks. They are most useful in broths, and make one of our best white soups.

That turnips are nourishing has been proved. In Wales, a few years since, they formed a considerable portion of the food of the lower classes.

To the above qualities of the turnip one more should be added, which is of the most essential service; viz. the enrichment of almost barren land.

by its cultivation. Besides, we have no plant, either native or exotic, that exhibits more striking instances of improvement, especially when we come to consider that they thrive best in arid or dry sandy and gravelly soils, where other plants would perish; this altogether renders the turnip of the highest importance, and they must certainly be looked upon as a source of great wealth both to landlord and cultivator.

Few are the varieties of the garden turnip, which are generally sown for culinary purposes. The following will be found quite a sufficiency of sorts.

1. *Early Dutch*.—The seed of this variety should be had from Holland every other year, as it is apt to degenerate in this country, both in earliness and in running too quickly to seed.

2. *Six Weeks*.—This is an earlier variety than the Dutch; but requires a moist season for its growth. If but a small bed is sown, and the weather is dry, it must be occasionally watered.

3. *Yellow Altringham*.—A variety of which the author has heard a good account, being similar in taste and flavour to the Scotch yellow, than which we need no better for the early part of winter.

4. *White Stone*.—A leading variety, much cultivated for the London market: it is also called the *Stubble Turnip*, being generally sown after an early crop of wheat, which produces the sweetest turnips. This variety is called the *stone*, from its compact growth, and refraining for some time from getting hollow or spongy.

Culture.—The turnip will thrive in any piece of ground that has been previously well manured and

worked with the spade, as it is from the fineness of the parts that the turnip draws both growth and nourishment.

The ground being selected, previously turned up, and levelled, a bed or beds, if in private gardens, should be marked out four or five feet wide, on which the seed for a first crop may be sown towards the end of March or beginning of April. The seed should be sown rather thin (half an ounce or an ounce of seed will produce a considerable number of roots), when, after being lightly and regularly raked in, the surface may be levelled over with the back of a spade. The seed will soon be up; and, should there be any appearance of that destructive insect the fly, the bed must be thinly covered either with fern or any dry mulchy stuff, which, at so early a season, is preferable to soot or lime.

As soon as the plants have formed their rough leaf, they must be hoed out to the distance of four or five inches, after which they will want little or nothing done to them; and, should the weather have proved favourable, young turnips will most likely be fit for use towards the end of May, and perhaps sooner; but, as before observed, much depends on the weather and situation.

A second sowing in beds (as it often happens that many of the *first* start for seed) should be made about the middle of May. For these two sowings, seed, either of the Dutch or Six Weeks variety, should be chosen, as they are principally wanted for early use.

For a more permanent crop a third sowing will

be requisite, in broad-cast, about the middle of June. For this purpose a good piece of ground should be chosen, on which, after being well broken up and levelled, the seed may be sown, lightly trod in, and regularly raked. As soon as the plants have got into rough leaf, they should be thinned out with a two-inch hoe, and in about a fortnight after, with a four-inch hoe, which most likely will set the plants at six inches apart. For this sowing and the next the White Stone is to be preferred.

A fourth sowing, for a principal and lasting crop, may be made from the beginning to the middle of August. In hoeing them out they should be left full six inches apart. Any late variety, either of garden or field, may be sown at the same time; but of the field turnip the Hertfordshire White is to be preferred. The author has had, in his time, a very excellent crop sown the first week in September; at any rate, should the plants from this sowing not head, we may be sure of good turnip tops, which proved a very valuable article in the spring of 1838. They are a most salubrious vegetable when used in that season. There is another not nearly so much appreciated as it deserves,—the Swedish turnip, the sprouts of which are most delicious both in taste and flavour.

Turnips may be kept sound and good for some time by being taken up in the latter end of November (first cutting off their leaves to within an inch of the bulb), and placed in any dry pit or cellar, and covered with dry straw or fern; thus protected, they will be found most useful in frosts of long duration.

In respect of that destructive insect, the fly, which so greedily devours the young turnip plants, the author has but little to say, as what has been a preventive one year may be of no avail the next; and numerous as have been the hints, suggestions, and receipts, for the prevention of this insect, none that have come to the author's knowledge have proved effective, though they may have partially stopped their depredations.

After a number of years' observation, the author has found the most effective plan in dry seasons to consist in first soaking the seed in soft water, and immediately sowing it, after the ground is newly broken up. Another method is, previously to sowing the seed, to get a coat of well-consumed manure strewed over the ground on which the seed is to be sown, and harrowed or raked in, and afterwards trod in, or to have a light wooden roller drawn over it. A third method, which has been found of much service, is soot mixed with slacked lime, to be strewed over the piece or beds early in the morning; this method the author has found, after many years' practice, to be very efficacious. But there are two circumstances which he has observed to be more efficacious than all the rest, viz. a moist season and a clouded atmosphere.

66. VEGETABLE MARROW. — CUCURBITA.

Cucurbita ovifera, is the English name of this plant, which it retains only from its recent introduction. *Cucurbita* is the generic name of the gourd, and *ovifera* the specific, from the oval shape of the fruit.

The vegetable marrow was introduced within these few years from Persia, and has been found useful for culinary purposes in every stage of its growth. In a very young state it is good when fried with butter; but the author recommends to let it have a more mature growth, when, after being par-boiled, it should be cut in quarters and stewed in good rich gravy, and seasoned to the taste; in this way it will be found a very agreeable dish, wholesome and nutritious.

The large or common gourd, which often grows to above a hundred weight, has a very thick flesh, and keeps well throughout the winter. In France, after being well boiled, the flesh is taken out and mashed, in the manner of potatoes; and should it happen to be tried in this country, it will be found, if not excellent, at least a tolerable substitute for carrots and turnips.

Culture. — The seed may be sown about the middle of April, on a slight heat, either in a frame or under a hand-glass; if in a frame, the most convenient way will be to sow the seed in middle-sized pots, which should be nearly filled with some light rich earth, within which the seed should be pressed down half an inch. They will soon come up; and, on showing a rough leaf, they must be taken up and planted two in a pot, similar to the cucumber or melon, but with more earth and larger pots. When finished, they will require a moderate heat and shade, with a little water, until they seem firmly rooted; after which air should be admitted more or less, according to the weather, and that they may be gradually hardened to bear the open air when

turned out about the middle or third week in May, at which time some place should be selected to plant them in. They are not very particular as to the soil they grow in. Any light piece of ground, previously manured and broken up, will answer; or they may be planted on a heap of good manure, or on an old hot-bed; in short, any place will do, in which they have room to extend their trailing branches, which often grow to eight or ten feet in length.

For eight or ten days after the plants are turned out of the pots, they should be covered at night with a garden-pot, which will cause them to root earlier, and will prevent their receiving any sudden check from a change of weather. They require little further attention, except to clear them of weeds and to gather their fruit, in the produce of which they are very prolific, each growing a dozen or more (supposing them to be cut young) during the season; and the closer the fruit is cut the greater will be the quantity.

In saving seed of this variety, it should certainly be kept apart from any other of its species, otherwise the pulpy substance of the fruit will be lessened in taste and flavour, and its present handsome oval shape will be deteriorated.

67. WATER CRESS.—*SISYMBRIUM*.

The botanic name of the water cress alludes to its warm and cordial qualities, which were thought to infuse life into dull and stupid persons, and to brighten the understanding of those who eat of it:

hence the ancient proverb, "eat cress and learn more wit."

Water cresses have been famed for their anti-scorbutic quality; and they may be eaten at all times of the year, but more particularly in the spring. "Create a demand, and you raise a supply," is a proverb exemplified in the manner by which the industrious mechanics of the immense metropolis of England are furnished with this purifying plant; for scarcely is there a street so obscure, or a court so humble, where a March morning is not ushered in by the chaunt of "fine spring water cresses." They are often brought from distant countries, and sold by the sack. Many other good qualities besides those mentioned above are assigned to the water cress, and it is particularly recommended to the English, who (as before observed) consume so great a quantity of animal food.

Water cresses are found growing in clear rivulets and springs throughout Europe, from Sweden to Greece, as well as in North America.

No British plant is in such popular request as a salad herb, the young leaves having a pleasant warm pungent flavour, and being supposed, like the scurvy grass, to purify the blood.

Before entering on the culture of the water cress, a few words may not be amiss in describing the genuine sort, as the gatherers of this herb, either through ignorance or some worse motive, often substitute a spurious kind in its place, which is generally the creeping water parsnip, *Sium nodiflorum*, a plant with few medicinal qualities, and in some respects pernicious.

Both the sorts have winged leaves like those of the rose or ash trees; the water cress is of a roundish heart-like shape, with few indentures on the edges, much resembling the first leaves of the radish; the upper part of which, after more mature growth, is of a reddish-brown colour: those of the water parsnip are of a light green, and of an oblong shape, ending in a point, and regularly serrated at the edges.

Culture.— Water cresses are most esteemed when grown in running streams and a gravelly soil. Those who can introduce water through their gardens may plant the roots in the spring in a kind of canal of six or twelve inches depth of water. After these plants have been suffered to seed, the bed will become one mass of cress for many years; if the descent is considerable, it will be necessary to form little dams to prevent the current from washing up the roots.

Those who have large pieces of water on their ground may obtain them by the simple process of throwing the plants on the surface of the water, when they will ripen their seed and soon propagate in abundance.

Of late years, many acres of water cresses have been planted, for the supply of the London markets, in the low lands of Essex and the adjoining counties, and more especially where the land can be irrigated and drained at pleasure.

The soil on which the plants thrive best is in such situations where there is a strong loam; here beds may be formed three or four feet wide, in which plants may be set either in March or

April, at about six inches apart, and watered. They will soon establish themselves, and the only culture they will require afterwards is to keep them generally in a moist state during the summer, as the absence of moisture would be destructive to a number of plants. If kept in the state mentioned, they will continue for a number of years growing and producing in abundance.

68. WINTER CRESS. — ERYSIMUM.

Erysimum præcox, early hedge mustard. The English name denotes its qualities; in taste it is nearly like the common mustard. The botanic name is derived from its hot and biting nature; that of *præcox*, the specific, from its early growth in spring.

The winter cress may be cultivated either as an annual, biennial, or perennial. It is a native of this country, and of other parts of Europe, and supposed to be also of America; but this is doubtful, as the French sent many varieties of seed from Europe while in possession of the northern part of that country, which was wrested from them, in the early part of the author's life, by the immortal Wolfe, on the plains or heights of Abraham, near Quebec. The author well remembers the illuminations, rejoicings, and firing of cannon, which continued, almost without interruption, for three days, on account of the victory.

The winter cress is a useful herb, the young leaves being a principal ingredient in salads, more or less, all the year round. Of late years it has been

superseded by a superior variety, under the name of the Normandy cress, introduced by that respectable and worthy horticulturist, Mr. C. M'Intosh, lately gardener to the King of Belgium at Claremont, who has blended the higher parts of his profession with that of gardening.

In regard to the Normandy cress, the author can speak of its qualities, from having been favoured with a specimen of the seed a few years back, which he found to be more mild and pleasant, and less acrid, than the sort hitherto cultivated.

Culture. — The author followed, with success, Mr. M'Intosh's advice for the culture of this herb; which consisted in sowing it in a light rich soil in September and October, for a winter and spring supply; and in March, April, and May, for summer use. About half an ounce of seed sown thinly in a bed at each time will be found to produce a good supply.

When the seed is up, and the plants are sufficiently strong, they should be thinned out with a two or three-inch hoe, to give them room to spread, as it is only the outward leaves that are used after being carefully picked and washed. Though this variety is perfectly hardy, a temporary covering in severe weather will be found useful, as the leaves can then be gathered if wanted. As a breakfast herb it will be found most agreeable and wholesome.

PHYSICAL HERBS.

THE following is a list of such plants as are generally denominated physical herbs, and which are found to be more or less wanted in most families. The author will therefore give a short description of them, and the purposes for which they are most commonly used.

They may, in most instances, be very easily cultivated; the soil for growing the greater part should be light and dry, but that of a poorer description is more suitable for some, as lavender, rosemary, rue, sage, wormwood, and a few others; and if planted in a rich moist soil, much of their aromatic quality flies off, and they are rendered less capable of withstanding any severe weather.

1. ANGELICA — ARCHANGELICA

Is a native of the northern parts of Europe, and was first cultivated here in 1568. It is biennial, and propagated from its seeds, which are to be sown as soon as gathered in August, in a moist situation; and when the plants are about six inches high, they must be transplanted to a similar soil, about three feet apart. The plants will last many years, provided they are not allowed to run to seed. The flowering stems should be cut down when a few inches high.

The stalks of angelica were formerly blanched, and eaten as celery, but they are now only used as a sweetmeat, when candied, by the confectioners. The Laplanders extol the utility of this herb for coughs and other disorders of the chest, but in this country it is seldom employed for that purpose, as many other simples surpass it in aromatic and carminative powers.

2. ANISE-SEED. — ANISUM.

A native of Egypt, and some other eastern countries. It was first cultivated here in 1551, but our summers are seldom warm enough to bring it to perfection. The seeds are annually imported from Malta and Spain. The plant is annual, and propagated by sowing the seed in a light dry soil in spring.

Anise-seeds have a warm aromatic smell, and a pleasant warm taste, accompanied with a degree of sweetness; they have been esteemed useful in many complaints, but none more so than in flatulent colics and obstructions of the breast, in diarrhœas, and for strengthening the tone of the stomach in general.

3. BALM. — MELISSA.

So called from the Greek word signifying *honey*, because of the abundant and excellent honey of its flowers, for which bees greatly frequent it.

The garden balm is a native of the mountains of Geneva, Savoy, and Italy, and was first cultivated in this country about the year 1573. It is peren-

nial, and may be readily propagated by parting the roots in spring or autumn, and planting them in beds of common garden mould.

The herb, in its recent state, has a weak, roughish, aromatic taste, and a pleasant smell, somewhat of the lemon kind. Balm was formerly esteemed of great use in all complaints supposed to proceed from a disordered state of the nervous system. As tea, however, it makes a grateful diluent drink in fevers, and in this way it is commonly used, either by itself or acidulated with lemons.

4. BLESSED THISTLE. — CARDUUS.

A native of the south of France, Spain, and the Levant. It is annual, and propagated from seed sown in autumn.

This plant obtained the name of *benedictus*, or blessed, from its supposed extraordinary medicinal virtues. It has an intensely bitter taste, and disagreeable smell. It was formerly employed to assist the operation of emetics; but the flowers of chamomile are now substituted for it with equal advantage. It was also thought, when taken internally, to be peculiarly efficacious in malignant fevers. In loss of appetite, where the stomach has been injured by irregularities, its good effects have been frequently experienced. It has now lost much of its reputation, and does not seem to be essentially different from other simple bitters.

5. BORAGE. — BORAGO.

This herb is said to have originated from Aleppo; but is now naturalised in many parts of Europe. It is a hardy annual, and easily cultivated, from sowing the seeds in April, which come up without any care.

Borage was formerly cultivated in our gardens, on account of the supposed cordial virtues of its flowers; but they have long lost their reputation. In Italy its young and tender leaves are in common use, both as a pot-herb and a salad. In France its flowers, with those of *nasturtium*, are put into salads as an ornament. In England it is now nearly neglected; but the flowers and upper leaves are sometimes used as an ingredient in that summer beverage composed of wine, water, lemon-juice, and sugar, called a cool tankard, to which they seem to give an additional coolness.

6. CARAWAY. — CARUM.

A native of many countries in the northern parts of Europe; it is also found growing, apparently wild, in many parts of England. It is biennial, and propagated by sowing the seeds in spring.

The seeds of this plant are well known to have a pleasant spicy smell, and a warm aromatic taste; and on that account they are much used as a common ingredient in cakes, and are encrusted in sugar for comfits: they are also distilled with spirituous liquors, to improve their flavour. The tender leaves in the spring are sometimes boiled in soups.

7. CHAMOMILE — ANTHEMIS

Grows wild in many parts of England. It is a hardy perennial, and easily propagated by parting the roots early in spring.

Both the leaves and flowers of the chamomile have a strong, though not ungrateful, smell, and a very bitter nauseous taste. The flowers possess the stomachic and tonic qualities usually ascribed to simple bitters. A watery infusion of them is frequently used for the purpose of exciting vomiting, or for promoting the operation of emetics. They are very generally used in emollient decoctions, to assuage pain, and externally as fomentations.

8. CLARY.—SALVIA.

A native of Italy and Syria, and long known in the English gardens, where it is a hardy biennial. It is easily raised from seed, which should be sown in March, in any bed or border of common earth.

Clary was formerly much used in cookery; but it is not now in much repute. A wine is sometimes made from the herb in flower, which has a flavour not unlike Frontigniac.

9. CORIANDER.—CORIANDRUM.

A native of the southern parts of Europe and of China. It is a hardy annual, and propagated from seeds sown in autumn, in an open situation, on a bed of good fresh earth.

The dried seeds of coriander have a tolerably

grateful smell, with a moderately warm and slightly pungent taste. They are carminative (soothing or softening) and stomachic; and are commonly sold by the confectioners encrusted with sugar.

10. CUMIN. — CUMINUM.

A native of Egypt and Syria. It is cultivated for sale in Sicily and Malta, whence the rest of Europe is supplied with the seeds. They have an aromatic, warm, and bitterish taste, with a strong, but not disagreeable, smell; and contain a large quantity of essential oil, and are supposed to possess a carminative and stomachic power. The Dutch are said to put them into their cheese, and the Germans into their bread. In England this herb is a hardy annual, and but little cultivated for use.

11. DILL — ANETHUM

Grows wild among the corn in Spain and Portugal. It was first cultivated in this country in 1597; and may be produced by sowing the seeds soon after they are ripe, in any light soil.

The seeds of dill have a moderately warm pungent taste, and an aromatic smell, but not of the most agreeable kind: they were formerly much used in medicine, but are now seldom employed. They are sometimes put into pickles to heighten the flavour, particularly of cucumbers.

12. FENUGREEK. — FÆNUM GRÆCUM.

Native of the south of Europe. A hardy annual; and propagated from seed, which may be sown any

time in spring. The seeds of fenugreek are generally brought to us from the northern parts of France and Germany. They have a strong disagreeable scent, and were formerly used in softening fomentations; but are now nearly exploded.

13. FEVERFEW. — MATRICARIA.

A native of cultivated or waste ground throughout Europe, springing up abundantly with us in neglected gardens or court-yards. It is biennial and very hardy. The plants are raised from seeds, which should be sown about March, upon a bed of light earth, and afterwards transplanted to some distance apart.

Feverfew has long been employed for medical purposes; its virtues are stomachic and tonic. It has been successfully given in hysteria, and is a medicine of considerable activity.

14. HOREHOUND. — MARRUBIUM.

Common in various parts of England, on waste ground, and among rubbish, in hot, dry, and dusty situations. The plant is annual, and may be raised by sowing the seeds in any of the spring months.

The leaves have a moderately strong smell of the aromatic kind, but not agreeable: their taste is very bitter, penetrating, and durable in the mouth. This herb was much extolled by the ancients for its efficacy in removing obstructions of the lungs. It has been chiefly employed in humoral asthmas, obstinate coughs, and pulmonary consumptions. Its use is also said to be beneficial in affections of the

liver. Lozenges, made of the juice of this herb and sugar, are esteemed good for colds. Though horehound possesses some share of medicinal power, its virtues do not appear to be clearly ascertained, and it is now rarely prescribed by physicians.

15. HYSSOP. — HYSSOPUS.

A native of the south of Europe. It was cultivated in this country by Gerard, in the year 1596. This plant being perennial, is easily propagated by sowing the seeds in a border of light mould, in the spring season, or by slips, and cutting and parting the roots.

The whole plant has a strong aromatic scent, and the leaves and flowers are of a warm pungent taste; they are sometimes reduced to powder, and used with cold salad herbs. Hyssop has the general virtues ascribed to aromatics, and is recommended in asthmas, coughs, and other disorders of the lungs.

The young leafy shoots and flower-spikes are usually employed, being cut as they are wanted. The flower-stems may be cut during the summer, and tied up in bunches for use.

16. LAVENDER — LAVANDULA

Is a very hardy plant, and a native of the south of Europe. It may be readily increased by planting slips or cuttings of the young shoots in the spring.

The common lavender is said to have been cultivated in England previously to the year 1568.

The fragrant smell of the flower is well known, and to most persons is very agreeable: to the taste it is bitterish, warm, and somewhat pungent; the leaves are weaker, and less grateful. The flowers are often employed as a perfume, and medicinally as mild stimulants and corroborants, in several complaints, both internally and externally. They are also sometimes used in the form of a conserve.

17. MARSH-MALLOW. — ALTHÆA.

So called from its many excellent qualities. It grows plentifully in salt marshes, and on the banks of rivers and ditches in several counties in England, or near the coast of Cornwall, Holland, France, and other countries. It is perennial, and may be easily propagated by parting the roots in autumn.

Marsh-mallow abounds with a glutinous juice, with scarcely any smell or peculiar taste. The dry roots, boiled in water, give out half their weight of gummy matter. The leaves afford scarcely one fourth, and the flowers and seeds still less. The mucilaginous matter is the medicinal part of the plant, and it is commonly employed for its emollient and demulcent qualities. *Althæa* was formerly in great repute in many complaints; but is now only principally employed in the form of a syrup.

18. PENNY-ROYAL MINT — *MENTHA**PULEGIUM*

Is a native of watery places in various parts of Europe. It is easily propagated by parting the roots in spring. They succeed best in a strong moist soil, and when planted on the edges of rivulets, ponds, &c.

Penny-royal has a warm pungent flavour, somewhat similar to mint, but more acrid, and less agreeable both in taste and smell. It possesses the general properties of the other mints; but is supposed to be of less efficacy as a stomachic. This herb is less frequently used now for medicinal purposes than formerly.

19. PEPPERMINT. — *MENTHA PIPERITA*.

A native of watery places in various parts of England. This variety has a more penetrating smell than any of the other mints, and a much stronger and warmer taste. It may be increased with facility by young offset plants or shoots, or by parting the roots in spring, or by planting cuttings during any of the summer months in a moist soil. Peppermint is much cultivated for medicinal purposes, as well as for distillation: its stomachic and carminative qualities render it useful in flatulent colics, hysteric affections, and retchings, in which it acts as a cordial. The essence of peppermint was formerly considered an elegant medicine; and a cordial is made from this plant, which is by many people much admired.

20. ROSEMARY. — ROSMARINUS.

A native of the south of Europe, the Levant, and found occasionally in the Grecian islands. It was first introduced into England about the year 1548. It is propagated from the seed, or by planting slips or cuttings in the early spring months.

Rosemary has a fragrant aromatic smell, and a warm, bitterish, pungent taste: the leaves and tender tops are the strongest; the flowers, by themselves, are much weaker, but more agreeable.

This herb is reckoned one of the most powerful of those plants which stimulate and corroborate the nervous system; it has, therefore, been recommended in various affections, supposed to proceed from debilities: it is generally given in the form of infusion; but is now seldom prescribed.

21. RUE — RUTA

Is a hardy shrub, and a native of the south of Europe. It is propagated in a similar manner to the rosemary, and requires the same cultivation. It is stated not to have been known in this country before the year 1562.

The common rue has a strong ungrateful odour, and a bitter, hot, penetrating taste. The leaves are so acrid as to irritate and inflame the skin if they are much handled. Rue was much used by the ancients, who ascribed to it many excellent qualities. It is employed by some as a tea; and also externally in various kinds of fomentations. A conserve, made by beating the fresh leaves with thrice their

weight of sugar, is the most commodious form for using the herb in substance. It is a powerful astringent, and adapted to phlegmatic habits, or weak and hysterical constitutions, suffering from retarded or obstructive secretions.

22. SCURVY GRASS. — COCHLEARIA.

Common on the sea-coasts of Europe, and not unfrequent in mountainous countries, far inland. It is biennial, and propagated from seed sown in the spring, or by parting the roots and planting them in a light moist soil.

This plant has a warm, acrid, bitter taste ; and a pungent, rather unpleasant, smell when bruised. It has been considered as one of the most effectual of all the antiscorbutic plants ; and has also been found a useful remedy in paralytic affections, and other diseases that require an active stimulus. It is most beneficial as an antiscorbutic, when eaten as a salad with water-cresses, &c.

23. TANSY. — TANACETUM.

A native of banks, hedges, and borders of fields, in most parts of the middle of Europe, and very frequent in England. It is perennial, and easily propagated by seed, and also by parting the roots in spring, and planting them in any sort of light soil or situation.

Tansy has a strong and aromatic smell, and a bitter taste. It is tonic and stomachic, and has the usual qualities attributed to bitters of the warm or

aromatic kind : it was formerly much used in puddings, but has of late years been neglected, and is now seldom used either as a culinary vegetable or medicinal herb.

24. TEA SAGE — SALVIA

Is a native of the south of Europe, a perennial, and readily increased by planting slips or cuttings in April.

Sage has a strong fragrant smell, and a warm, bitterish, aromatic taste. It was in ancient times considered as a remedy of general efficacy in all diseases : hence the old adage,

Cur moriatur homo, cui salvia crescit in horto ?

Why should a man die, while he has sage in his garden ?

At present, however, few practitioners consider it as an article of much importance in medicine.

Although frequently employed as a sudorific, it seems to have no advantage in this respect over many other plants.

The Chinese, who are said to have experienced the good effect of sage, value it highly, and prefer it to their own tea. The Dutch have long been in the habit of drying sage leaves in great quantities, and taking them out to China, where, for every pound of sage they get in exchange four pounds of tea.

25. WORMWOOD — ARTEMISIA

Grows wild about dunghills, and on dry waste grounds. It is a hardy perennial, and may be pro-

pagated by slips in March or October, or raised from seeds sown soon after they are ripe. The leaves have a strong offensive smell, and a very bitter nauseous taste; the flowers are equally bitter, but less nauseous.

Wormwood is a moderately warm stomachic and corroborant: and for these purposes it was formerly in common use, but it has now given place to bitters of a less ungrateful kind. Wormwood was formerly much used by brewers instead of hops, to give the bitter taste to their malt liquors, and to preserve them. This plant very powerfully resists putrefaction, and is made a principal ingredient in antiseptic fomentations.

MEMOIRS
OF
PHILIP MILLER, F.R.S.

FORMERLY GARDENER TO THE COMPANY OF APOTHECARIES,
AT THEIR BOTANICAL GARDEN, CHELSEA.

PHILIP MILLER, the subject of this Memoir, was born in 1691. Various are the conjectures as to the spot where he was born, and whence his family came, but nothing certain can be ascertained respecting them. His father, who was a Scotchman by birth, after having lived for some time as gardener to a gentleman at Bromley, in Kent, commenced business on his own account as a market gardener, near Deptford.

After Philip left school, he assisted his father for a short time in his business; but being extremely fond of flowers and plants, and anxious to devote himself more particularly to the cultivation of his favourite pursuit, he very early commenced business as a florist and grower of ornamental shrubs, on a piece of ground in that part of St. George's Fields now occupied by the Queen's Bench.

Miller was not long there before he attracted the attention of several gentlemen; amongst whom,

fortunately for him, was Sir Hans Sloane. To this good and great man, who proved both his friend and patron, the foundation of Miller's future fame may be considered in a great measure indebted. Though it appeared that Miller had a good business, and was much employed in planting and laying out gardens round the metropolis, yet, from his many increasing engagements continually taking him from home, he was induced to give up the floral department, and attend entirely to the multifarious duties required of him by his friends and brother gardeners. One of the principal calls made upon him, was to give his assistance to Ellis, who was then the foreman of the Chelsea garden.

During this time, Miller acted as secretary to a society composed of ten or twelve of the most experienced gardeners, nurserymen, and florists in and about London, and perhaps in the kingdom. Amongst the foremost of them was an intimate friend of Miller's, — Christopher Grey, of Fulham, near which he established an extensive nursery. Another particular acquaintance was a gentleman of the name of Mark Catisby, who richly contributed to the Fulham nursery, by the introduction of many handsome American forest trees and shrubs.

The above society held weekly meetings, to discuss such horticultural matters as came before them during the week, and to elicit, by the combination of their ingenuity and experience, the best methods of improving the various branches of their profession. These meetings continued for some time, until, a serious difference arising amongst the mem-

bers respecting the publishing of some portion of their proceedings and information, they broke up rather abruptly. The opponents of the publication demanded their papers from Miller, who immediately gave them up, — having, however, with his usual foresight, taken a copy of each, otherwise their valuable contents would most likely have been lost to the world.

About this time Ellis retired from the Chelsea gardens, and Miller, on the recommendation of Sir Hans Sloane, was immediately nominated to that important office, in the year 1722. In this year, upon condition that it should for ever retain its botanic character, the final grant of the gardens was made over to the Company of Apothecaries by Sir Hans Sloane, — being one of the richest boons ever offered by generous philanthropy to the cause of humanity and science.

Miller soon became distinguished in his new situation, by his general knowledge of plants, and especially by his skill in their cultivation. The latter was evinced in a paper which he communicated to the Royal Society in 1728, and which was printed in the thirty-fifth volume of the Philosophical Transactions, on “A Method of raising some Exotic Seeds,” which had previously been considered almost impossible to be cultivated in England. Two years afterwards, Miller made known the present popular mode of causing bulbous plants to flower in water.

In 1730 he published, anonymously, a thin folio, accompanied with twenty-one coloured plates, entitled “A Catalogue of Trees, Shrubs, Plants, and Flowers, both Exotic and Domestic, which are pre-

paring for Sale in the Gardens round London." This publication is mentioned by Haller, who was uninformed respecting its real author.

Previously to this, in 1724, had been published, in two volumes octavo, "The Gardener's and Florist's Dictionary," dedicated to the Worshipful Company of Apothecaries, by Philip Miller. This was followed by "The Gardener's Kalendar," a single octavo volume, which has gone through numerous editions. One of these, in 1761, was first accompanied by "A short Introduction to a Knowledge of the Science of Botany," with fine plates illustrative of the Linnæan system.

Miller was trained in the schools of Tournefort and of Ray, and was personally acquainted with the great English naturalist, of which circumstance he was always very proud. Hence, it is by no means surprising if he proved slow in submitting to the Linnæan reformation; but having so many intelligent advisers, he was at length convinced of its superiority, and was no longer remiss in deriving advantage from so rich a source. He became a correspondent of Linnæus, and one of his warmest admirers. About this time he was chosen a member of the Botanical Society of Florence. Miller was constantly receiving rarities from his friends in all parts of the world, and he, in return, favoured them with seeds.

In 1731, appeared the first edition of "The Gardener's Dictionary," in folio, — a very celebrated work of its kind, — which has been translated, copied, and abridged at various times. This valuable publication may be regarded, indeed, as the

first bright beam of gardening issuing from the dark cloud of ignorance in which it had previously been enveloped; but having once broken through, it has continued to shine with increasing splendour for the last century. It may be almost said to have laid the foundation of all the horticultural taste and knowledge in Europe. It went through eight editions in England during the life of the author. The last is dated 1768. It forms a very thick folio volume, and follows the nomenclature and style of Linnæus, the earlier volumes having been written on the Tournefortian principles. Linnæus justly remarked, that Miller's was a botanical as well as a horticultural dictionary.

At this time an association of gardeners was formed, some of whom had belonged to the same society as that to which Miller had been secretary. They put forth a work, entitled the "Gardener's Catalogue," in opposition to Miller; but being found of too weighty a nature to be carried on, it was never completed, and the portion printed was soon left to moulder upon the shelf. One good effect, however, followed, as it urged Miller to hasten the publication of his first folio edition, which obtained a rapid sale. A second and third edition soon followed; the latest with corrections, dedicated to Sir Hans Sloane, Bart., and the President, Council, and Fellows of the Royal Society. A second volume of "The Gardener's Dictionary" was published soon after the first, but both volumes were finally incorporated into one, and in that state brought Miller into greater repute than he had hitherto attained, owing principally to his having ar-

ranged his plants according to the Linnæan system. It was highly extolled by the first characters, not only in this country, but on the Continent. It was translated into different languages, and obtained the just approbation of the celebrated Linnæus himself, who, when he came to England for a short time, in the year 1736, honoured Miller with several visits.

In 1755, Miller began to publish, in folio numbers, his "Figures of Plants," adapted to his Dictionary, which extended to three hundred coloured plates, making, with descriptions and remarks, two folio volumes, which were completed in 1760. These plates contained more botanical dissections than any other work that had appeared in this country.

Miller was a Fellow of the Royal Society, and enriched its Transactions with several papers. The most numerous of these were catalogues of the annual collections of fifty plants, which were required to be sent to that learned body from Chelsea garden, by the rules of its foundation. These collections are preserved in the British Museum, and are occasionally resorted to by critical inquirers in botany.

The eighth and last edition of Miller's Dictionary is allowed by his friends, and even his enemies (for he had many*), to be a work of extraordinary

* Miller was looked upon with jealousy by many English gardeners, on account of his father being a Scotchman; and he is supposed to be one of the Northern lads sarcastically mentioned by Switzer (in his work entitled "The Gardener's Recreation") as having invaded the Southern provinces.

merit. Enriched by experience, it was dedicated to Hugh Percy Smithson, Duke of Northumberland, one of the many noblemen of the time who consulted Miller on various matters relative to planting and gardening. A copy of the book, on account of its great merit, is lodged in the British Museum.

In the course of his residence at Chelsea, Miller collected, principally from the garden, an ample herbarium, which was purchased by Sir Joseph Banks. He occasionally sent many dried specimens to Linnæus.

Miller continued to attend to his duties and his favourite pursuits to an advanced age; but he was obliged, at length, on account of his infirmities, to resign the charge of the garden. About two years after this event, he died at Chelsea, December 18th, 1771, in the eighty-first year of his age, beloved by his friends, respected by his opponents, and honoured by his countrymen in general.

It has been well observed, that he who makes two blades of grass grow, where one only has been produced before, is a benefactor to his species. If this be the case (and it can scarcely be denied), no one will dispute that Miller is justly entitled to this honourable designation; for he has not only greatly increased and improved the number of plants previously cultivated in this country, but, by the combination of his talent and industry, he has introduced others, the cultivation of which was before considered impossible. Amidst an ungenial soil and a forbidding climate, he has successfully produced the rarest and most beautiful

exotics, and afforded to his countrymen the gratification of beholding the finest specimens of vegetation which a tropical climate can produce, without their being themselves exposed to its scorching and oppressing influence. Thus has he, by the aid of science, changed, as it were, the very climate of his country, so far as his plants were concerned ; and, by an intimate examination into the principles of vegetation, he has converted the most simple elements of nature into the most beautiful specimens of horticulture.*

It is needless for the author to attempt to show the numerous advantages that have resulted from the labours of Miller. Medicine, botany, agriculture, and manufactures are all indebted to him ; and none will be disposed to deny the advantage of such pursuits, or refuse to them the claim of usefulness.

Miller, no doubt, possessed talents that peculiarly fitted him for the study in which he was so long engaged. But these talents, though aided by the eminent advantages which he possessed, would not have availed him as they did, unless he had possessed likewise that zeal for his profession which first urged him forward in the career of improvement, raised him to the zenith of his fame, and supported him even in the active pursuits of his declining years.

In a work devoted to the subject of gardening, the author could not refuse to pass what he conceives to be a just eulogium on the memory of one, whose acquaintance he had the honour to

* Improvement on bulbous plants is here particularly alluded to.

enjoy*, and to whom his profession is so greatly indebted; for not only did Miller, by his numerous writings, render more easy the previously rugged path of horticulture, but afforded to others the ready means by which further improvement could be effected. With a modesty so often associated with great talent, he laid open to his brother gardeners the knowledge he himself possessed; and the whole tenor of his labours seemed to say, to one and to all, "Go thou and do likewise."

* The author was introduced to Mr. Miller by Mr. Henry Hewett, of the Brompton nursery, (a very worthy man, and a particular friend of Miller's,) about two years before he retired from the Chelsea gardens. The author is, perhaps, the only individual living who was personally acquainted with that distinguished character.

THE END.

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