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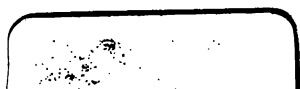
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VEGETABLE AND HERB*

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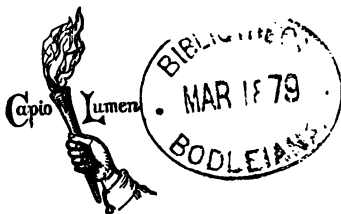
CULTURAL DIRECTIONS FOR THE MANAGEMENT OF THEM

ALL THE YEAR ROUND

BY

GEORGE M. F. GLENNY

EDITOR OF "GLENNY'S ILLUSTRATED GARDEN ALMANACK," AND AUTHOR OF
"FLORICULTURE," ETC. ETC.



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PREFACE.

If you are not satisfied with the contents of this book, a Preface will not help you ; if you are, a Preface will not be necessary ; but as it is customary to supply a Preface to every work, I shall give one, as a matter of form, but it will be short and to the purpose.

READ MY BOOK!

GEORGE M. F. GLENNY.



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KITCHEN GARDENING MADE EASY.

PART I.

THE FORMATION AND REQUIREMENTS OF A KITCHEN GARDEN.

GARDENING, to a certain extent, must necessarily differ in different climates, some of which are favourable to the growth of fruits, some to flowers, and others to vegetables; for the rearing of the latter, low, moist climates are the most suitable, and in this respect, England may perhaps be considered to equal, if not surpass, every other country in Europe.

The first thing we have to look to, then, is the formation of the kitchen garden—a subject embracing a variety of considerations, among which the following are of paramount importance:—

SITUATION.

This should be as near the dwelling-house and offices as is consistent with convenience and other arrangements. It should be on a gentle declivity, towards the south, and either in the rear or on the flank of the house, but never in front; as, independently of its appearance, the necessary traffic with the garden would always be offensive. It frequently happens that artists are more often guided by circumstances than favoured by choice; but, if possible, low situations and the bottoms of valleys should be strictly avoided, as in the first instance there is a sourness in the soil that cannot be *eradicated*, and in the second they are subject to

damps and fogs, which are very prejudicial to plants in vernal evenings, by moistening the tips and rendering them liable to injury from frosts which mostly succeed them; neither should the situation be so high as to be exposed to boisterous winds which would be equally baneful, but an aspect between these two extremes will be found the most desirable.

EXPOSURE.

The next consideration is exposure, which should not be surrounded by close woods or plantations, because a foul, stagnant air is frequent in such confined situations, and is very injurious to plants growing therein, but should be open and free to admit sun and air to the plants. The inclination of the ground should be about one foot in thirty.

ASPECT.

The aspect is an object of great importance in the laying out; it should be about south-east, or it may be a point or two more to the east, when the sun will be upon it soon after rising, and its influence will increase regularly as the day advances, which has a very beneficial effect in dissolving the hoar-frost that the preceding night may have lodged on the tender tops of plants. On the contrary, when the sun is excluded from the garden till ten or eleven o'clock in the morning, and then darting upon it with all the force derived from considerable elevation, the aspect is bad; the powerful rays of heat at once melt the icy particles, and acting upon the moisture thus created, tends to scald the tender tops of the most delicate plants, which very much injures them. The covering of the hoar-frost is otherwise of itself a particular preservative of the vegetable creation from frosty winds.

EXTENT.

In respect to the extent of a garden, but little can be said, that depending altogether upon the demand of the family. Few gentlemen's gardens in the country

contain less than three roods, and from this they increase, according to different circumstances, to ten or twelve acres. The farmer and cottager have generally small portions allotted in the most convenient part or corner of the homestead, in which they frequently grow the most common kitchen-garden crops, as potatoes, turnips, carrots, cabbages, &c., and the flavour of such vegetables is much superior to those raised in the field, or even a garden by force of manure; but nevertheless a moderate amount of stimulant is positively necessary. The labourers' gardens vary in respect to size as much, in proportion, as the farmers' or the "squires," and are in general equally, and sometimes better managed—at least in some parts of the country it is the case. But to give some idea respecting the quantity of ground for a garden, we will say, by way of illustration, for a family of four persons—exclusive of servants—a rood, and so on in proportion, allowing it to be larger, rather than too small.

SHELTER.

In order to bring the produce of the soil to the greatest perfection, the garden should be sheltered from the east, north, and west winds by rising ground furnished with trees; but these shelters should be at such a distance, on all sides, as not to prevent the sun's rays in the spring, when every one is of the utmost value.

SHADE.

This is a matter of vital importance, and requires to be so nicely balanced, that it shall neither overpower the plants by its long duration, nor tantalize them by its swiftness; but should, on the contrary, remain with them so long as it can benefit them, and no longer. Our readers will therefore see the necessity of considering well previous to erecting buildings, planting trees, and so forth.

SOIL.

With the exception of situation and exposure, the *soil of a garden is*, as a matter of course, of the most

consequence. In a word, this should be of a light, mellow loam; and if of a sandy nature, so much the better. In any case, it should not be of a binding nature in summer, nor retentive of an undue quantity of wet in winter; but of such a texture as may be worked at any season of the year. This said soil ought not to be less than eighteen inches deep; but if twenty-four inches so much the better, for when the plants are in a state of maturity, if the roots of most kinds are minutely traced, they will be found to penetrate into the earth in search of food to not less than the latter depth; indeed, they frequently descend lower where the soil is of a nature to admit them easily. The worst of all soils is a heavy clay, and the next a light, loose sand; a moderate clay is, however, preferable to a very light soil, even allowing it to be not so pleasant to manage. The former may be got into good working order with a little trouble and expense, but the latter will need no end of both. The circumstances before mentioned having been duly considered, it will rarely happen that the soil should be exactly to mind. No, it will either prove too poor, too strong, or too light; and, in either case, it must be carefully improved without delay. To do this, we must be guided solely by its nature, so as, if possible, to render it subservient to most general purposes. Hence our duty is to endeavour to hit on that medium which suits the generality of vegetables grown for the table. Should the bottom, or subsoil, be of a wet, cankering nature, judicious draining will be found the most eligible means of restoring it; but where the soil is stubborn, small gravel, sand, lime, brick-kiln ashes, or indeed anything of an opening nature, are the best substances to be applied. These will, if carefully and well worked into the ground by digging in the winter months, or, indeed, at all times when not under crop, soon bring the ground into a proper texture for most purposes. The ground should be laid up in ridges, in *order to give the greatest possible extent of surface for the weather to act upon.* Where the soil is poor sand

or gravel, clay or clayey loam, scourings of ditches which run on a clayey subsoil, pond-mud from a similar situation, or scrapings of roads which lie in a clayey district, and the like, are great improvers. But all of these are of little use unless the ground is well worked and pulverized, which is of itself a very obvious improvement, and which is indeed applicable to most soils, and that in proportion to their adhesive texture.

WATER.

Another consideration engaging our attention is water, a plentiful supply of which is essential to a good kitchen garden, it being necessary alike to the commencement and progress of vegetation. In short, it is the vehicle which conveys to vegetables all the substances useful to their support, and without this element no one will continue to vegetate properly, and if kept long without, the leaves will droop and assume a withered appearance. Indeed, it is for want of moisture alone that many kitchen garden crops are lost, or the produce reduced to very inferior quality. From whatever source this material is furnished, it should be conducted to and reserved in an open pond, tank, or basin, as near the centre of the garden as possible, as being the most convenient. Well-water recently drawn is very improper for watering any kind of vegetable; yet if it has stood in a pond, tank, or basin, until acted upon by the sun's rays it may be applied

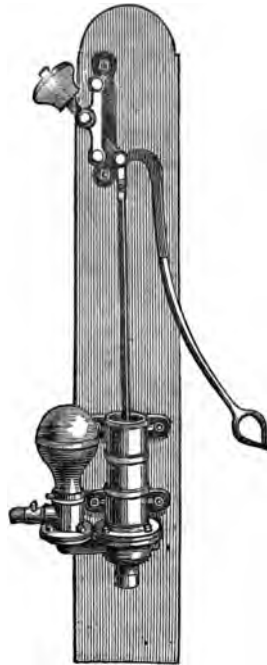


Fig. 1.



Fig. 2.

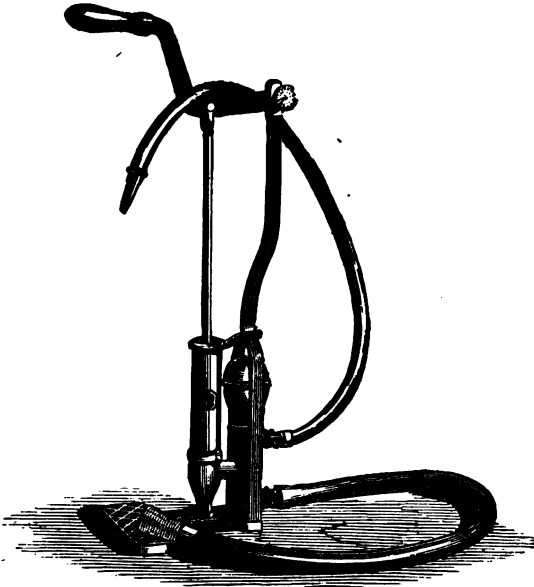


Fig. 3.



Fig. 4.

with safety ; but soft or rain water is much more conducive to healthy vegetation. The garden should be situate near a river, pond, or brook, if possible, from which the water may be conducted to it by drains or pipes, being careful to lay them sufficiently low to receive the water in the driest season, when it is most required. If the situation be such as to need the water



Fig. 5.

to be pumped or drawn up from deep wells, it should be exposed to the sun and air some days previous to using. Where a force-pump is necessary, and it frequently is, one of Oakley's Improved Pumps (Fig. 1) will be found of great service. Those who have abundance of available water at a distance necessarily require to convey it to certain spots in the garden, and for this purpose one of his Portable Pumps on Wheels

(Fig. 2) or his Fire Annihilator (Fig. 3) will be found most suitable. Next to these pumps, especially in small establishments and for glass structures, a length of rubber hose and a branch pipe (Fig. 4) will be found very useful. A hose-reel will be necessary for the protection of the hose, and there is no better than that represented at Fig. 5.

FORM.

This will be another very important item for contemplation; but so far as we have observed, there is none more proper or convenient than a geometrical square, or a parallelogram, giving a decided preference to the former. It must be borne in mind, however, that the form here spoken of more properly refers to the space enclosed by the wall or walls, than the entire quantity surrounded by the ring or outer fence.

WALLS.

Kitchen gardens are mostly, or should be, bounded by walls, chiefly intended for the production of fruit; but where they are destined for the growth of vegetables only, they may be as completely fenced by hedges as walls; and indeed, where hedges are good they are more secure from depredators. In laying out a garden of this description with walls the principal considerations are, *height, aspect, construction, and materials.*

HEIGHT.—In respect to the height of walls, it is more commonly determined by the size of the garden, and the inclination of its surface, than with regard to the training of fruit-trees. A small plot enclosed by high walls has a bad, gloomy look, whereas if they are erected of suitable heights this unsightly appearance will, in a great measure, be obviated. In a garden of an acre, and nearly or quite of a geometrical square, and greatly elevated, the north wall may be raised to fourteen feet; the east and west walls to twelve feet, and the south wall to ten feet above the *surface of the ground.* If the garden be larger, the

wall may be somewhat higher, but not in proportion if it extends to several acres. The extreme height of the north wall of any garden should not exceed eighteen feet; the east and west walls fifteen feet, and the south wall twelve feet. Our readers will please to observe that the term *north* and *south* are here used to denote the north and south sides of the garden; but in speaking of wall-fruit, if it be said a tree requires a south wall it must be understood to mean a wall with a south aspect. It may possibly, nay, probably, be asked by many, why are the walls of different heights? or why is the back, or north wall, built so much higher than the others? granting this to be the case, then we can give two reasons. First, by being raised higher, it shelters the garden from the north blast; and secondly, it affords ample space for training the choice sorts of fruit trees on the south side of the wall, or best aspect of the garden.

ASPECT.—This will of necessity have to be duly regarded, as, unless it is, success cannot possibly follow. South aspects are generally considered the best for fruit-trees, but reason and experience teach us that an aspect a few points to the east is the most suitable for all sorts of fruits that require the most regular heat to bring them to perfection and earliest to maturity. It may be argued that the hottest part of the day is the afternoon, and that the sun shines stronger then than in the morning; and so it does, because it continues to act upon air already heated by the influence of the morning's rays. Yet it is not so healthy, as the great heat of the sun causes the trees to exhale their juices faster than the roots can absorb them, which causes the fruit to be smaller, the pulp harder, and the flavour worse, than if they received the heat more regularly. On the other hand, on an aspect towards the south-east, the trees will catch the sun's rays earlier, by which the cold night dews will be sooner and more gently dispersed, and the scorching rays of the afternoon's sun earlier off. It must be allowed that a south wall receives more sun than a south-east one, but this is of

little or no advantage; for before the time the sun leaves the latter, the air will be sufficiently warmed by the continued action of the sun upon it.

CONSTRUCTION.—The next consideration is the construction; and in this the straight upright form is preferable to any other. The foundation for these walls should be dug out no deeper than the thickness of the soil on the surface, in order that no more of the wall may be lost than necessary. They must be built solid, upon a good foundation, and not formed upon arches at their bottoms, as recommended by some; for when the roots of the trees grow out at the back sides of the walls, at their freedom, they draw a considerable quantity of rancid, unprepared juice from the earth into which they have struck or wandered; the consequence of which is, the falling of the fruit, and that frequently after it has acquired a considerable size. When walls are of any length, and the foundation not very good, they may be strengthened by projecting buttresses set at intervals; yet, if they will stand without being in danger, the face of the walls has a better appearance without them. With respect to coping, practical men have formed opinions very opposite to one another; that is to say, some assert it ought not to project more than half an inch at the most beyond the face of the wall; others, that they should project several inches, in order to throw the wet off the trees. Others give it, or propose, a slope all one side, in order to throw the wet to the worst aspect; which, if planted with fruit trees, is very wrong—at least, according to our way of thinking, and we will tell you why. Because it is always disadvantageous to trees trained to such walls, if there can be any disadvantage in rain falling upon them—and we maintain there is—except just when the fruit is ripening; but even then, we consider they would be as well dry, and especially when they are in blossom, or the fruit is setting. At other times the little rain that falls on the foliage may be considered of advantage, upon the principle of watering the leaves of *wall trees in the evening*, which no one can for one

moment deny refreshes them very much, and not only refreshes them, but helps to clear the said trees from insects and accumulations of dust and dirt likewise. There can be no objection whatever to a temporary coping of board, projecting a foot or thereabouts over the trees when in blossom in the spring, as it will greatly repel the perpendicular frosts, which not unfrequently happen at that time, and which are very injurious, both to the blossoms and setting fruit. A fixed coping, projecting an inch to preserve the wall, is all that is really necessary; as if more, generally speaking, it does mischief instead of good, for it excludes light, rain, and air, from the trees in summer, and harbours, to a great extent, caterpillars and other vermin.

MATERIALS.—We now have to speak of the materials most suitable for kitchen-garden walls, the best of which is brick for the superstructure, and stone for the foundation and basement. Brick naturally absorbs more heat, and answers better, in all respects, for training trees to than stone. If the wall is not entirely built with brick, it should be faced with it on the north-east and west aspects. If durable stone can be obtained, the basement of the wall should be built of it in preference to brick. In many cases it is cheaper, and in every instance more firm and solid. The basement of all walls should be many inches thicker than the superstructure. For instance, for a brick and a half thick wall, the basement ought to be at least twenty inches. When bricks are scarce and stones are plentiful, the back part of the wall, as well as the foundation, may be built of stone, and that side of the wall having the best aspect faced with brick; but let the materials be what they may, the courses should not be laid level or horizontal, but parallel to the surface of the border, which has not only a better appearance, but answers, in every respect, better for training trees horizontally. Wooden walls may be adopted in small gardens, but they are not so durable; and yet good fruit may be produced upon them.

CULTIVATION AND MANAGEMENT OF THE GROUND.

We shall now proceed to treat on its cultivation and management, which includes, or should include, every requisite necessary to the production of vegetables generally. It must be understood, then, that the requirements of a garden of this description is the keeping of it in such order as to afford both pleasure and profit in return for the labour and expense bestowed upon it. In a word, it ought not only to be profitable, so far as an abundant and useful supply is concerned, but it should be made a source of pleasure to work and walk in at all times, by being kept neat and clean from one end to the other. Persons may be well acquainted with the culture of vegetables, and yet be entire strangers to the treatment essential to the well keeping of the ground.

SOIL.—The first thing we shall now consider, as being conducive to the above objects, is the judicious treatment of the land, which must be carefully attended to, and kept in a proper state to receive seed and plants when called upon. The soil of a garden of this description should be frequently pulverized by thorough digging or trenching, in order that it may be sweet, free to work, and rich, or no great things can be expected as to early, well-flavoured, and handsome productions. The soil should be sweet, that the nutriment which the roots receive may be wholesome; free, that they may be at liberty to range in quest of it; and rich, that quick growth—the most essential point in the rearing of vegetables, to ensure crispness and tenderness—may be ensured. It must be borne in mind that vegetables are not possessed of any powers of a locomotive description; in short, they cannot, like the animal creation, range from place to place in search of food. They can grow only where planted, and, consequently, they must be supplied by different means with nourishment, and that according to their various habits and constitutions. It must also be remembered that soil, exclusive of vegetable matter and water,

furnishes nothing to a plant, and is of no further use than that of providing them with a medium by which they may fix themselves in a particular spot; hence the importance in the application of manure. Digging or trenching and pulverizing the soil in the summer and winter, and, indeed, at all times when the ground is vacant, greatly improves it, and that according to its adhesive texture—being indispensable to strong clay—to separate and ameliorate the parts. This amelioration and separation is principally effected by frost, which circumstance may be explained on the principle that the expansion of the water contained in the soil during its congelation increases about one-twelfth its whole volume, and in its contraction of bulk during a thaw, leaves the parts so extended, separated from each other, and so makes the soil more susceptible to the influence of sun and air. The object in pulverizing the soil is to give free and sufficient scope to the roots of vegetables, which should be abundant, otherwise no plant will become vigorous, let the soil in which it is planted be ever so rich. The fibres of the root take up the nutriment they meet with in the soil by introsusception, and the quantity taken up does not depend alone on the quantity of the soil, but on the number of absorbing fibres. The more the soil is pulverized the greater is the increase of absorbing fibres, consequently the more vigorous does the plant become. Upon the same principle pulverization is of advantage not only previous to sowing and planting, but is found considerably so during the progress of vegetation, when applied in the intervals among the plants while the crop is standing. In the last case it may be considered to operate by way of pruning, as cutting off the ends of the extending fibres causes them to put out numerous others, thus increasing the number of mouths or feeders, whereby a greater quantity of food is taken up to the support of the plant. The increase of the number of fibres is as the inter-pulverization; but it must be considered that the strength of the vegetable, in consequence of the multiplicity of fibres, depends

very much on the quantity and quality of the food in the soil. Again, the depth of pulverization depends, in a very great measure, upon the nature of the soil; that is to say, in rich clayey soil it cannot well be too deep, for when the roots of vegetables are low down in the earth they are not so liable to be injured either by drought or excess of rain. It is well known to cultivators of experience that aëration, or exposure of soils to the atmosphere, greatly improves them, as is witnessed by its effect on compost heaps, and in winter and summer ridging and trenching.

RIDGING.—This operation is applicable either to dug or trenched ground, and when finished the surface, instead of being an even one, lies in ridges or close parallel elevations, the sections of which form nearly equilateral triangles, connected at their bases. Thus double the space of surface is exposed to the influence of the atmosphere and weather than would be the case with an even one.

TRENCHING.—This is an operation calculated to improve all soils, having two objects in view: first the mixing and pulverizing of them; and secondly, the changing of their surface.

A GRIEVANCE AND ITS REMEDY.—Gardeners and cultivators are frequently heard to complain of their ground being, as it were, worn out, and incapable of producing certain vegetables: not that it is poor, or its nature unfit for them, but that it has become tired of these crops from their having been grown upon it for several successive seasons, notwithstanding manures had been regularly applied. Now the best method with which we are acquainted for the conservation of the fertility of such land is this:—To take three crops off the first surface, and then trench the ground three spits deep, which operation is performed by first opening a trench two or three feet wide, carrying the soil so taken out to the end where it is intended to finish the plot. Then another strip, the same width, is to be begun, and one spit of the top surface thrown to the *bottom of the first trench*. Having thrown in the

crumbs of the first stratum, the next spit under must be cast upon the first in the same way, and the third upon the second, by which means the top and bottom spits are reversed, and the middle one in the centre as previously. Three crops should be had off this surface also, and then trench two spits deep as before, turning the surface spit to the bottom, and the second to the top; by this means the middle becomes the top and the top the middle. Three crops should be taken off this surface likewise, and then trench two spits deep again, turning the surface spit to the bottom, and the second to the top, by which means the middle becomes the top and the top the middle. Take also three crops off this surface, and then trench three spits, whereby that which was last the middle, and now the top, becomes the bottom; and that which was last the surface, and now the bottom, becomes surface again, after having had six years' rest. Proceed in this manner alternately, trenching one time two spits deep, and the other three, by which means the surface will always be changed, and will rest six and produce three. This has always been our plan, and one which we consider cannot be much, if at all, improved upon; inasmuch as by this means there will always be a new soil, as it were, for the production of vegetables in a wholesome state, to say nothing of the saving of manure, which, generally speaking, forms no mean item in a garden bill, but which is positively necessary where the soil is shallow, and the same surface continually under crop. We do not desire or assert that the whole of the garden should be trenched over the same year; on the contrary, we prefer to treat half of it in this manner at a time, or even a third part if more convenient.

MANURE.—The next consideration calling for our attention is manure, the judicious use of which is of so much importance that almost everything in culture may be said to entirely depend upon it. When manure is applied, care should be taken that the ground is never over-done with it. There is an old adage, "Enough is as good as a feast"—so it is with manure; a little at a

time, and often, is preferable to a large quantity at once, and seldom. For when used in great quantities, and lying in lumps, it tends greatly to breed and encourage worms, grubs, and other vermin—to say nothing of causing plants to grow too rampant and rank in flavour. Vegetables, remember, are always the sweeter for having no more dung than is absolutely necessary; it will therefore be well for our readers to bear this in mind. There are various ways of applying manure, depending chiefly on the season of the year, and the sort to be used, together with the condition in which it is in. In a word, when the superficial soil is much exhausted, it is good practice to dig it over late in the autumn, and spread some good rotten stable dung on its surface, which may be allowed to lie there till the spring, or till the ground is wanted, before digging it in. This method is particularly suitable for land on which superficial growing crops, as onions, leeks, radishes, and so forth are to be raised. When ground is to be manured at the time of planting, the best way is to spread the dressing on the surface previous to digging, and dig it in immediately: this is particularly essential in spring and summer time, for if left exposed to the action of the sun and air, a great proportion of its nutritive matter will be lost by evaporation or otherwise. Manure may be applied either as a simple or as a compound, but the latter method is the most eligible where a well-flavoured crop is the main consideration; for if it has not undergone a proper fermentation, its effects will be that of imparting a rank and disagreeable flavour to vegetables. To treat upon the subject of manures generally would be extending this work beyond its intended limits, therefore we advise those who are unacquainted with their various natures, to consult some practical work on agricultural chemistry.

ROTATION OF CROPS.—A rotation or change of crops is a matter of much importance, as it is well known to most cultivators that each sort of plant requires a somewhat different nourishment, so that one crop may

immediately follow or succeed another; but it should be so contrived that a wide crop may follow a close one, and *vice versa*. The seasons for planting or sowing each sort of vegetable should be particularly attended to, in order that each one may be obtained as early as nature will permit. Great care should be taken that all seeds are of the best kind, lest after the trouble of cultivation disappointment, either as to vegetation or quality, or both, ensue. The quantity of ground to be sown or planted with each sort of vegetable must be determined by the size of the garden, and also by the demand of the family it is to supply; but it is advisable to sow or plant more of each than is likely to be wanted, in order to provide for a greater demand than may be expected, and also against unfavourable seasons. Taking all circumstances into consideration, no exact rule can be laid down in order to proportion the crops properly; therefore the cultivator must use his own judgment, and that with a little discretion, being careful not to have too small a quantity of one crop, and too much of another, which are features of bad management, appearing both disagreeable and discreditable. The principal times for propagating the different kinds of vegetables fall in the spring months; that is to say, in February, March, and April, for crops to come in during the summer, and lesser portions for successive summer and autumn supplies are to be sown or planted from April to October, as we shall explain by-and-by.

PRICKING OUT.—The season for pricking out and planting each crop must be well attended to, by doing it as early as circumstances and weather will permit. Then, again, sufficient room must be allowed between each plant, by which means they will be not only more forward, but larger and far superior in quality.

THINNING OUT.—The thinning out of seedling crops should always be attended to in time; in other words, before the young plants have drawn each other up too high. All vegetables grow stronger, and come to greater perfection, when there is a free circulation of air round them, and sun not impeded. This should be

attended to soon after the plants appear above ground. Some people, however, are so tenacious about taking out a sufficiency, that they frequently lose half or more of their crops, giving no other reason than "It is a pity to pull them up." For our own part, we consider much greater pity is due to such cultivators for their weakness in permitting them to stand so thick at any time.

WEEDS.—The eradication of these is in all respects a matter of the very utmost importance, where a proper feature of the garden is desired; or, in other words, where beauty and order of garden scenery is of the least consideration. Some gardens promise to and would supply abundant crops, did not the cultivator too frequently, either from negligence or fear of expense, submit them to destruction by permitting noxious wild plants to grow unmolested, and thus rob the ground of its nutriment. Whenever a garden of this description comes across our path, it calls to our mind the words of Solomon:—"I went by the field of the slothful, and by the vineyard of the man void of understanding, and, lo, it was all grown over with thorns, and nettles had covered the face thereof. Then I saw, and considered it well: looked upon and received instruction." It is to be hoped, therefore, that the cultivator will advert to these words; see, and consider them well; look upon them, and receive instruction, and banish all such intruders from his garden; for of all enemies, next to vermin, they are the most baneful. The best method of destroying weeds is either by hoeing or pulling up by hand, and afterwards exposing them to the sun and air; or, what is in every case much better, taking them at once to the refuse heap, there to be destroyed by fermentation.

WATERING.—The performance of this operation in any weather is a matter of much importance, as it does not only afford a proper degree of moisture to the vegetable creation, but it is of service in bringing the soil into a proper state to perform its various offices. *Dry earth, of itself, has little effect, but when moistened,*

it has the property of decomposing atmospheric air and of conveying its oxygen, which is the air we breathe, and which is necessary for the support of both animal and vegetable life, to the roots of those plants which vegetate within it. It also performs an important part in most of the changes that take place both in the animal and vegetable kingdoms. Watering, in some cases, may be considered productive of more harm than good, or using hard and calcareous water, which, if abundantly applied, will not only taint the vegetables, but will materially injure the surface of the ground by disordering, if we may so speak, its free and fertile properties. Rain water should always be used where it can be obtained, but in the event of a scarcity of the above, the defect must be supplied by such water as has stood exposed until it has become impregnated with the sun's rays. The time of watering must be regulated by the weather; that is to say, the time chosen must be altered according as the weather is hot or cold. Watering in the evening may be resorted to, as a rule, from the commencement of June to the end of September; but as there is no rule without an exception, discretion must be your guide. However, provided the nights be favourable and mild, you cannot err in administering moisture; but where they prove the reverse, which they will do at certain seasons, morning is the best time for performing this kind of work.

GATHERING.—Most of all kitchen-garden crops are gathered by degrees, beginning as soon and continuing as long as possible; at the same time, no part of a crop should be gathered until it has attained some degree of maturity, nor after it has begun to decay; for this reason, that independent of its being inferior in flavour, it is, to say the least, unwholesome. In respect to the degree of maturity, it frequently depends on the particular taste of the families; as in the case of cabbages, some esteeming them most while open and green, others not until they are well headed or hearted and blanched. The same difference in taste, as to most other kitchen-

garden crops, may be noticed also. The operation of gathering vegetables is performed either by cutting, as in the case of cabbages; by pulling or breaking, as in the case of peas, beans, and the like; by pulling or rooting up, as in the case of onions, turnips, and so forth; or by digging, as in the case of potatoes, celery, &c. In the performance of these operations, due regard should be had to those plants that are to remain for some time on the ground. In other words, onions, turnips, and so forth, are mostly gradually thinned; and therefore, in performing such work, care should be had with regard to thinning them regularly, so that the remainder may have equal space to swell in.

REFUSE.—It is, likewise, essential that the refuse accumulated during the progress of trimming these plants for the table be instantly removed to the compost heap; the same may be said of all rubbish in the shape of the roots and remains of such crops as are done with.

CONCLUDING ADVICE.—As a sort of finish to this portion of our subject, we shall offer a few hints for the guidance of the operative gardener, namely:—

1. Let him perform every operation in its proper season, and in the best manner.
2. Let him complete every operation as he proceeds, and finish one job before he begins another.
3. In leaving off working at any job, let him leave his tools and work in proper order.
4. In finishing for the day, he should make a sort of temporary completion, carrying his tools to the tool-house, clean them, and hang them up, or otherwise set them in order.
5. Let him keep a vigilant eye in passing to and from his work, or on any other occasion, and look out for weeds and decayed leaves and other deformities, and remove them as soon as possible.
6. In gathering a crop, or any portion thereof, let him, as we have previously stated, remove the roots, leaves, and stems of which the desired part is gathered, *to the rubbish heap.*

7. Let him take care that no crop, or any portion thereof, go to waste on the ground.

8. And, finally, keep everything that is under his care in perfect order, for without neatness and regularity, it is impossible to make a good appearance, or accomplish any work as it should be done.

PART II.

VEGETABLES AND THEIR CULTURE.

ARTICHOKE, GLOBE.

(*Cynara scolymus.*)

SEED should be sown early in the spring, in deep, rich, loamy soil, in drills one foot apart, and thin the plants to four inches asunder in the rows; or they may be increased by suckers drawn from the old plants, and planted in April in lines a foot apart, and thirty inches from each other in the rows. Protect through the winter with litter or earth, where necessary.

ARTICHOKE, JERUSALEM.

(*Helianthus tuberosus.*)

This is a tuber like the potato, and will succeed on any ordinary soil, although it will repay better treatment. They should be planted in rows about a yard apart, the tubers or sets being placed four inches deep and about sixteen inches from each other. March or April is the proper month to perform this operation. By October or November the tubers will be ripe, when they may be taken up and stored.

ASPARAGUS.

(*Asparagus officinalis.*)

Very many persons run away with the idea that this delicious vegetable can only be grown by those who are *able to go to an extravagant outlay*; but such is not *the case*. Good cultivation it must have, but the ex-

cessive use of manure frequently recommended is by no means absolutely necessary. All that is requisite is to have the land well drained, deeply dug, and liberally manured. In a word, any kind of soil may be made suitable; but a heavy damp clay or a poor thin soil will never do for it. Select an open sunny situation for the bed or beds, and make up a good foundation, as it is not very likely to be disturbed for years. The beds should be made three feet wide, with two-foot alleys between, for an early supply; and five feet wide, with three-foot alleys, for the later and larger supply; the narrow beds invariably producing earliest. In the three-foot beds, two rows of plants are required, and they should be a foot apart and the plants the same distance asunder in the rows. In the five-foot beds there should be three rows—one in the centre and one on each side of it, at a distance of eighteen inches from it. Where large asparagus is desired, the plants should stand not less than eighteen inches apart in the rows. We do not approve of large heads; but it is no reason why others should not. The quickest way to obtain a supply is to plant strong, freshly-dug roots. It is advisable, however, at the same time to raise a plantation by sowing seeds, as the anxiety of waiting will, in this case, be amply compensated for by the superior quality of the produce, beds raised from seed being, in the long run, the best. In this case you must mark out shallow drills at the same distances as advised for plants, and in these sow thinly and not too early; and when the seedlings are two inches high, thin them out to the proper distance apart, and afterwards give them good culture. As a matter of course weeds must be kept down, and a heavy dressing of rich manure must be put on every autumn, to be followed in the spring by a liberal coating of salt; that is to say, at the rate of a pound to every six square yards. During the summer, manure water may be given freely with advantage, as it will pay for its cost in the increased production and superior quality of the heads. The best time for planting the roots is in the month of

March; but seed should not be sown earlier than April. In either case favourable weather should be selected for the operation.

BEANS, BROAD.

(*Faber vulgaris.*)

The most suitable soil for these is a deep strong loam, with plenty of manure; but they will do well on a stiff clay also. November is the best time to sow such sorts as the Mazagan and Giant Long Pod on a light and dry soil, and January or February on heavy soils. Sowings may be made from February to June, at intervals, where necessary, for succession. The dwarf sorts should be sown from a foot to eighteen inches apart; but the stronger-growing kinds will require to be two or three feet asunder, and to be at least six inches distant from each other in the rows.

BEANS, KIDNEY OR DWARF.

(*Phaseolus vulgaris.*)

These endure drought better than any other vegetables grown, and are remarkably profitable; but we regret to say they are too frequently crowded injuriously, and consequently have but a poor chance of attaining their proper proportion of fruitfulness. This may be avoided by planting or sowing the weakest-growing kinds two feet apart, to be ultimately thinned out to one foot asunder in the rows, which must not be less than two feet distant from each other; while the more robust sorts should be two and a half feet apart from plant to plant, and the rows the same distance from each other. They require a moderately rich and light soil.

BEANS, SCARLET RUNNER.

(*Phaseolus multiflorus.*)

These suffer from drought sooner than the above; but the season must be a very bad one in which they *will not make an ample return for the very little care they require.* Sow under glass in April, and trans-

plant as soon as the seedlings are in the rough leaf, in rows two feet six inches apart, and one foot asunder in the row, on a warm border. Sow in the open ground from the end of April till the middle of July, at similar distances. When practicable the rows should run north and south. They should always have sticks if they can be procured, and when ridged up when four or six inches high, so much the better, as it will prevent their being blown about during high winds. Keep the soil round and about them frequently stirred, and supply them with water liberally in hot, dry weather.

BEET.

(*Beta vulgaris*.)

Very nearly all the varieties of the beetroot may be grown to a considerable size, if desired, by sowing the seed pretty early on deeply-trenched ground, provided a good share of manure is put at the bottom of the trench; but generally speaking small, handsome, deeply-coloured roots are preferred, and to produce them a very rich soil is not requisite, but it must be deeply dug and well pulverized. Seed may be sown from the end of April to the end of May, in rows about a foot apart; and as soon as the plants are large enough for the purpose, have them thinned out to the same distance asunder in the rows. Take up in October or November, being careful not to bruise the roots or cut off any fibres, nor cut the leaves off too close, and store in dry sand, in a shed or elsewhere, till required for use. Those who appreciate salads will require these the whole year round, and by careful storing they may be kept in excellent order until the first supply of roots is obtained from the earliest-sown crops. The spinach beet, or perpetual spinach, is valuable for its leaves and stalks. This may be sown from the commencement of March till the end of May, in precisely the same manner as the ordinary beet. When the spinach-beet is fully grown, the stalks should be cut off and served up as *Asparagus*, and the leaves may be treated as

spinach. The sea-kale beet, of which some people are very fond, may be sown from the middle of April to the beginning of May. The proper way to use this is to cut out the mid-ribs and serve up as sea-kale.

BORECOLE, OR KALE.

(*Brassica oleracea acephala.*)

This well-known class is one of the most useful in the garden, especially so to the cottager; it is also well adapted for mixed cropping. They will grow in almost any soil, and with a moderate amount of manure, though they amply repay for liberal cultivation. There are several kinds, but as my object is to condense matters, and to point out what may be termed indispensable things, I shall confine myself to the ordinary "dwarf green kale," curled, and the new "cabbaging or heading kale." The "Buda" is very hardy, and the "Jerusalem kale" is esteemed by some. The other varieties are scarcely worth consideration here; but I may mention the "variegated or garnishing kale" as a fancy kind for decorative purposes. The two kinds here preferred require from eighteen to twenty-four inches between the rows, and from a foot to sixteen inches between the plants. A free use of the hoe, with a little earthing up in September, is all that is requisite. Sow in March and plant out at every opportunity as soon as the plants are large enough for the purpose.

BROCCOLI.

(*Brassica oleracea var. Botrytis cymosa.*)

A rich soil is indispensable for their high culture, and they love a sound or rather adhesive loam; of all kinds of soil they most abhor a loose and powdery one which will not hold together under any circumstances. The principal matter for the cultivator to consider is the production of a constant succession of handsome heads during a long period of time, rather than an *occasional glut* during a few weeks of the entire year. Hence frequent sowings and plantings are necessary,

and the first start may be made by sowing seed by the aid of gentle heat under glass in February, and thenceforward sowings may be made at intervals between March and June: seed may likewise be sown in the open ground in July. As we have already stated, broccoli must have good culture; in a word, the ground cannot be too vigorously dug, or too well manured. In loam and clay, with marked attention afterwards, the plant thrives amazingly; the winter sorts, however, do well in light soils. Having made a good beginning by a liberal preparation of the soil, all that is afterwards necessary is to sow and plant in a systematic manner, the plants being left in the seed-bed only long enough to attain a proper size for planting, and when put out being aided with water provided the weather is dry, and shaded at first to prevent undue exhaustion. The plants when two or three inches high should be pricked out to six inches apart in every direction; and for the purpose of encouraging growth they should be watered every evening, and at the end of a month or five weeks finally planted out where they are to remain.

BROCCOLI, SPROUTING.

This is one of the most valuable of vegetables; but to make a good return it must have a long season of growth, and for this reason it should be sown in the open ground as early in March as a nice dry seed-bed can be got in readiness. In planting out for autumn supplies, allow three feet, or thereabouts, every way; but in planting out to stand the winter, two-thirds of that distance in every direction will be sufficient, as, when rather thick, the plants help to protect one another. They are liable to "the club"—a kind of disease supposed to be the result of scanty manuring and shallow digging, which promotes premature development of the plant before the head appears. This must be carefully guarded against even in the seed-bed, which should be rather fresh soil, not too rich, and may be heavily dressed with the charred material from *the rubbish heap*. In planting them out it is my prac-

tice to dip their roots in a puddle composed of the same charred material and some very adhesive loam, adding a handful or two of quick lime and soot, which I find prevents the mischief.

BRUSSELS SPROUTS.

(*Brassica oleracea, Bullata gemmifera.*)

A most useful green, and adapted to either large or small gardens. It is also one of the hardiest greens we possess. Not only its flavour, tenderness, and hardiness recommend it, but it makes a peculiar and important-looking dish. It can only be grown to perfection in a generous soil, and with the aid of a long season to complete its growth. The seed should be sown in March or April on a well-prepared seed-bed, and as soon as the plants are large enough to handle, a first plantation should be made in well-manured ground, two feet apart every way. As fast as a quarter can be got ready the planting-out should continue, and, when necessary, the plants should be watered and shaded for a week or ten days, to give them a fair start. It produces a small neat head, like a small and late savoy, and in due time the stem becomes studded with little knobs, which, indeed, is the principal aim in its culture. The head should not be cut until most of the side sprouts are removed, as it is a protector to them, and keeps the root in action. If extra fine buttons or miniature cabbages are required, seed should be sown in August, and the plants wintered on a dry sheltered bank, or in frames.

CABBAGE.

(*Brassica oleracea capitata.*)

This vegetable is so universally known as to require little description. I may, however, point to its culture. If properly managed these are very productive, at far less cost of land and labour than most other crops. *They may be sown in heat in February, and nursed on in frames for planting out; but the experienced and*

prudent cultivator will be able to secure plenty of good plants without taking all that trouble ; and will, consequently, save his frames and his time for crops less hardy than the one we are now speaking of. A very fair cabbage may be obtained from almost any kind of soil, but a better one from a good loam resting on clay, assisted by a plentiful supply of manure. Seed should be sown occasionally from March to August, so as to ensure a supply of nice stocky stuff for planting out whenever and wherever you have room. The March and July sowings are generally the most important, as on these chiefly depend the supplies during winter and spring, when they are most in request. The distances at which cabbages are planted will greatly depend on the season and sort. Coleworts planted in autumn may be from six to nine inches asunder, but large cabbages must not be put out nearer to each other than a foot or eighteen inches each way.

CAPSICUM AND CHILI.

(*Capsicum annum.*)

The former (or common cultivated capsicum) is an annual requiring to be raised in heat in February or March, pricked out as soon as large enough in pans of light and rich soil six inches apart in every direction, and finally transplanted for the warmer months of summer on a sheltered border, or at the foot of a sunny wall or fence ; the latter (or true bird-pepper or Chili) should be sown in heat about the same time, pricked off singly into small pots, and as soon as these pots become filled with roots, shifted into forty-eight sized pots containing rich compost, and removed to the stove to fruit and ripen.

CARDOON.

(*Cynara cardunculus.*)

This is a hardy biennial, very much resembling the artichoke, but attains a greater height. The best soil

for it is one that is light, deep, and dry, but not over rich. Seed should be sown for a small early crop about the latter end of March; for a late or main crop, early in April; for a still later supply, the latter end of June. In either case the seed must be sown in a bed of light earth, moderately thin, and raked in evenly; as soon as the plants are well up, thin them out to five or six inches apart, in order to allow them room to strengthen for transplanting. In a couple of months from the time of sowing, select a piece of land that has been well dug, in an open situation; then take up the plants, trim the roots and tops, and insert them either in drills or on the level ground, in rows not less than five feet apart, and four and a half feet asunder in the rows. Water them well as soon as planted, and continue to supply them with moisture until such time as they have made fresh root. Hoe between them frequently, in order to keep down weeds, and loosen the soil at the same time. By August the plants will have grown to the height of four feet, when they must have their first earthing up for blanching, which should be continued until they have their final one in October. The tender stalks of the under leaves are the parts to be used, either for stewing, or in soups and salads, in the autumn and winter months.

CARROT.

(*Daucus carota.*)

This highly esteemed root is one of the most profitable crops that can be grown, provided the grub can be avoided. Carrots love a deep, generous, and rather sandy soil, but almost any free soil of a good depth will produce them in tolerable perfection. As to manures, a soil in good heart, after being manured for a previous crop, is preferable to one recently fertilised. When fresh manure is used it should be kept well down, not a particle should be nearer the surface than five or six inches. Sow the little *Early Horn* on a warm border, or in a frame, in February or March, and again in

July; the larger kinds, such as *Altringham*, *Long Red Surrey*, &c., in April, in rows one foot apart, the seeds being merely covered with a slight coating of very fine soil. Thin out to six inches apart in the first instance, and as soon as the roots are large enough to draw for table thin to a foot asunder. By this method a supply may be kept up throughout the summer, and a sufficiency of roots retained for winter storing. In soils too shallow for such deep piercing roots, very good crops may be obtained by sowing *Intermediate*, which may be left to mature at six inches apart in every direction. In October, or early in November, at the latest, carrots should be taken up and stored in sand, previous to which the tops and every vestige of soil must be removed.

CAULIFLOWER.

(*Brassica oleracea*, *Botrytis cauliflora*.)

The only difference between this and the broccoli is that the former is neither so hardy or so coarsely flavoured as the latter. The cauliflower is comparatively worthless unless well grown, to ensure which a rich soil and the most liberal cultivation possible is necessary. In a word, they must not be allowed to suffer from drought or to attain any great size in the seed-bed. Sow in gentle heat in February and March, and in the open ground from the beginning of April to the end of June. Prick out the seedlings on a bed of rich mellow soil, to strengthen them previous to planting them out finally. When put out to flower or head, let the rows be from two and a half to three feet apart, and the same distance asunder in the rows. For keeping over winter, the seed should be sown in August, September, or October, according to the climate of the place, the cultivator taking care not to have his plants too forward or too luxuriant in habit before the winter sets in, or he may lose them by frost. In the extreme south-western counties these plants are wintered in the open air, under the shelter of a fence or wall only, but, generally speaking, they require to be wintered under

hand-glasses or in frames, and should throughout the winter have as much air as can be given with safety. They ought to be planted out as early in March or April as possible, even if it be requisite to cover them with inverted flower-pots or hand-glasses, while severe east winds or frosts prevail, for a long season of growth is absolutely necessary for the production of a nice, close, white, tender flower. These, like broccoli, should be cut early in the morning, while the dew is upon them, as, if left later in the day, they become soft and withered, and consequently do not boil so well.

CELERY.

(*Apium graveolens*.)

This crop prefers an unctuous soil, slightly adhesive, but will succeed in almost any ordinary garden soil, if plenty of manure be applied. This is a crop that must not be subjected to rough-and-ready treatment; it will not put up with it; on the contrary, it requires great care and attention to bring it to perfection. A few words of advice to start with may prove of service to those who have had but little experience in its cultivation. The seed should not be sown too long before it is required, for where the seedlings are permitted to starve in seed-pans and frames for want of attention, it never acquires its full degree of vigour; hence it is of inferior quality to a plantation of the same sort and age that has received no check from beginning to end. It is preferable to sow rather late, and then keep it going by diligent and liberal cultivation, than to make too early a start that cannot be followed up with earnestness. In a word, sweet and crisp celery cannot be obtained unless it be kept growing from the first appearance of the seedlings to the time of earthing up. For the earliest supply, sow a pinch of seed in February of the smaller-growing sorts on a gentle hot-bed; and as soon as the plants are large enough to handle, prick them out three inches apart on a nice mellow bed of rich soil, on a half-spent hot-bed; give them plenty

of light, abundance of fresh air in favourable weather, and moderate supplies of water. A second sowing may be made in March, and the plants pricked out as before; but in case there is no hot-bed available, a well-prepared bed in a frame in a sunny aspect will suffice; or, if the season is somewhat advanced, a bed of well-rotted stable-dung, two or three inches deep, on a piece of solid ground, will answer very well, provided the plants are kept regularly watered. From this bed they will lift with good roots for planting-out, hardly feeling the removal at all. Seed may also be sown, without any protection, in April and May, and if carefully managed will produce useful crops for soups. When preparing trenches for celery do not be sparing of manure, for without plenty of that and water the plants will not succeed. These trenches should be four feet apart and fifteen inches wide, and the plants from eight to ten inches asunder in the trench. During the progress of the crop a dressing of well-pulverised earth may be occasionally thrown into the trenches to encourage the free spread of the roots; but the regular earthing up should not be commenced until the plant is nearly full grown, for the process tends to check growth very materially. This earthing up should be performed in dry weather only, and great care should be taken to keep the mould from entering the hearts of the plants. It will be necessary to earth up the late crops, whether they be full grown or not, in time to protect them from frost; and in low-lying districts it will be policy to take up the best sticks in time to save them from frost, and store them in dry earth in a shed where the enemy cannot reach them. Celery is not much troubled with insects; occasionally a kind of green-fly or aphid will attack them, but they seldom do much injury. A maggot now and then attacks the young leaves, but by early attention this too can be got rid of. On some old soils of a light and loose character it is liable to a kind of canker in the root, but this usually commences in the seed-bed, and may be obviated by planting in properly prepared compost.

CELERIC, OR TURNIP-ROOTED CELERY.

(Apium napaceum.)

Sow the seeds at the same time as for celery, and treat the plants in the same way for the open ground, until the time of final transplanting; but for an early crop, sow on a moderate hot-bed in the beginning of April, and when the plants are strong enough, prick them out on another hot-bed, an inch and a half apart, and give them plenty of water as soon as put in. Let them have abundance of air every day until the beginning of June, then transplant them into their final resting-place, which should be on a bed of light, rich earth, at the distance of fifteen inches apart every way, and not in trenches as for celery. Let them have plenty of moisture the whole time they are growing, and hoe them occasionally to clear them of weeds. The root only is used in soups and salads when boiled.

CHICORY, OR SUCCORY.

(Cichorium Intybus.)

Seeds should be sown early in April in rows a foot apart, and the plants, as soon as large enough, must be thinned out to six inches from each other in the rows. These will make good roots by the autumn, which should be stored in dry sand or soil until November. When required for use, these roots should be placed, at intervals of about a foot apart, in soil, in a dark place in gentle heat; and kept moist to the crowns; they will then produce leaves equal to endive in a few days.

CHIVES.

(Allium schanoprasum.)

The foliage of this plant is used as an ingredient in salads in the spring, and likewise in soups; they are esteemed on account of their being much milder than the onion. The chive will grow in almost any soil or *situation, and is propagated by slips, or division of the roots in spring or autumn.* They should be planted in

rows eight or ten inches apart, and the same distance asunder in the rows, and they will soon increase into large bunches. In cutting the leaves for use, they must be taken off close to the ground, and others will shoot up in succession. A bed thus planted will continue good for three or four years, at the end of which time the roots must be taken up, divided, and re-planted.

CORN SALAD, OR LAMB'S LETTUCE.

(*Valerianella olitoria.*)

This will thrive well in any soil not particularly heavy, but a fertile loam, or a soil of a sandy nature, will be found the best for it. As a rule about three sowings will be found sufficient to answer all purposes—to be severally made in February, August, and September. The latter consignment will be fit for use early in the spring. Sow in drills from six to eight inches apart; keep the hoe constantly at work, with a view to destroying weeds and loosening the soil at the same time; and when sufficiently advanced for the purpose, thin the plants out to four inches asunder. During the summer months the entire plant is edible, but in the winter or spring the outer leaves alone should be used.

COUVE TRONCHUDA, OR PORTUGAL CABBAGE.

(*Brassica costata oblonga.*)

This vegetable produces two distinct dishes—the top or head forming a fine cabbage; the mid-ribs of the largest leaves are crooked like, and indeed strongly resemble, sea-kale. Seed may be sown in heat in February, and on a warm sheltered border in March and April. As soon as the plants are large enough to handle they should be pricked out in a bed of rich soil, six inches apart in every direction, to strengthen, and when they have attained a pretty good size they may be finally put out like any other cabbage, on well-manured ground, in rows three feet asunder, and the plants two feet apart in the rows. They must be

liberally supplied with water if the summer is a dry one.

CRESS, AMERICAN.

(*Barbarea præcox.*)

This plant likes a light, dry earth, and should be sown in drills nine inches apart, in preference to broadcast. For winter and spring use sow from the middle of August to the beginning of September, on a warm border. If in demand throughout the summer, a sowing should be made every five or six weeks, from March to August. Water must be given freely in hot weather, and on the approach of winter it will be necessary to shelter the plants a trifle by a light covering of dry litter, or something of a similar nature, that will answer the same purpose.

CUCUMBER.

(*Cucumis sativus.*)

No mysteries are connected with the growth of cucumbers: when the principles have been overcome, the secret of success will be self-evident. In a word, the slightest neglect or carelessness will tell quickly to their disadvantage, while unfailing vigilance will insure success. To rear summer cucumbers is easy enough, and as the fruit is most in request during the summer season, the least troublesome culture is really of the greatest importance. Seed should be sown in heat in March, and the plants grown near the light until such times as they are ready for putting out, which will be when they are strong enough to plant out on a well-prepared hot-bed, one plant to a light. With proper attention as to air-giving and watering they will grow rapidly, and very soon begin to bear. It is well to avoid shading if possible, and where air can be given freely it will not be positively needful. The vines should not be so severely pinched and pruned as is the general practice, for superior fruit cannot be produced *until such time as a good plant, with a sufficiency of*

large and healthy leaves, can be secured. As regards stopping the rule is simple enough ; it mainly consists in pinching out the points of the side shoots, leaving one leaf in advance of the fruit ; but bear in mind you must not let all the fruits that show remain, for there will invariably be more presented than the plants can possibly mature. Very fair cucumbers may also be grown on ridges, with the assistance of a good bed of fermenting dung, covered with a three-inch coating of good light soil. As regards this variety there should be no stopping practised ; they do far better without. Another system of obtaining a supply of summer cucumbers is to plant out in large pots, filled with good turfy soil, or in a bed purposely made up for them (with a good mass of drainage material for a foundation), in a sunny greenhouse, after the bedding plants are cleared out, which will be about the latter end of May ; and train the vines up the roof. They very soon present a nice appearance, and bear abundantly until such time as the house is again required for the bedding plants in October. For winter culture, it will be necessary to have a suitable house, with heating apparatus and evaporating pans to create atmospheric moisture in readiness. These plants will necessarily have to be raised from seeds sown in August or September, and when trained out must be kept thin upon the trellis, to secure an ample admission of light. The winter crop should be restricted to a certain extent, or otherwise, if permitted to bear too freely, the plants will not last long. Hand-glass kinds should be sown the beginning of April, and planted out as follows : select a warm spot, where all sunshine can be enjoyed and winds excluded as much as possible ; a trench four feet wide at top, three feet at bottom, and one foot in depth, may be excavated ; this is to receive warm materials. Hot dung is, of course, necessary ; but to economise this, and to render the heat mild and durable, weeds, grass, and tree leaves may be mixed to the extent of one-half the bulk. This should be mixed and sweated for at least a week previous to using. The trench may then

be filled with this, and carried half a yard above the ground level, rounding it a little at the top. The material must be beat light with the fork as the bed is built. On the top of this holes may be made three feet apart, taking out about half a barrow of the material, and in this some coarse lumps of turfy soil may be put until level with the bed and surface. A lighter compost may then be spread all over the bed to the depth of about six or eight inches, and the whole being raked and rounded, a flat surface may be formed the size of the glass, over every three feet square where the coarse lumps were put. On this the glass should be set, and when it is ascertained that the heat is not more than eighty degrees, the plants may be inserted. They will require but little attention afterwards, except occasional waterings and frequent admissions of fresh air, so that they do not burn. Of course the shoots must be trained out at first with little hooks, and towards midsummer—or when the glasses are getting full of shoots—the glass may be raised on three bricks placed in a triangle. Occasionally pinching may be resorted to, as in the case of framed cucumbers, but this pinching may gradually cease after the middle of July.

DANDELION.

(*Leontodon Taraxacum.*)

This has a close resemblance to the endive, and is now considered one of the most wholesome, and known to be one of the earliest salading plants we have. Seed should be sown in May and June, in drills six inches from each other; and as soon as the plants are large enough for the purpose they may be thinned out to four or five inches apart in the rows. Plants so treated will be ready for use the spring following.

EGG PLANT.

(*Solanum ovigerum.*)

This is one of a group which are chiefly cultivated for the extraordinary resemblance between their fruit

and the egg of the domestic fowl. The seeds should be sown in heat in March in wide-mouthed pots, and when the plants are large enough they should be potted off singly in three-inch pots filled with a compost consisting of equal quantities of loam, dung, and peat. As soon as these pots fill with roots change them to the next size, and continue them in the hot-bed; the nearer they are kept to the glass the better, so long as they do not touch. Water them rather freely as they begin to flower, for the fruit takes up a good deal of the nourishment as they swell. When the fruit sets they may be removed to the greenhouse near the glass, otherwise they will draw. Those intended for cooking may be turned out of their pots into a bed of rich soil (where they can have shelter), in June, planting them two feet apart in every direction.

ENDIVE.

(*Cichorium Endivia.*)

While lettuces are to be had this is very little required, but when they become scarce it is eagerly sought after. For an autumn supply seed should be sown in May and June, in drills nine to twelve inches apart, on well-manured ground; and as soon as the seedlings are large enough they will require thinning out to six inches asunder in the rows. For winter and spring use they must be taken up at the end of October and planted closely in a frame or pit. They should not be planted out until fully grown, and then the simplest means of excluding light will suffice to blanch them—this may be accomplished either by tying up or covering with slates or tiles. Another sowing may be made in July or August, according to the climate of the place; and a portion of the produce from this sowing be planted out on a raised bed in a sheltered aspect, the remainder in frames or in any other situation where they will be comparatively dry, and sufficiently protected. Do not, in any case, blanch too many at a time, or begin to blanch them until they have grown large

enough to be worth it. They are very impatient of frost, and must, in consequence, be covered with litter during severe weather.

GARLIC.

(*Allium sativum.*)

This does best on light, dry, rich, but not recently manured, ground; a fresh hazel loam, newly broken up, suits it, as on such it grows very fine. Plant the bulbs in October or November, or from February to April, in drills nine inches apart and six inches deep, at the same distance asunder in the drills. The plants are soon up and must be kept clear of weeds. The bulbs will have arrived at maturity by the end of July or beginning of August, as will be known by their foliage changing colour; when they may be taken up (leaves, stalks, and all) and dried, tied up in bundles, and hung up for use as required.

GOURD.

(*Cucurbita varium.*)

Sow seed about the middle of April on a gentle hot-bed, and as soon as the plants are large enough to handle, pot them off two in a pot; grow the plants on until they are well established, they may then be gradually hardened off till the middle of May, when it will be time to turn them out into the open ground. Should the weather prove at all severe, it will be necessary to protect them with hand-glasses for a short time.

HORSE RADISH.

(*Cochlearia armoracia.*)

An open situation, and a deep, soft, sandy loam—neither very dry in summer, nor too wet in winter, suits this root best. The ground should be prepared in the autumn by well manuring and trenching three feet deep, leaving the last trench open till the spring. *In February procure the sets: these should be the*

strongest crowns or leading buds from old plants, and about an inch long. Then begin at the end where the trenching was left off, level the bottom of the open trench, and plant the sets nine or ten inches apart all the way along it, with their crowns upright; then dig another trench two feet wide, as in the ordinary way of trenching, turning the earth into the first trench over the rows of sets, and then plant another, and so on till finished. The bed must be kept entirely free from weeds all the summer, and in the autumn it must be cleared of the leaves. The roots will be fit to take up for use the following autumn.

KOHL-RABI.

(*Brassica caulorapa.*)

This vegetable, when about three inches in diameter, is very delicious if cooked and served up in the same manner as turnips. Seed should be sown in March or April in drills fifteen to eighteen inches from each other, and the plants thinned out, when large enough, to a foot apart in the rows. Another sowing may be made in the same manner in June and July for standing through the winter. Any well-manured and carefully dug ground will suit them.

LEEK.

(*Allium porrum.*)

Similar culture to that described for celery will suit this. Sow in February and March in the open ground, and thin out to four inches apart, as soon as they become crowded. The thinnings may be planted out on another bed of good soil, about the same distance asunder; and these will provide small leeks for use throughout the winter, for soups, &c. The stronger plants left in the seed-bed should be planted out in May and June, in trenches one foot deep and two feet apart (setting the plants six inches from each other in the row) prepared as for celery, with plenty of rich manure. If practicable keep them well supplied with

liquid manure during the entire summer, or at any rate water them freely, even if with pure water only. As soon as they have attained a considerable size earth them up to blanch; by this method you will ensure their being large and tender. They may also be grown very well by ordinary culture, digging in plenty of manure on a flat surface.

LETTUCE.

(*Lactuca sativa.*)

It is a fact—and facts are stubborn things—that a fine, tender, crisp, and juicy lettuce can only be ensured by good cultivation; that is to say, generous treatment. In a word, it loves a somewhat loamy soil, but will succeed very well in any ordinary garden soil provided it be liberally manured. Sow seed in pans in February and March and place these under glass; as soon as large enough for the purpose, prick them out six inches apart in every direction. The plants from this sowing, if planted with care on rich soil, and well watered, will afford a good and early supply. Occasional small sowings may also be made from the latter end of March to the middle of July, and planted out as fast as they become large enough, choosing showery weather for the job; or, in lieu of that, affording shade and moisture. Make it a practice when planting from the late sowings to leave a fair proportion of the plants undisturbed, as it may so happen that those put out late may run to seed, while those left in the seed-bed invariably make nice solid hearts. In August and September some of the hardiest kinds should be sown on a warm border, in the open air, to stand over the winter; a few of this sowing may likewise be preserved in frames or sheltered beds. Provided the winter is not over severe, those in open quarters will scarcely be checked by frost. All lettuces require a distance of a foot at least between the plants, if required to grow large and succulent; for ordinary purposes and in *cottage gardens*, however, they may be grown closer,

especially the cabbage variety. Every one knows that this vegetable is appreciated in proportion to its crispness, and this cannot be obtained without high culture. Liberal dressings and abundance of water are the way to ensure this condition; the latter is indispensable in dry weather. The hoe must be used as soon as they are half grown, but it must not be inserted too deep close to the plants, as they possess roots nearing the surface. Their summer culture is simple enough, but some extra pains must be taken with the winter plants; a little dry litter strewed over them in severe weather will prove of much benefit.

MAIZE, OR INDIAN CORN.

(*Zea Mays.*)

Seed should be sown in April in pans or boxes, and placed in gentle heat to germinate. As soon as the plants have attained the height of two inches, or thereabouts, they should be gradually hardened off previous to transplanting into the open ground by the end of May. Any moderately rich soil will suit this plant. The green heads of maize, when boiled and served with fresh butter, form a delicious dish.

MELON.

(*Cucumis Melo var.*)

The production of early melons in high perfection is considered, and indeed is, a nice point in gardening; they require a great amount of care, and as the proper management of fermenting materials, where employed, is the very foundation of success, I will explain the kind of process they should undergo. The first thing necessary is to render the hot manure what is termed sweet, which consists in causing it to part with a portion of those gaseous matters which in excess are at all times prejudicial to vegetation. Fresh stable manure is preferable to anything else, and this should

be thrown into a body to become hot, which it will do, provided it is bulky enough, in less than a fortnight. As soon as the heat is sufficient to become unpleasant to the hand, it must be turned completely inside out, and in this turning every particle should be shaken out and divided as much as possible. If the dung be in the least dry at any time, it must be well watered, for on a liberal application of moisture depends solely its fitness for the hot-bed. After laying for eight or ten days it must be again turned as before—this is sometimes made the last turning, but it is advisable to give it a third for early forcing. The dung is now in a uniform state as to general character and moisture; therefore the bed may be established. One thing I would call your attention to—the advantage to be derived from mixing tree-leaves with it when worked, in the proportion of one-part leaves to two-parts of the fermented mass, for early work; but for later purposes the quantities should be reversed. The benefits to be derived from this moisture are prevention from what is termed “burning” of the roots, a more lasting warmth, and a richer medium for the young fibres to run in. In building a hot-bed a dry site is absolutely essential; and in addition to this, a full exposure to the sun’s rays from eight in the morning till five in the evening—or at any rate seven hours’ sunshine should be ensured. There is no great art in building a bed of this description; any workman who can load a cart well will be able to make a hot-bed. Supposing you contemplate the making this bed in the early part of February, it may be five feet high at the back and four feet in front. The frame must be put on at once, and some loose litter placed round the outside to protect the fermenting materials from winds and rough weather generally. Under favourable circumstances the bed will become very hot in less than a week, when water must be liberally supplied, with a view to rendering the interior healthy. Here I would remark that a *bottom heat* of from seventy-five to eighty-five degrees *must be kept up*, and that ninety degrees is the maxi-

mum point to be allowed. In a fortnight, or possibly a little less, the bed may be planted; and from that time it will be necessary to maintain the temperature—a point easily accomplished by means of renewed linings, as the outer protecting material is termed. The temperature of the frame must be kept up at from not less than sixty, nor more than eighty degrees, encouraging, as a matter of course, the highest temperature in the day-time. The usual routine of pinching back, training, &c., with occasional waterings at the root, must be attended to; and here I would remind the cultivator of the necessity of sprinkling, continually, the inside of the frame, and keeping the linings moist, renewing them frequently, and the oftener the better. Melon-blossoms require what is termed setting—that is, impregnation by hand—or otherwise they will be a failure. The vines of the melon must be allowed to reach nearly to the edge of the bed before they are pinched, and as soon as the blossoms make their appearance, impregnation by hand must be carefully attended to. After the fruit is set—allowing not more than four or five to a plant—the vines must be pinched occasionally in order to prevent the later-made foliage from shading the earlier formed, or principal leaves. A tile, slate, or something of the kind, should be placed under each fruit, to prevent them from becoming discoloured and rotting. A trifle more heat is required for melons than cucumbers, and less watering; but when the fruit are about the size of hens' eggs, a liberal supply of weak liquid manure will benefit them. These applications may be continued in moderation at intervals afterwards, with the exception of the last three weeks of their existence.

MUSHROOM.

(*Psalliota campestris*.)

To make a mushroom bed well you must get some short dung, consisting chiefly of horse-droppings, and turn it over several times, shaking about each time

to moderate the heat. Then choose the spot for the bed. If you have a shed of any kind it is better than the open air, and if you are obliged to do it in the open air, choose a wall if you have it. The difference is, that where you form your bed against the wall, you form only half a ridge; the wall being merely a place to pile up your dung against. If you do it under a shed or in the open air, to form a ridge lay the dung from four to five feet wide at the bottom, and as long as the bed is to be; pile up the dung, making it narrower as you proceed, until you bring it two to three feet thick on the top, patting it close with the dung-fork, but not treading it together or pressing too hard, and when the heat is moderate and there is a gentle warmth—as warm as new milk—make it level; then break your mushroom spawn into pieces as large as hens' eggs, tuck them just under the surface, six inches apart, all over the bed, put it level with the back of the spade, and cover the surface all over, an inch and a half thick, with good working loam or soil from the kitchen garden; cover the whole with clean long straw, eight or ten inches thick, to keep it from wind and wet. There it must bide till it bears. Of course it must be examined once or twice a week, and when it begins to bear the mushrooms must be pulled up with a twist, not cut off.

Another way of growing mushrooms is to appropriate a declining melon or cucumber frame, and plant spawn in lumps as large as before described, four inches asunder, all over it, an inch and a half deep, and cover up with the glass, and, if necessary, keep it from frost by covering with litter or mats also. This method will rarely fail to yield a good crop.

Another style, simple enough in itself, is resorted to by persons even in London, and in wine or beer cellars. A shelf, from nine inches to a foot wide, is put up, with an edge standing up three inches. Horse-droppings, in a state of ferment or very moderate heat, are put on *this shelf*, and pressed in a sloping direction against *the back*, so that it is two inches thick in front next

the edge, and eight inches thick behind. Upon this place, three or four inches apart, pieces of spawn as large as walnuts, then an inch of dry loam. Pat this firmly down and the bed is complete.

The last method we shall describe is of so simple a character that there is no reason why every person who owns a cellar or an outhouse should not have mushrooms on the table weekly through the whole winter and spring. Nothing is requisite but a covering from the wet and extremes of weather. Few persons but can obtain a little fresh horse manure, which is the only material requisite; and the following is the way to proceed:—Procure fresh manure from the stable-door before rain has penetrated it, if possible. Now, there is no necessity for fermenting it—strong fermentations are to be avoided; nevertheless, in damp and cool weather, a little fermentation expedites the process. Let it then be thrown in a heap for a week, after shaking out a little of the mire and straw, then let it be spread anywhere under cover to dry. It will require turning a few times, and when about three parts dry may be made into a bed. For a flat bed (which this is to be) on the floor, about eight or ten inches in depth is sufficient, and the dung must be spread in layers of about three inches in thickness, which layers must be well beat in succession with the back of the spade; the harder it is beat and the firmer it is rendered in texture the finer will the mushrooms be, and the longer will the bed endure. Thus in succession must the bed be beaten or trodden hard, and when finished it should be as firm as the turf in the meadows. When ready holes should be made to insert the spawn, at about one foot apart. The spawn is not to be inserted immediately, for the bed will be in all probability too hot; the heat will rise for about ten days to its maximum, and then fall gradually, and it is when it begins to fall that the spawn should be inserted. It should be spawned when the bed is from seventy-five to eighty degrees; if higher the spawn will be destroyed, if much lower the bed will be some time before it bears. In a

day or two after spawning the bed must have soil put over it two inches thick, and this must be beat firmly also, and made smooth. Little will be needed after this; the bed must be protected with some litter, so as to sustain a small amount of warmth constantly. It should be kept at about sixty degrees, if possible. Just as the first mushrooms begin to show, the bed should have a slight watering, if dry, with tepid water.

The best months to make mushroom beds are August and September; these will supply the table from October until Christmas. Beds made before and afterwards must be indoors.

MUSTARD.

(*Sinapis alba.*)

Those who appreciate salads should be always well provided with this plant, of a proper age and tenderness. It is a very good plan to keep a few boxes in use for the purpose in a pit or frame, sowing occasionally to insure a succession, but not with a view to creating waste. It may also be sown in the open air all the summer through on a shady border. There is one thing I would suggest to my readers, and that is, never to sow this and cress at the same time; on the contrary, the latter may be sown at least a week before the former, as it does not grow so fast as the mustard.

ONION.

(*Allium cepa.*)

This root not only requires, but must have, good, rich, loamy soil, deeply dug, sweet, and well pulverized. Lay out whatever quantity of ground you intend to devote to this crop in four-foot beds, nicely finished off, and slightly convex. In March or April, or as early as *the state of the weather will permit*, sow the seed in *drills nine inches apart*, cover the same half an inch, *and beat or tread firmly*. Thin them in good time, and

clear them of weeds at all times, by keeping the hoe constantly on the move between them. As soon as the leaves turn yellow (which will be somewhere about August) the crop should be lifted, after which the onions should be placed in a dry, airy place. When thoroughly ripe every leaf ought to be removed with the exception of those required for roping. If you have any reason to suppose that there is the slightest danger of the crop turning out badly through wet weather, have the bulbs drawn at once, lay them on the surface of the ground for a day or two, and then put them into a cool oven for an hour or two to finish them off. By care in this manner good store onions may be secured in a season anything but favourable to their ripening properly. Pickling onions, or rather those intended for pickling—for any kind will do if properly grown—should be sown in April or May on poor ground, very thick, and do not thin the crop at all. Where extra large onions are required, seed should be sown in August, and the produce planted out the following spring, one foot apart in every direction, in rich soil; from which time they must be liberally supplied with water or liquid manure until mid-summer.

PARSLEY.

(*Petroselinum sativum*.)

Once a year will be found quite sufficient to sow this in small gardens, because a portion can be cut over in the autumn to insure a new growth before winter; but it is advisable to make a couple of sowings, as it is a thing constantly in demand for a well-ordered kitchen. The best times to sow are March and June, in deeply-dug, well-manured soil. Thin out the plants as soon as they are large enough for the purpose, in order to promote a vigorous, healthy growth. In August, or September, at the latest, a plantation should be made from the June sowing in a frame, or on a warm, sheltered border, where the plants will have a chance of surviving the winter.

PARSLEY, HAMBURG OR TUBEROUS-ROOTED.

(Petroselinum tuberosa.)

Any common soil that is deep and dry will suit this plant. March or April is the proper time to sow the seed, either in drills or broadcast, in beds four or five feet wide, to be afterwards raked in evenly. As soon as the plants are well up they should be cleared of weeds, and thinned out to six or eight inches apart in every direction, so as to give the root room to swell by the autumn, when it will be ready for use, and last in perfection till the following spring.

PARSNIP.

(Pastinaca sativa.)

A most valuable root, full of nutritious properties, and will make a good return on poor ground, but will pay well for liberal treatment, nevertheless. To insure large, tender roots, it will be necessary to trench the ground two spits deep, and put a good dressing of manure at the bottom of each trench as you proceed. As the time of sowing depends chiefly on the weather, we recommend you to get in the seed either in February or March, in drills from a foot to fifteen inches apart; and when sufficiently advanced thin out to nine or twelve inches asunder in the rows. If the space they occupy is required in the winter, take up and store in sand or dry earth in a shed; but if not wanted, only take up a few at a time, as frost tends to improve rather than injure them; and they are not only better flavoured, but as tender again cooked direct from the ground.

PUMPKIN.

(Cucurbita Pepo.)

Sow seed in April on a gentle hot-bed; and as soon as the seedlings have a pair of rough leaves, pot them off—two in a forty-eight sized pot. Let the plants be grown on as before until they are well established,

when they must be hardened off gradually until May, and then be planted in the open ground, where they can have the protection of hand-glasses for a short time, in the event of severe weather setting in.

PEA.

(*Pisum sativum.*)

Peas are particularly partial to fresh ground; in short no crop pays better for liberal cultivation than this. Deep trenching is of the utmost importance, and a heavy dressing of manure should be placed at the bottom of every trench. Any soil will produce good peas if properly dealt with, but you must bear in mind that this plant contains a very great portion of phosphate of lime, and as such guano and superphosphate are valuable aids, and particularly where the soil is deficient of such ingredients. The first earlies may be sown in November, December, and January, on a dry, sloping, sheltered border, not over rich, in drills four feet apart. Put sticks to them as soon as well above ground, as they tend to afford some degree of shelter, while, if the weather is very severe, a few close-setting branches stuck here and there will prove a double protection. Both the first and second earlies may be sown in February on well-prepared ground containing plenty of manure. So again at intervals, proportionate to the demand, the best sorts obtainable, including the latest, until the end of May; then sow second earlies, and, finally, provided you do not object to incur a little risk, make another sowing of first earlies any time between the middle of June and the middle of July. It is advisable to put in rows of peas of all sorts far apart, say from eight to ten feet at least, and have a row of cauliflowers, cabbages, or spinach in between. Tall-growing peas are preferable to dwarfs as a rule, both as regards quality and quantity; consequently the little extra outlay for sticks will not be an object. Peas should always have stakes put to them before they fall over, otherwise the crop will not be nearly so good.

POTATO.

Solanum tuberosum.)

This is a plant so well known, and its use so great, as to leave me at a loss for expressions to convey a proper idea of its value. Suffice it to say it is a vegetable grown everywhere, by everybody who has the means of doing so. It is a root propagated in various ways, but the most general and best mode is by cuttings of the tuber, called sets. In cutting the potatoes into sections or sets, the crown or watery end of the tuber should be rejected, as being apt to run too much to top, having the eyes small and in clusters. In dividing the tuber not more than one good eye ought to be left to each piece, and in general the crop will be found greater than if two or more were left. In planting almost every individual differs in some respect or other in his practice. The soil best suited for this root is a light fresh soil without manure, if they can be grown to answer the desired end, as on such they are much better flavoured. The soil should lie dry, as they always grow sickly—the tubers becoming as a rule watery and scabbed—in wet ground. If the soil be poor and exhausted, it must be manured; in which case mellow dung should be employed, as least likely to affect the tubers. The season for planting mainly depends upon the state of the ground and the weather; but the last fortnight in March and the first in April is the best season, provided other circumstances are favourable, for getting in this root, both for early and late crops. If the ground be manured, having the dung spread on the surface, begin at one side, and if convenient, either the east or the west, and dig as much as will serve for one row, then stretch a line across from north to south, and with a blunt-ended dibble insert the sets; if early ones, about six inches apart and three inches deep, and fill the holes in immediately; then proceed to dig for another row—if *for early ones*, about twenty inches, but if for main *crops two feet or two feet six inches*, according as the

ground is rich or poor, and from twelve to fourteen inches apart in the row, and so on till the whole is complete; the ground being left even, avoid treading upon it till the potatoes are up, when it must be hoed over to cut down all rising weeds, in dry weather only. As soon as the plants are from six to eight inches high, they must have earth drawn up to them on both sides with the hoe, for the purpose of strengthening their growth and promoting increase below. When the plants have been thus hoed or landed up about a fortnight, the flat spaces left between the rows should be forked over to loosen the ground about the roots, which will be of great advantage to the crop. After this the plants will require but little more attention until the time of taking up. In June and July tubers of the early sorts will have advanced to what may be termed a sufficient size for present use, though still small; a few therefore only should be taken up at a time as wanted for immediate use, as they would not keep for more than a day or two at the outside. In September they will have grown to a larger size, and may be taken up in greater quantities, but still not with the view of keeping them for any length of time. The main winter crops should be allowed to remain in the ground until they are quite ripe, which will be indicated by the haulm or stalks beginning to decay. This mostly takes place in October or November, when they may be lifted at once, and stored for winter and spring use. In forking them up care should be taken to clear the ground thoroughly of both large and small tubers, otherwise they will be found troublesome the year following.

Early Potatoes.—These are necessarily forced in pits or frames, and require a bottom heat to begin with of sixty or seventy degrees, and this is best composed of about two parts leaves to one part dung; for the plants once up the heat should be allowed to decline, or the plants will become weak. The ash-leaved kidney is one of the best for this purpose, the secret being to

so preserve the seed as to secure their first sprouts. In a word, they are best preserved through the winter on shelves thinly, or in tubs or baskets placed out of the reach of frost, but where the air of the room or shed is cool and tolerably dry. They ought to be planted about ten inches apart every way, and five inches deep, in sound, turfy loam, although any ordinary good garden soil will answer. As soon as they are above the soil they must be liberally supplied with air, for if permitted to grow weakly for want of air, the crop will be deteriorated. They will require no water until the plants are six inches high, but one good supply of moisture should be given them when the young potatoes begin to form, which may be known by the foliage showing symptoms of curling.

RADISH.

(*Raphanus sativus.*)

Quick growth for radishes is absolutely essential, as when grown slowly they become hot, tough, and ugly; speedy growth ensures mildness, tenderness, and beauty. A light, rich soil is the most suitable for both early and late crops; but a very fair radish may be grown in summer on any soil that will produce a good cabbage. From January until such time as the seed may be trusted to a warm sheltered border, such kinds as the French breakfast, the frame, and the early turnip should be grown on a half-spent hot-bed. Much may, however, be done to forward a crop by resorting to the use of litter and mats, as a protection against frost, but these must be removed whenever the weather is at all favourable, to give the crop the fullest possible benefit of sunshine and air. For early sowing, the long varieties of radish are in all respects the most suitable; though the oval-shaped and turnip kinds are most generally appreciated. All the different sorts may be safely sown in the open ground from March to September; but a *somewhat shady aspect* should be selected for them *during the height of the summer.*

RAMPION.

(*Campanula rapunculus.*)

Seed may be sown from the beginning of March to the end of April, in drills one foot apart; the plants, as soon as large enough, should be thinned out to four inches asunder in the rows. The root of this plant, which very much resembles a white radish, is used for salading purposes.

THE RAT-TAIL RADISH.

(*Raphanus caudatus.*)

This belongs to the radish tribe; but, unlike that esculent, the seed-pods are eaten instead of the root. These produce pods varying from twenty to thirty inches in length, in a very short time, and are a great curiosity. Seed should be sown either in pots or in the open ground in March or April, and transplanted into the open ground or pricked out singly into forty-eight sized pots, as soon as large enough to handle with safety. For eating, the seed-pods should be gathered when about half grown. Any moderately rich and light soil will suit them.

RHUBARB.

(*Rheum.*)

This requires a deep, rich, and damp soil, and is increased either by seed or division of the roots. The sowing of seed is advisable only in the case of raising large plantations; where a small quantity is sufficient, it is better to plant roots in the autumn or early in the spring. Sow the seed in April, on rich light soil, in drills one foot apart; the following spring transplant the roots to the spot they are to occupy permanently. Although this plant will thrive on almost any soil, and certainly wherever a dock will grow, the finest produce may be expected from a deep, damp, heavy loam, richly manured. A plantation made from roots ought not to be touched the first season; but after that it will

bear fine sticks, and may be pulled from freely. Rhubarb may be forced very simply, and is most delicately flavoured when grown in the dark, or nearly so. A few strong roots packed in leaves or light soil under the stage of a greenhouse, or on a gentle hot-bed, will furnish a supply throughout the depth of winter. An early supply from the open ground may also be ensured by covering with boxes and litter. Although the larger kinds are most in request for market, the small red-stemmed sorts are by far the best for forcing and home use, and are, as a rule, better in flavour.

SALSIFY.

(*Trogopogon porrifolium.*)

Sow in drills any time between March and April, choosing an open compartment of well-manured, deeply-dug, and light soil. The rows should be ten inches from each other; and as soon as the plants are three inches in height they ought to be thinned out to six inches asunder in the rows. In August and September the roots will have attained a good size, when some of them may be taken up for immediate use. The remainder will have perfected their growth by October, and will continue good all the winter. They must be well watered in dry weather.

SAVOY.

(*Brassica oleracea, Bullata major.*)

This species of cabbage prefers a strong and rich soil of a fair depth. The savoy is usually grown much too large for home use—we presume because the largest plants find the readiest sale in market. To secure a supply of small and delicately-flavoured hearts, sow in the latter part of April one of the miniature kinds on a bed of rich soil, and when large enough for the purpose put out the plants in rows a foot apart, and the same distance from each other in the rows. These will in *due time form neat round hearts from four to six inches through, and be positively delicious after they*

have been touched by frost. When large savoys are required, sow in March, and plant out two feet asunder in every direction.

SCORZONERA.

(*Scorzonera Hispanica.*)

An open compartment of well-manured and deeply-dug ground is essential to this plant, and if the soil be of a light texture so much the better. Sow the seed in drills eighteen inches apart, and as soon as the young plants are from two to three inches high, they should be thinned out to nine inches asunder in the rows. By August or September the roots will have made sufficient progress to warrant some of them being taken up for present use. The others may be left in the ground to perfect their growth, which they will do by October.

SEA-KALE.

(*Crambe maritima.*)

This plant may be increased both by division of the roots and by seed. In the case of seed, sow in drills two feet apart about the end of March, and as soon as large enough thin out the plants to three inches asunder in the rows. For a permanent plantation the plants should be put out in triangular groups of three each, in rows two feet apart, and the groups the same distance from each other in the rows. Between every third row there should be a three-foot space, for the convenience of carrying the litter and pots for forcing in spring. Sea-kale (the roots of which must be strong for this purpose) may be forced on the ground by covering with pots and litter from the stable-yard: this covering should not be less than a foot and a half thick all round the pots, and it is advisable to dust the crowns with lime, as a preventive against slugs, before covering in. The pots and litter can, and, indeed, ought to be removed directly after the sea-kale is cut, and the ground be made tidy for the summer; but every care should be taken to prevent the plants flowering and

seeding, as it weakens them considerably for the following season. For forcing in houses or pits, young roots with only one pointed crown to each are preferable, as such roots will not throw up flower stems. When transplanting these roots make it a practice to cut off the crown of each, for this process removes the flower buds, and causes fresh buds to push up from below them. A very quick and easy method of growing sea-kale is as follows:—In April or May plant out small roots in beds, and these will the following year make capital roots for use. These may be taken up in October, planted in pots or boxes, with the crowns just above the surface, and placed in some dark place where the temperature averages about fifty degrees.

SHALLOT.

(*Allium Ascalonicum.*)

For these plenty of manure must be dug in deep, so that the bulbs cannot touch it. Plant in drills in November or from February to April, in beds slightly raised, and of an arched form: let the rows be one foot apart, and the bulbs six inches asunder in the rows. Equal proportions of soot and charred refuse should be put in the bottom of the drills previous to planting. As soon as the leaves begin to decay they may be taken up, dried, and stored away in a dry and cool place.

SKIRRET.

(*Sium sisarum.*)

A light, moderately rich soil suits this plant best. Seed may be sown from the first of March to the end of April in drills eight inches apart on an open compartment. As soon as the plants are two inches high, they must be thinned out to five or six inches asunder in the drills. Some may be taken up for immediate use between August and September, but they will not have attained their full growth till the latter end of autumn.

SPINACH, ROUND OR SUMMER.

(*Spinacia oleracea inermis.*)

This vegetable delights in good soil ; it is sometimes sown broadcast in beds, at other times in drills one foot from each other. In any case it must be carefully thinned out as soon as large enough for the purpose. It is of a very accommodating nature, so far as it may with safety be grown in almost any nook or corner, provided it is not too much shaded by trees. The best time to sow it is early in March to begin with, and continue to make small sowings up to the end of April : our reason for recommending small sowings is, that unless gathered quickly it soon runs to seed.

SPINACH, PRICKLY OR WINTER.

(*Spinacia oleracea spinosa.*)

This is an important crop in the gardens of the wealthy, and not altogether an unwelcome one to those of limited means. Like its predecessor it prefers good soil, and to secure a liberal supply a considerable breadth should be sown in August and September, either broadcast or in drills, on raised beds. It is very impatient of any kind of stagnation, and for this reason it will be necessary to protect it with dry litter during severe weather. It may be had nearly the year round by means of small successional sowings.

SPINACH, NEW ZEALAND.

(*Tetragonia expansa.*)

This may be raised in heat from seeds sown in March, and planted out about the middle of May, three feet apart in every direction ; or the seed may be sown in the open ground in April, and as soon as large enough be transplanted on another bed as already recommended. These plants will furnish a supply of leaves from the middle of July to the end of October.

TOMATO.

(*Lycopersicum esculentum.*)

Sow in heat in February and March, and prick out, when large enough, in deep pans of light, rich soil, six inches apart in every direction. After a while a few of the strongest may be potted off separately, and grown on in the greenhouse; the rest should be planted out against a hot wall, three to four feet from each other. Here they must be trained regularly, nipping out the points of the side-shoots from time to time as necessary. The tomato should be supplied with alternate applications of liquid manure and pure soft water. Any full-grown fruit on the vines unripe in the autumn must be gathered and put on a shelf in a sunny greenhouse to be ripened off.

TURNIP.

(*Brassica rapa.*)

The culture of this is so well understood that it is needless for me to say much respecting it. I am, of course, now dealing with the ordinary turnip for domestic use, and in so doing I would say, in the early part of the season, say from March to May, it should be sown in moderate breadths, and the selection should consist of the earliest varieties of smallish growth. From the middle of June to the end of August the larger sorts should be chosen. Sow broadcast on a good, deep, well-manured soil; thin out as early as possible—weeding them at the same time—to a sufficient distance, which must be determined by the sorts. The small kinds may be nine inches apart, the larger ones from a foot to eighteen inches asunder. In case you find them attacked by the fly, dust the plants immediately with soot or quicklime while the dew is on them; when, provided the soil be rich, and the weather favourable, they will soon grow out of the reach of the pest, *for it is only* in their young state they are liable to *injury.*

VEGETABLE MARROW.

(*Cucurbita ovifera*.)

A rich soil and a sunny position is essential to the growth of this vegetable; and as they come from a hotter climate than ours, it is necessary to prolong the season for them by raising the plants in heat, that they may acquire sufficient strength previous to planting out, and have the entire summer before them for the production of their fruit. Sow the seeds in pots or pans in March or April, and as soon as large enough pot them off singly; by the end of May they will be ready for planting out where they are to remain. Provided beds are prepared for them in the same manner as advised for ridge cucumbers, but with more room for the vines to ramble, the produce will not only be superior in quality, but larger in quantity also, than in beds of ordinary soil; nevertheless, a mound of any kind—one of mere clay with a slight mixture of leaves, manure, and loam—will suit them, and on such a hillock the seeds may be sown in May, in case you have no convenience for forwarding them early in pots under glass. In dry hot weather it will be necessary to give them abundance of water, and occasionally a good drenching with liquid manure. The vines should never be stopped—on the contrary, they should be permitted to grow in their own way. As leaving fruit on the vines to ripen acts as a direct check to further production, it will be necessary, where a plentiful supply of tender green marrows are required, to remove each one as soon as it reaches maturity.

A FEW OF THE BEST VEGETABLES.

ASPARAGUS.—Conover's Colossal and Giant or Battersea.

BEANS, BROAD.—Royal Dwarf Cluster, Early Monarch, and Mazagan.

BEANS, FRENCH OR DWARF.—Fulmer's Dwarf, Black Negro, and Canadian Wonder.

BEANS, RUNNERS.—Carter's Champion, *red*; Painted Lady, *red and white*; and White Dutch, *white*.

BEEF.—Sutton's Dark Red, Pine Apple Short Top, and Nutting's Selected.

BORECOLE OR KALE.—Cottager's Kale, and Improved Variegated.

BROCCOLI.—*First division*, Walcherin; *second division*, Snow's Winter White; *third division*, Cooling's Matchless; *fourth division*, Knight's Protecting.

BROCCOLI, SPROUTING.—Dancer's Purple Sprouting.

BRUSSELS SPROUTS.—Mein's Victoria and Imported.

CABBAGES.—Cocoa Nut, Rosette Colewort, Enfield Market, and Large Blood Red, for pickling.

CAPSICUMS.—Long Red and Long Yellow.

CARROTS.—Early Scarlet Short Horn, James's Scarlet Intermediate, and Improved Long Red Surrey.

CAULIFLOWERS.—Early London White, Veitche's Autumn Giant, and Sutton's First Crop.

CELERY.—Cole's Crystal White, and Williams's Matchless Red.

CHILI.—Long Red and Tomato-shaped Red.

CRESS.—American, or Land, and Extra-fine Curled.

CUCUMBERS.—*For Frame-work*, Tender and True, and All the Year Round; *for ridging out*, Wood's Improved, and Stockwood.

ENDIVE.—Imperial White Batavian, and Moss Curled.

GOURDS.—Improved Mammoth, and Large Green.

KOHL-RABI.—Early White and Early Purple.

LEEKS.—Musselburgh and London Flag.

LETTUCES.—*Cos varieties*, All Heart and Black-seeded Bath; *cabbage varieties*, All the Year Round and Tom Thumb.

MELONS.—Sutton's Hero of Bath, Beechwood, and Munro's Little Heath.

MUSTARD.—White and Brown.

ONIONS.—James's Long-keeping, Globe Tripoli, White Spanish and Newnham Park.

PARSLEY.—Sutton's Imperial Curled and Fern-leaved.

PARSNIPS.—The Student, Hollow Crown, and Jersey Marrow.

PEAS.—*First early*, Dillistone's Early and Kentish Invicta; *second early*, Advancer and Sangster's No. 1; *for medium or main crop*, Best of All, and Laxton's Prolific; *for succession*, Laxton's Superlative and Veitche's Perfection; *and for late crops*, British Queen and King of the Marrows.

POTATOES.—Kidneys: *first early*, Ashleaf; *second early*, Prince of Wales; *late*, Late Rose. Rounds: *first early*, Early Oxford; *second early*, Drummond's Prolific; *late*, Fortyfold.

RADISHES.—French Breakfast, *oval-shaped*; Wood's Early Frame, *long*; Early White and Scarlet, *round or turnip*; Black Spanish, *for winter use*.

SAVOYS.—Early Ulm, Drumhead, and Dwarf-Green Curled.

SPINACH.—Round, *for summer*; Prickly, *for winter*; and New Zealand.

TOMATOES.—General Grant and Greengage.

TURNIPS.—White Stone, White Dutch, and Orange Jelley (*for late use*).

VEGETABLE MARROWS.—Shirley Hibberd's Prolific Early, Improved Custard, and Long White.

PART III.
HERBS AND THEIR CULTURE.

ANGELICA.

(Angelica officinalis.)

In former years this plant was much more cultivated than it is at present, chiefly on account of its leaf stalk, which, when blanched, will be found a very good substitute for celery. However, as it is only customary now to use them when candied, to those who cultivate it for that purpose a word or two on the subject may not be altogether unwelcome. The time for gathering is in May, or at all events while the stalks are young and tender, as if permitted to grow for too long a time they will become coarse and strong. Previous to giving directions for the propagation of this plant, we may say that both the seeds and leaves are occasionally used in medical preparations. Those about to cultivate this plant will do well to observe the following rules:—A moist situation, although not absolutely necessary, will be found most agreeable to it, for this reason: that in such situations the same is found in many parts of England, although we are ready to admit that it will grow in almost any soil with more or less success. It is propagated by seed, which should be sown in the autumn as soon as ripe, as the plants come up stronger and far earlier than when the seed is sown in the spring. The best method of sowing the seed is on the broadcast *principle, on beds of a moderate width. As soon as the plants have attained the height of four or five*

inches, they should be pricked out into rows three feet apart, and the plants one foot asunder in the rows. Should the weather prove very dry, it will be necessary to give them a little water, as by so doing it causes the plants to throw out an abundant supply of new roots, by which means they are enabled to advance in growth rapidly. As their future success will depend greatly upon the manner in which they are attended to in the first instance, you must watch them carefully and regularly clear the soil round and about them of weeds; then as soon as they are sufficiently high, a little earth should be drawn to them in precisely the same manner as you would do celery, in order that the leaf-stalks may be nicely blanched. The second year the branchy seed stems will rise several feet high, and produce large heads of seed. Should you not require it, you may cut the plant down in May.

BALM.

(*Melissa officinalis*.)

This is easily propagated, either by slips, or by parting the roots, leaving two or three eyes or buds to each. The proper time for planting is in the spring. This plant will grow and do well in any common soil; all you have to do is to dibble in the slips or sets one foot apart, and water them well if the weather is dry. They will soon take root, grow freely, and be fit for use the same year. It is a perennial plant and will grow for several years in one situation. It is seldom or ever needed for any culinary purpose; its chief use seems to be that of making balm-tea, to be drunk by those suffering from feverish complaints.

BASIL, SWEET.

(*Ocimum basilicum*.)

This, being an annual, is raised from seed, which should be sown on a hot-bed about the latter end of March; and as soon as the plants are sufficiently high, they *must* be transplanted into a warm border of light

rich soil, eight inches apart every way. It may also be sown out of doors on a warm border in April, but such plants are never so strong. In transplanting from the hot-bed be careful to take as much soil as possible with the roots, that they may neither be injured or checked too much. Give them a good watering as soon as planted, and in dry weather, and they will soon make fresh root and produce plenty of tops. The leaves and tops of the shoots are the parts gathered, and are used for highly seasoned dishes, and occasionally introduced into salads.

BASIL, BUSH.

(*Ocimum minimum.*)

This is an annual also, and must have precisely the same treatment as that recommended for the previous one. The only difference is that it is of much smaller growth, and rather more hardy. Its uses are precisely the same.

BORAGE.

(*Borago officinalis.*)

This is an annual plant raised from seed, sown any time from February to May, either broadcast or in drills, but the latter method is preferable. The drills should be ten inches asunder, and when the plants are well up they must be thinned out to the same distance apart in the rows. This plant will grow if transplanted, but it thrives better when left where sown. The young and tender tops are used as pot herbs, occasionally in salads, and at times as a garnish.

BURNET.

(*Poterium sanguisorba.*)

This is a hardy perennial, increased by division of the root any time between March and May. The *slips or sets* should be inserted in any ordinary soil, in rows one foot apart, and a similar distance from each

other in the rows. The leaves, which are very delicate, are chiefly used for putting into salads, but occasionally they are introduced into soups.

CARRAWAY.

(*Carum carvi.*)

This (a biennial) is raised from seed, which should be sown in the autumn, soon after it is ripe, in ordinary soil, either broadcast or in drills. The plants quickly make their appearance, when they should be thinned out to a foot apart in every direction, if broadcast, if in drills the same distance asunder in the rows. Where the sowing was neglected in the autumn, it may be done in March or April, but in that case the seed seldom ripens the same year; anyhow, as soon as it does ripen it should be gathered, dried, and put by for use. The seed of this plant is the part chiefly used in confectionary, in medicine, and for distillation. In spring the under leaves are sometimes put in soup.

CHERVIL, CURLED.

(*Cherophyllum sativum.*)

This is an annual, the tender leaves of which are used in soups and salads; they being very ornamental are occasionally used for garnishing purposes. To ensure a succession throughout the summer seed should be sown in February to commence with, and every three weeks afterwards up to the end of August. The necessity for sowing so frequently is that the plants soon run up to seed, and when this is the case they become useless. The seed should be sown in shallow drills nine or ten inches apart, in ordinary soil, covered lightly with the rake, and watered slightly from time to time as required. The leaves will be fit for gathering when the plants have grown to four or five inches in height. If cut close to the ground they will shoot out again, and may be gathered in succession.

CLARY.

(*Salvia horminum.*)

This is a biennial plant, the leaves of which are occasionally used as a substitute for sage, but most frequently in medicine. It is sometimes propagated by cuttings and slips, but chiefly by seed. Seed may be sown broadcast any time from the middle of March to the end of April in a bed or border of moderately rich soil, and raked in evenly. As soon as the plants are two or three inches high, a portion of the strongest may be transplanted, from twelve to eighteen inches apart every way, to allow sufficient room for the plants and leaves to spread into full growth, when they will be fit for use the same year, and continue in perfection through the winter until the following spring and summer. Cuttings or slips may be struck in July, under a hand-glass, on a warm border.

CORIANDER.

(*Coriandrum sativum.*)

This is cultivated chiefly for its under leaves, which are used in soups, salads, and for garnishing; also for its seeds, which distillers, druggists, and confectioners employ in various ways. Although a hardy annual, a nice sandy loam seems to suit it best. Seed may be sown in February when the weather is open and dry, in drills nine inches apart, and as soon as the plants are large enough to handle they must be thinned out to the same distance asunder in the rows, for the reason that they do not bear transplanting. A little seed may also be sown in a frame during August and September, for protecting through the winter.

DILL.

(*Anethum graveolens.*)

A hardy biennial plant of aromatic properties, the *leaves of which* are occasionally used in soups, sauces, and pickles, and for medicinal purposes. It is raised

from seed sown in March, April, or May, in an open spot of moderately rich ground; either in drills a foot asunder, or broadcast, and raked in evenly. As soon as the plants are well up they must be thinned out to eight or ten inches apart in the rows, if in drills; or from each other, in every direction, if broadcast; for as they do not like transplanting, it is necessary to let them remain where sown. If the seed be sown in the autumn as soon as ripe, it will come all the stronger next spring.

FENNEL.

(*Anethum fœniculum.*)

A perennial plant, the leaves of which, boiled, are used in many fish sauces; and in a raw state as a garnish for several dishes. It is raised both from seed and offsets from the root of the old plant. The former method is best, as this plant (on account of its tap root, which, if broken, never grows strong afterwards) does not bear removal well. The seed should be sown from March to May, on moderately rich soil, in drills from fifteen to eighteen inches asunder, and as soon as the plants are an inch or two in height they should be thinned out to twelve or fifteen inches apart in the rows. This plant ought never to be allowed to seed; on the contrary, it should be cut down annually, when it will send up a succession of delicate young leaves for present and future supply.

HYSSOP.

(*Hyssopus officinalis.*)

This is a hardy evergreen shrub, propagated by seed, slips, or cuttings. If by seed it may be sown in March or April, either broadcast, or in drills eight inches asunder. As soon as the plants are up they may be transplanted in rows, in a bed of moderately rich soil, a foot apart every way, or they may be planted the same distance from each other, as an edging, if preferred. In any case let them be well watered directly

after planting, and occasionally in dry weather, until the roots get good hold of the ground. Cuttings from the stalks should be taken and struck in the open border, in April or May, in a sandy soil, where they will soon take root and grow freely. Young slips of the same year's growth may be taken from the old stock in July, and planted in sandy soil, in a shady situation; and if kept moist by watering, will root readily in a short time. The leaves and young shoots are used as a pot herb, the leafy tops and flower-spikes are cut, dried, and preserved for medicinal purposes.

LAVENDER.

(*Lavandula spica.*)

A hardy evergreen under-shrub, and popular aromatic herb. It may be propagated either by cuttings or slips, struck in soil of a poor gravelly nature, as on such the flowers have a powerful odour, and the plants being more hardy, are thus able to stand severe winter weather all the better. In a rich soil the plant is not half so fragrant, and it becomes far more tender in habit. Cuttings and slips should be taken in the spring and struck on a shady border under a hand-glass. As soon as rooted they may be planted in a bed to themselves, in rows three feet asunder and two feet distant from each other in the rows. They will bloom in July and August, when the flowers should be cut while in perfection, close off at that part of the plant from which they spring. These are much in request for distillation and medicinal purposes.

MARJORAM, POT.

(*Origanum onites.*)

This is a hardy perennial under-shrub, propagated chiefly from rooted slips or suckers; planted in rows one foot apart, and eight inches asunder in the rows. *It is occasionally raised from seed, sown broadcast in April, on a warm border of light earth, and as soon as*

the plants are about three inches high, they should be thinned out to eight inches apart in every direction. Its principal use is for seasoning.

MARJORAM, SWEET OR KNOTTED.

(*Origanum majorana.*)

This, although a hardy biennial in its own country, must be treated as an annual here, and sown and cut every year. Seed should be sown broadcast, in April, on a border of light soil, and when the seedlings are two or three inches high they must be thinned out to eight inches asunder in every direction. Water well in dry weather, and keep the soil continually stirred between them, for the double purpose of destroying weeds, and admitting air to the roots. Used, like the former, for seasoning.

MARIGOLD, POT.

(*Calendula officinalis.*)

This is an annual, the flowers of which are used for flavouring soups and made dishes. Seed may be sown any time from September to April, either broadcast or in drills a foot apart, and raked in evenly. As soon as the plants are an inch or two high they should be thinned out to a foot asunder in every direction, and those plants removed in the thinning may, if wanted, be transplanted on another bed, the same distance apart. They will continue in flower from July to autumn, during which time a store should be gathered, and spread out to dry in the shade; they may then be put by in bags for winter use. Any ordinary soil will suit this plant.

MINT.

(*Mentha Viridis.*)

This is a perennial plant, cultivated for its leaves and young tops, which are occasionally used in spring salads, and employed largely to give a flavour to peas.

young potatoes, young cabbages, &c., and in making mint sauce. It is propagated by division of the root, offsets from the root, and cuttings of the stalk. The two former methods may be resorted to in the spring, selecting well-established plants for the purpose, and planting these small portions out in rows one foot apart, and six inches asunder in the rows. Cuttings should be taken from the young tops in May and June (in six-inch lengths, removing the lower leaves half-way up the same), and inserted with the dibble, on a shady border of ordinary soil, eight inches asunder every way. Water them well as soon as planted, and they will root readily, and be fit for use the same year. They must be kept clear of weeds at all times, and any stems remaining in the autumn must be cut down, and the roots covered with a thin layer of light earth. For storing, the shoots should be gathered just when the plant is beginning to flower, dried in the shade, tied up in bundles, and put by in paper bags.

PENNYROYAL.

(*Mentha pulegium.*)

This is a hardy perennial plant, used in cookery and for distillation. It is propagated by division of the root, by offsets, and by cuttings. The first-mentioned is the easiest method, as you have merely to lift the root, divide it into as many pieces as you can, or require, with a few fibres to each; insert them in the ground, a foot from each other, and they will establish themselves in a very little time. Offsets should be procured in the spring from established plants, and inserted in the soil with a dibble, in rows six inches asunder every way. Cuttings should be prepared in May or June (taking advantage of showery weather); and, in doing so, select the young tops, cut them into lengths of about six inches, take off the lower leaves about half-way up, insert them in the soil (which should be moderately *rich and light*) as far as the leaves have been removed, *six inches apart every way*; water them immediately,

and they will soon take root, and be fit for use the same year. They must be kept clear of weeds at all times, and, at the end of the autumn, any stem remaining should be cut away, and a little light earth spread over their roots.

PURSLANE.

(*Portulacca oleracea.*)

This is an annual, the leaves and young shoots of which are used in the spring in salads, soups, and for pickling. This herb is raised from seed, which should be sown on a warm border of good soil in May, either broadcast or in drills nine inches apart. As this root does not bear transplanting, as soon as the young plants are well up they should be thinned out to nine inches asunder in every direction. For successional purposes it will be necessary to sow once a month from May to August. The shoots will be fit to gather as soon as they are five inches in length, and if cut off pretty close to the plant, the bottom part will send out a supply of young shoots equal to the first growth.

ROSEMARY.

(*Rosmarinus officinalis.*)

This is a hardy evergreen under-shrub, very aromatic. The flowers are used for distillation, the leaves in some drinks, and the sprigs for garnishing. A light, sandy soil suits this plant best, and on such it will stand the winter better than on a rich one, the former being a non-conductor of frost, and acts also as a kind of check to over-luxuriant growth. It is propagated by seed and cuttings. Seed should be sown in drills, in April or May, six inches apart, or broadcast; to be well raked in. As soon as large enough, prick out to a foot apart every way. The slips or cuttings should be the young shoots of the same summer's growth, taken off, about four inches in length, in July. In preparing these cuttings, remove the lower leaves about half-way up the shoots, and insert them with a dibble, on a shady border, as high as the foliage has been removed, eight inches asunder in every direction. They

will be well rooted by the autumn, and may be transplanted into their final situation in March or April; they may be so trained as to form bushy heads, or be grown and secured fan-fashion, against a wall or fence. This shrub is of many years' duration, and, in unexposed aspects, continues in full leaf at all times.

RUE.

(*Ruta graveolens.*)

This is a perennial evergreen under-shrub, the young leaves of which are infused to make a kind of tea for medicinal use; it is also put in the water given to fowls as a remedy for croup. It is readily propagated by seed, cuttings, and slips from the root. The young offsets should be slipped off in March, April, or May, and planted on a shady border of poor soil; these should be well watered till they get firm hold of the ground, which they will do very quickly. Cuttings may be taken from the young tops, six inches in length, and inserted in a shady border to strike, about May. Seed should be sown any time between March and May, in drills a foot apart; and when the plants are a couple of inches in height they must be pricked out on another bed, a foot apart in every direction, where they will need keeping clear of weeds, and well watering in dry weather.

SAGE.

(*Salvia officinalis.*)

This is an evergreen under-shrub; the leaves and tender tops of both the green and red variety are used in stuffings and sauces; the latter kind is also employed to make a gargle for sore throat. Both may be propagated either by slips or cuttings of the preceding or present year's growth. The outer shoots are the best for this purpose, and in April or May these should be cut off, about six inches in length, the lower leaves detached from the stem, and inserted one-half their depth in a shady border, six inches apart every way. They will soon strike root and advance in growth. In gathering this herb for use, the young side and top

shoots should be neatly cut off—not too close, especially towards winter. In July the plants, both old and young, should be trimmed into well-shaped heads by removing all disorderly branches and decayed flower stems. Keep the hoe at work between them, for the double purpose of loosening the soil and destroying weeds. As these plants become naked and decayed in the course of three or four years, it is advisable then, but not before, to make a new plantation.

SAVORY, SUMMER.

(*Satureja hortensis.*)

This is a hardy annual, and is always raised from seed, which should be sown broadcast, in March or April, and raked in. As soon as the plants are about an inch in height they must be thinned out to eight inches asunder every way. The young and tender tops are used for flavouring soups and made-dishes. This herb will be ready for gathering from June to October, when enough may be secured, dried in the shade, and put away in bags for winter use.

SAVORY, WINTER.

(*Satureja montana.*)

This is a hardy under-shrub, the tender tops and leaves of which are used as a seasoning for soups and made-dishes. It is propagated by slips and cuttings of the young shoots, which may be taken and planted in any of the summer months, in rows one foot apart and nine inches asunder in the rows; on a shady border, of moderately rich soil, and well watered at the time. As soon as they have struck they will make a branchy growth, when they may be transplanted into another bed, fifteen inches apart in every direction.

TARRAGON.

(*Artemisia dracunculus.*)

This is a perennial plant, the leaves and tender tops of which are used as an ingredient in pickles, and, when infused in vinegar, makes a pleasant fish sauce. A dry

and moderately rich soil is essential to its culture. It is propagated by offsets from the root, in the spring or autumn; or by cuttings of young shoots in July and August. These offsets and cuttings must both be planted in a bed or border, six inches apart in every direction, and well watered, when they will strike root very soon, and be fit to gather from the same year. When the plants show symptoms of running to seed, they should be cut down to encourage new growth, for they will then produce fresh shoots in abundance.

THYME, COMMON.

(*Thymus vulgaris.*)

A low-growing evergreen under-shrub, the leaves and young tops of which are used for seasoning. This herb is propagated both by seed and by parting the root,—the former method, however, is the most eligible way. Seed should be sown in March or April, in a bed of light earth, either in drills six inches asunder, or broadcast, and raked in. Watering must be attended to in dry weather, both before and after the plants make their appearance. As soon as the seedlings are four inches high they must be thinned out to six inches apart in every direction, and the thinnings may be planted out elsewhere in rows the same distance from each other. When the plant is to be propagated by parting the root, sections of the stool should be taken and planted six inches apart, in a bed of light soil, when, if shaded and watered, they will soon take fresh hold of the ground. Some of the tops may be cut, dried in the shade, tied up in bunches, and preserved in paper bags for winter use.

THYME, LEMON.

(*Thymus citriodorus.*)

This is also a low-growing evergreen under-shrub, and is cultivated in the same manner and for the same purpose as the before-mentioned. As it is cultivated, and should be treated exactly like the former, there will be no necessity to repeat the method.

PART IV.

WORK IN THE KITCHEN GARDEN ALL THE YEAR ROUND.

PRELIMINARY REMARKS.

IT is not necessary to make a great stir about the uses to which a Garden Calendar is, or should be, put; suffice it to say it is a reminder, and that is enough. It may strike some of our northern friends that in this Calendar we are much too fast; that if they followed our directions they would spoil some crops, lose others, and be always wrong. They are, perhaps, three weeks or a month behind us. They must make allowance for this, because it is quite certain that no directions will apply to all climates; we have simply provided for the centre of England. The Devonshire people will say we are far too slow; but, in like manner, they must start accordingly. The extremes of north-east and south-west may observe a full month's difference in their climates. All we have done is to give a good routine of vegetable gardening for the entire year among amateur cultivators; and we must leave others to begin when they please, according to the climate they inhabit. There are some things that do require a little care as to the time of sowing; but there is a good deal more importance attached to seasons for cropping than belongs to them. In private gardens we always recommend frequent sowings; and, as to planting out, we believe we have put things in every month in the year. Cabbages, for instance, we have always used to fill up

vacant spaces, and all have done well. All other greens—such as broccoli of sorts, Brussels sprouts, cauliflowers, savoys, and the like—we have planted out from May to September from the same seed-bed, simply drawing the largest plants as soon as there were enough for a row, and have continued to do so as long as there were any to draw. We have advised nothing that we have not successfully practised ourselves, and our readers may rely upon it, if they only pay ordinary attention, procure good seeds and plants, and well manure their ground, they will not fail in any one of the various subjects mentioned in this Calendar.

JANUARY.

ARTICHOKES, GLOBE.—These must be protected through the winter with litter or earth, as they are not sufficiently hardy to stand severe weather without.

ASPARAGUS.—Well manure the beds, but do not attempt to dig them. In short, merely lay the manure on so that the rain will wash the goodness down to the roots by degrees.

BEANS, BROAD.—Towards the end of the month seed may be sown on an open compartment, the soil of which has been well manured and deeply dug. You may also sow a few in frames for transplanting.

CABBAGES.—These may be planted out in favourable weather, wherever you have room; they are useful at all seasons, even in the height of summer, when other vegetables run short.

CAULIFLOWERS.—Seed may be sown on a gentle hot-bed, or in a pan to be placed in a frame or greenhouse, for planting out in March or April.

CUCUMBERS.—These may be begun now; or if begun last year, look to the linings, and see the heat does not decline.

HORSE-RADISH.—For the purpose of ensuring good sticks for Christmas use, this may be planted early. The crowns should be inserted in well-manured trenches fifteen inches in depth and nine inches apart in the

row.

LETTUCES.—Sow seed of a few good sorts in pans to be placed in a frame or on a gentle hot-bed, to be ready for planting out by-and-by.

PEAS.—These may be treated in precisely the same manner as advised for broad beans, as it is impossible to grow them too carefully. The higher the haulm the better the produce; and bear this in mind, that deep trenches well-manured for this crop, in a measure prepares it for others to follow, such as cauliflowers, celery, broccoli, &c.—*Mice and Birds.*

—The former do great damage at times to peas while in the ground, and when up an inch or so above the soil the latter are equally destructive. The former may be kept down by means of the following trap, Fig. 6:—

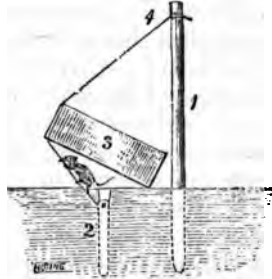


Fig. 6.

Have a stout stake two feet in length (1) driven one-third into the ground, to the top of which fasten a stout bit of twine (4). On the lower end of



Fig. 7.

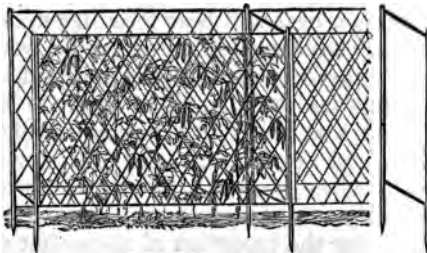


Fig. 8.

this twine thread a few dry peas; secure the twine to another stake eight inches long (2), and drive this into the ground, out of sight, having balanced a brick in the position shown at 3. The mice will nibble at the peas, cut the twine with their teeth, when down will come the brick, and thus crush them. As a protection against birds the pea-guard, Fig. 7, will be found invaluable, and the pea-trellis, Fig. 8, infinitely neater in appearance and far more lasting and economical than sticks of any kind.

POTATOES.—Early crops of these are always appreciated; and the way to insure them is to plant at once on an exhausted hot-bed, or a bed of leaves, then covering with light rich soil, and placing a frame over them for protection. By way of extra precaution, a little litter may be heaped round the frame in frosty weather. The earliest varieties of rounds and kidneys are the proper sorts to employ for this early work.

SPINACH.—Provided you are willing to risk a little seed for the possible chance of an early dish, you may sow at once in an open quarter, either broadcast or in drills one foot apart. Should you happen to have any autumn-sown spinach you must keep it entirely free from weeds, and regularly gathered as fast as the leaves become large enough for the purpose, as it is a plant that soon runs to seed.

WORDS OF ADVICE.—As we are entirely at the mercy of the weather, we must be prepared for every emergency; in the first place we must keep off the ground as much as possible during heavy rains, but be ready to go on it as soon as it will bear treading upon. Then, again, we should take advantage of frosty weather for wheeling out manure wherever it is required to be dug in, for making seed-beds, and so forth. You may likewise, in wet weather, examine your stock of bean and pea sticks, and get them pointed ready for inserting in the ground when wanted. Should the weather be open and dry, all vacant spaces may be manured and trenched ready for the reception of crops that will have *to be put in very shortly.*

FEBRUARY.

BEANS, BROAD.—The main crop of these may be sown any time between the middle and end of the month; the smaller kinds in rows from a foot to eighteen inches asunder, the larger sorts two or three feet apart. Such as were sown, if any, last month in frames, must be hardened off previous to planting out, or otherwise they will not be strong enough to battle with frost should it overtake them.

BROCCOLI.—A pinch or two of Walcheren may be sown on a warm border, and likewise in a frame, so as to make doubly sure of a plentiful supply.

CABBAGES.—You may sow several sorts of these, as you cannot well have too many plants. In cases where the early sowings stand too thick, it will be advisable to draw many of them and plant them out wherever you have room for a row; this will enable those left in the seed-beds to grow into strength.

CABBAGE, RED.—A pinch of seed may be sown towards the end of the month for pickling purposes.

CARROT.—For forcing sow a little of the French horn variety in a frame, and also on a warm border, to produce an early crop. It is of no use to put in seed of any other kind just at present.

CUCUMBERS.—Look to the linings and the state of the heat; give air occasionally in the daytime; lay the vines equally over the bed, and nip out the end of the shoots that may be too vigorous and show no fruit.

GARLIC.—Plant in rows or drills three inches deep and six inches apart, the bulbs about nine inches asunder in the rows. They prefer a rich mellow soil; and where it can be had they should be accommodated.

HERBS.—Many kinds of these may be sown on a warm border, where they can have protection during severe weather; such, for instance, as borage, curled chervil, coriander, and pot marigold.

LETTUCES.—Any plants that are fit for the purpose.

from hot-beds or frames, after being hardened off, should be planted out at once. Seed may be sown both on a warm border and in frames, for succession.

MELONS.—As the directions given for cucumbers equally apply to these, there will be no necessity to repeat the advice.

MUSHROOMS.—Beds may be made by placing a sloping heap of horse-droppings against a wall, and covering it while warm; then put lumps of spawn, nine inches apart, all over it, and two inches of good light loam, well patted with the back of the spade; cover the whole with straw to keep off wet and cold, but in a shed will do better than in the open air.

MUSTARD.—As this is in great request for salads, &c., you should never permit the supply to run short, particularly as it is one of those things which can be grown all the year round—on a shady border throughout the summer and autumn, and in a frame during winter and spring.

PARSLEY.—A liberal sowing may be made towards the end of the month in a deeply-dug and well-manured border, as the time is coming round when it will be in great demand.

PEAS.—Take great care of any of the early sown that promise well, by putting sticks to them at once; this precaution will have the effect of protecting them in severe weather, and preventing them from being broken by rough winds. Seed of successional sorts may be sown liberally during the present month.

POTATOES.—Planting may be carried out in earnest now, and any above ground should have earth drawn to their stems. Early planting is advisable, because it insures early ripening, and thus enables the crop to be harvested before disease has a chance of attacking the roots.

RHUBARB.—These roots may be taken up, divided, and planted again in rich, moist soil. Each separate piece should have at least one good eye; and the plantation, remember, must not be pulled from the year *that it is laid down*. By observing this rule you will

insure sticks the following season, of good size and fine flavour also.

SAVOYS.—In order to insure large and solid hearts, they must have a long season of growth, consequently it is necessary to sow as early as the weather will permit, on a bed of rich, mellow soil, and to prick out the plants before they have an opportunity of crowding each other, on another bed of a similar description, in rows one foot apart and six inches asunder in the rows.

SEA-KALE.—This may be covered for forcing with pots or boxes, and surrounded with fermenting leaves or hot stable dung.

SHALLOTS.—These should be planted at once on well-manured ground, in rows one foot apart, and half the distance from each other in the rows. There is no necessity to bury the bulbs; if they are merely pressed into the soil sufficiently deep to hold them it will do.

SPINACH.—Get in a good supply of the round or summer variety; and thin out any sufficiently forward by pulling every other plant that is large enough for cooking.

TURNIPS.—Sow on a warm border any of the small kinds in small quantities; it is rather too early for sowing large quantities in exposed situations.

WARM BORDER.—If you have a sheltered spot of this description, either natural or artificial, you may sow upon it a pinch of choice cabbage, early horn carrot, lettuce of sorts, long radish, and silver-skin onion, all of which will be ready for use as early, very nearly, as if reared in a cold frame.

WORDS OF ADVICE.—The chief business of this month consists in liberally manuring, thoroughly digging, and carefully cleaning every foot of spare ground. Weeds, too, must be got rid of with all speed, more especially groundsel, which is on the eve of blooming, and if permitted to seed will entail no end of work in a very short time. Make it a rule to have in readiness sufficient litter, mats, branches, &c., for protecting early-sown crops; so that when severe weather does set in, it will

not take you by surprise; remember, "A vigilant sentry is ever on the watch," and this is what we ought to be able to say of a gardener.

MARCH.

ARTICHOKES, GLOBE.—As soon as the weather will permit you may remove the protecting material, so as to give the plants more air; likewise make fresh plantations by putting in suckers two feet apart, in rows four feet asunder.

ARTICHOKES, JERUSALEM.—Plant a few like potatoes in any out-of-the-way place, or for a blind. They are a tall crop.

ASPARAGUS.—See to the dressing of established beds at once if not already done: and if manure cannot be had, wood ashes and salt in equal proportions will be found a very good substitute. New beds may be made about the middle of the month if required.

BEANS, BROAD.—Any of the early sowings that are forward enough should be earthed up at once; and such as have been raised in frames may be planted out. Sow again for succession.

BEEF.—A little seed may be sown for an early supply in well-dug mellow soil, in rows one foot apart, towards the end of the month.

BROCCOLI.—Any sufficiently forward in frames may be hardened off, and planted out in mild weather; and a further supply of seed be sown for succession.

BRUSSELS SPROUTS.—A moderate sowing should be made at once, either in a frame, or on a warm border; and as this vegetable requires a long period of growth, it is necessary to begin early, otherwise the produce will not be so large as it otherwise would be.

CABBAGES.—All the various sorts may be sown now for main crops in small quantities; and such as are forward enough of the early sowings, either in seed-beds or in frames, should be planted out as fast as possible in well-manured ground, from a foot to *eighteen inches* apart every way.

CARROTS.—A pinch or two of early horn should be

sown at once on well-manured and deeply dug ground, either broadcast or in drills eight inches apart; the larger kinds should be sown towards the end of the month on deeply dug ground, without manure of any kind.

CAULIFLOWERS.—Sow seed on a well-prepared bed for a late supply; and in favourable weather plant out such as have had the protection of hand-glasses, or a frame, on a bed plentifully manured, in rows from two and a half to three feet apart, and the plants the same distance asunder in the rows.

CHIVES.—These may be divided and planted out at once, in rows eight or ten inches asunder, and a similar distance apart in the rows. Any soil of ordinary capacity will suit them.

GARLIC.—Continue to plant if required, in the same manner as recommended last month.

HERBS.—Sow angelica on a warm border; sweet basil and bush basil in heat; carraway, fennel (also take and plant offsets), clary, dill, hyssop, pot marigold, rue (also take and plant offsets of the root), summer savory, common thyme and lemon thyme, on the open border. Take cuttings or offsets, or divide the roots of balm, burnet, lavender, pennyroyal, sage, and tarragon for increase.

HORSE-RADISH.—See to the planting of this if not already done, in the same manner as advised in January.

LEEKs.—The main crop of these should be sown at once on a well-prepared bed of rich soil, moderately thick, as they will ultimately have to be planted out.

LETTUCES.—The various kinds may be sown now, and in getting in the seed do not forget the summer sorts, such as "All Heart," "Black-seeded Bath," and other *cos* varieties. A deep free soil that has been liberally manured should be selected for them. Any forward enough ought to be planted out at once, in rows one foot asunder, and a like distance between plant and plant in the rows.

ONIONS.—You may sow the main crop at once, in drills nine inches asunder, on a bed of rich soil in a

mellow condition. As soon as the seed is sown the ground should be beaten down firm and flat with the back of the spade.

PARSLEY.—Sow at once for a summer and autumn supply, either in drills six inches apart or broadcast, to be afterwards thinned out to that distance in every direction. In thinning make it a practice to pull up those plants which show very little disposition to curl.

PARSNIPS.—The main crop of these may be sown in drills one foot apart, in rich and deeply dug soil, covering the same about one inch deep.

PEAS.—Sow some of the tall-growing marrows and large-podded dwarf kinds of the second early description. Let the soil for these be rich and mellow; the distance between the rows of the former should be at least eight feet, between the latter from four to five feet.

SEA-KALE.—New plantations may be made by cuttings from the smaller roots, taken off in four-inch lengths, and planted in rows two feet apart, and the plants half that distance from each other in the rows. They should be merely covered deep enough to hide them. Seed may be sown towards the end of the month in drills two feet asunder, and as soon as the plants are three inches high, have them thinned out to six inches apart in the rows.

SPINACH.—A small sowing of the round-seeded, or summer kind, may be sown early in the month, either broadcast or in drills six inches apart. When gathering, make it a practice to thin the crop regularly, and avoid treading on the ground as much as possible.

SPINACH BEET.—This is a perennial variety, and one of the most useful vegetables we have; it will bear any amount of heat or cold, and when ordinary spinach is running to seed, this remains green and succulent throughout the summer, and far into the spring. Sow seed at once broadcast, and as soon as large enough to handle either prick out in rows eight inches apart, and *thin the plants the same distance asunder in the rows, or thin them out to that distance where they stand.*

TURNIPS.—Towards the end of the month a good breadth of these may be sown in an open situation. Thin out any sufficiently forward to nine inches apart in every direction.

WINTER GREENS.—A good supply of the different sorts may be sown; for in the event of a hard winter setting in, some kinds will battle against it better than others; for instance, cottager's kale and savoys are more likely to survive severe weather than Brussels sprouts and other tender subjects. In any case "store is no sore."

WORDS OF ADVICE.—This may be called the harvest month for seed sowing; and as such, in order to be prepared for any emergency, it will be necessary to make good all arrears in the preparation of seed-beds, and the clearing, manuring, and digging of vacant plots for the reception of plants and seeds. Occasionally you will find that certain early-sown crops have failed, in which case it will be necessary to sow again; a little seed is no particular object, but a good crop of anything early in the season is invaluable.

APRIL.

ASPARAGUS.—No time should be lost in making new beds where required, either with plants or by sowing seed. If it were not for having to wait so long, the latter method makes the best bed: but as the former way enables us to cut from the next season, it is the most generally adopted. We recommend those who need only a small plantation to form it by planting strong roots, especially as a bed so made will, with proper care, last for many years. There is one thing I would impress upon those who intend planting roots—have them dug up fresh, as, if kept out of the ground for any length of time, they are bound to suffer in quality. Established beds must be properly dressed and cleaned.

BEANS, BROAD.—These, if required, should be sown again as soon as the last sowing has got the second pair of leaves open. Sow them in rows to bloom where they

come up; let the rows be two feet apart; earth up those which are growing fast.

BEANS, KIDNEY OR DWARF.—Sow at once in rows two feet apart, and the seed four inches from each other in the rows.

BEEF.—Seed should be sown towards the end of the month on deeply-dug ground that has not been very recently manured, in drills fifteen inches asunder. For ordinary use, small, deep-coloured, well-shaped roots, are preferable to the larger kinds, and the former can alone be insured by the above treatment.

BROCCOLI.—Another sowing of some of the principal kinds, which must be of the early class, should be made at once. A good seed-bed is indispensable, if you desire your plants to grow well from the first, for if starved at the beginning they will never make strong, healthy stock. In late districts late sorts may be sown now; but in the midlands, and similar districts, there is no immediate hurry.

CABBAGES.—A few of the smaller kinds should be sown for planting out as spaces become vacant, and some of the larger roots for autumn use. Plant out from the seed-beds such plants as are strong enough for the purpose, in rows eighteen inches apart, and a foot asunder in the rows.

CARDOONS.—Seed may be sown at once on well-manured ground, in rows from four to five feet apart, to be thinned out as soon as large enough to eighteen inches asunder in the rows; or it may be sown on a small bed, broadcast, and when large enough pricked out five or six inches from each other in every direction, to strengthen previous to transplanting.

CARROTS.—Sow the main crop towards the end of the month on a bed the soil of which is deep, generous, and rather sandy, in drills one foot apart, and as soon as the plants are of a sufficient size, thin them out to six inches apart, first of all, and eventually to one foot asunder in the rows.

CAULIFLOWERS.—Let these be planted out whenever *the weather is favourable to the work*; that is to say,

select warm, showery weather for the operation, if possible. The plants should be put out in rows from two and a half to three feet apart, and the same distance from each other in the rows. To produce tender and handsome heads, it is necessary to manure the ground abundantly, digging it deeply at the same time. Should the weather be cold it will be necessary to protect them for a time with hand-glasses, or inverted flower-pots—to be left on all night, if necessary.

CELERY.—This seed may be sown now in the open ground, provided you select for it a bed of well-rotted manure in a warm corner. This method of sowing is decidedly the best, if it can be managed, as the plants then receive no check, and consequently they will be just in the right condition for planting out as soon as the trenches are ready for them. If you have any plants in the seed-pan, prick them out at once on a bed of rotten manure, on a hard bottom, that can be protected by a frame until such time as they have established themselves.

CUCUMBERS.—We have said very little about these as yet, considering that the present time is quite early enough. Under a common garden light this plant may be grown in perfection. Make up a heap of three or four barrows of hot dung, cover it with three inches of mould, put on a hand-glass, and sow your seeds in pots, two in a pot; cover close, that the steam of the dung may not get inside the glass—there will be heat enough here to grow the seeds; meanwhile, drive four stakes down into the ground to form a square, one foot larger every way than the frame is wide; take out hot stable dung, and pile it up so as to build this square three feet high behind, or north-east, and two feet six inches in front, or south-west, putting it close with the dung-fork through the whole progress of the work, the top being left a flat slope; then put on the garden frame on the centre, and the light upon it, the low part of the frame upon the lowest part of the dung; poke a stick into the dung as far as you can, and leave it there; by pulling this out now and then, and returning

it, you can always feel the real heat of the centre. When the rank steam is gone your seeds will be well up under the hand-glass in the other dung, and the pots may be removed into the bed ; but about two inches of mould

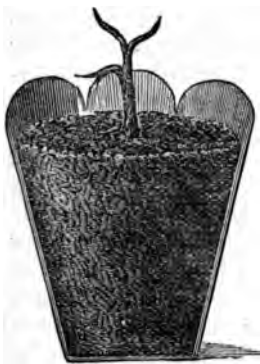


Fig. 9.

should be put all over the dung inside the frame, to keep the steam down and the bed sweet ; the pot or pots of seedlings may stand in the frame till they get four rough leaves, when the ends must be pinched off, to make them throw out lateral shoots. Now put a barrowful of good loam and dung mixed in the centre of the bed in a heap like a cone, and if there be more than one light, a heap under each ; make a hole in the centre of this heap like a basin, and plant the ball

of earth which contains the plants in it, so that the surface of the ball shall be about six inches from the level soil, and refresh them with water. As the plants grow the roots will protrude through the sides of the cone or heap, and fresh mould must be added round it to cover the roots, and so continue for the present. While speaking of the cucumber, we take the opportunity of introducing to the notice of our readers "TEBBS' UNIVERSAL

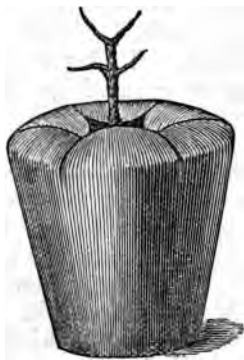


Fig. 10.

TRAVELLING - POT," one of the greatest boons ever offered to those who have occasion to send plants of melons, vegetable marrows, tomatoes, capsicums, &c., to a distance. The advantages derived from its use are many, namely :—A great saving in

packing, no moss or similar material being required. *A great saving in space*, these covers occupying far less room than the ordinary flower-pot. *A great saving in weight*, and consequently a considerable reduction in carriage. *A great saving in expense*, the price of these covers being much less than ordinary flower-pots. You will see by a glance at the engravings how they are to be used:—you turn a plant out of the ordinary flower-pot, and while holding the ball in one hand you place one of the covers over it, as represented at Fig. 9, and when firmly placed in its position, fold down the flaps as shown at Fig. 10. They are made of strong brown paper, lined with a water-proof material to retain the moisture about the roots, thus preventing the plants suffering through any delay in transit. They are made in sizes varying from two and a half to six inches.

CAPSICUMS.—These should be sown at the same time as the cucumbers (at the beginning of the month), and on the same hot-bed.

GARLIC.—Plant in drills a foot apart, and six to nine inches from root to root.

HERBS.—Sow seeds of angelica, sweet basil, bush basil, borage, carraway, curled chervil, clary, dill, fennel (also take offsets from the root), hyssop (also take cuttings), pot marjoram, sweet or knotted marjoram, pot marigold, rosemary, ruc (also take offsets), summer savory, common thyme and lemon thyme, on open border. Balm, burnet, lavender, pennyroyal, sage, and tarragon, may be increased by cuttings and offsets.

KOHL-RABI.—Towards the end of the month a small quantity of this may be sown in drills fifteen to eighteen inches from each other. The plants, when large enough, should be thinned out to two feet asunder in the rows.

LEEKS.—A further supply may be sown in case the former sowing is not considered sufficient.

LETTUCES.—More of these may be sown; indeed, these, like peas, should be sown in small quantities and

continued every month so long as the supply is required. A few of the most forward plants may be tied, but as a rule we consider it bad practice, inasmuch as the hearts are apt to rot if not used quickly; besides, we have kinds now that grow close-hearted without artificial assistance.

ONIONS.—Sow the main crop. Let the ground be well dunged and dug, and sow as before. You may plant out a few large ones for seed, either large Portugal, Spanish, or Tripoli.

PARSLEY.—The large-rooted kinds may be sown now; they afford a delicious dish. For the purpose of insuring fine roots it is necessary to thin them well as soon as up, so as to give them plenty of room to grow.

PEAS.—These should still be sown for succession. The second earlies are the best to sow now. See to the sticking and earthing up of such as are sufficiently advanced to require it.

POTATOES.—Plant more of these for a fuller crop than the last. Middling potatoes, whole, are far better for the cottager than cut sets of larger ones. It is a fallacy to conclude that the largest potatoes have the largest eyes. There is no fallacy in preferring a whole potato to a cut set; if they do not go quite as far as cut sets, you have only to plant them wider apart, and get a heavier crop to each. If you have any well-rotted dung, dig trenches eight inches deep, two feet apart; put dung three or four inches thick in the trenches, and the potatoes upon it; draw down earth upon them to cover them well three inches.

SALSIFY.—Sow about the middle or end of the month in rows one foot apart, on a piece of ground deeply trenched, with a good foundation of manure at the bottom of each trench, but not a particle of manure in the body of the soil that will be used for covering it. In order to insure large and straight, well-flavoured roots, they should be encouraged to go downwards after the stimulant, which they will have to do if applied as *directed*.

SEA-KALE.—Sow the seeds in a small bed, and cover

an inch; refresh with water when it gets too dry; cover with a pot, and surround with hot stable dung, any established plant that you wish to force.

SHALLOTS.—These may be treated in precisely the same manner as advised for garlic.

SMALL SALAD.—This may be sown from time to time as required, on a warm border, and be covered with a hand-glass.

SPINACH.—Sow the prickly-seeded, which does not run so soon as the round. Any already up should be thinned by hand, or with the hoe, to four inches apart in every direction.

TOMATOES.—These may be sown on the same bed, at the same time as cucumbers, if you stand in need of them.

TURNIPS.—Sow a few, and then thin out as soon as they have two rough leaves to a distance of six inches from each other in every direction.

VEGETABLE MARROWS.—These should be sown on a hot-bed, to make which is easy enough, and should be done as follows:—Secure a good quantity of manure, and if it is long and green, turn it two or three times, taking care it is always moderately moist, but never positively wet. If the stuff is dry, well sprinkle it at every turn, and let it steam for a time to take the rankest fire out of it. Then make it up in a good square heap, taking care not to beat it down, but allow it to settle of its own accord. Put on a foot-depth of light, rich soil, after the frame is in its place, and wait a few days to sow the seed. As soon as the heat has become steady and comfortable, sow on the bed, or in pans, as preferred, the quantity necessary. Make no attempt to hurry the growth, for undue haste produces weak plants; plenty of air and light at every favourable opportunity, a short and healthy plant.

WORDS OF ADVICE.—Activity amongst the vegetable creation is the order of the day, or rather the month; and as such it behoves the gardener to be sharp in return for nature's endeavour to help him. In a word, *he must encourage the growth of his crops by all the*

means at his disposal. Thinning and weeding the different seed-beds, so as to admit moisture and air to the roots, and light and sun to the foliage of the tender occupants, is very important, but not more so than affording proper shelter in severe, and sufficient moisture in dry, hot weather.

MAY.

ASPARAGUS.—Let this, for your own eating, grow three inches above the ground before you cut it. As a rule, it is better to cut the whole of the shoots as fast as they are of a proper size, than to select the strongest and leave the worst to go to seed. They are all good eating if cut young.

BEANS, BROAD.—Sow more of any kind if it be desirable to have successive crops, though few care to have a continuance. Top those in flower, and draw earth to the stems of those recently up. Topping early has the effect of clearing away black-fly, or otherwise there would be no necessity for the operation.

BEANS, FRENCH OR DWARF.—These may be sown for a principal crop, in drills eighteen inches apart, and the beans three to four inches asunder in the rows. Earth up any sufficiently advanced for the purpose.

BEANS, SCARLET-RUNNER.—Make another sowing of these, six inches apart in drills three feet asunder, and stick and earth up any that require it.

BEEF.—Sow in the same way that you would carrots, the main crop, in the early part of the month. Thin and weed the early sown, and if there be a scarcity of them, those taken up in thinning may be transplanted elsewhere.

BROCCOLI.—Seed may be sown this month; and it is better to sow two or three kinds, and at two separate seasons, a fortnight apart. Plant out from frames and seed-beds whenever the weather is favourable to the work.

BRUSSELS SPROUTS.—A few of the most forward plants may be put out on a sunny compartment where *the soil is rich*, in rows eighteen inches asunder, and *the plants a foot apart* in the rows.

CABBAGES.—Transplant a quantity of the spring-sown ones in rows eighteen inches apart every way. Tie up some of those that are forward enough, so that the hearts may be whitened; earth up such as are advancing, loosening the soil and drawing it up to the stems. Sow more seed of any desirable kinds, for you should never be short of plants.

CAPSICUMS.—Put a few plants out under a south wall, or at the foot of a south bank, at the end of the month, having pricked them out two in a pot at the beginning, and grown them in the cucumber bed. Turn the balls out whole, and water to settle the ground round them. Seed may be sown out of doors about the middle of the month, by which means good-sized green pods may be secured for pickling in the autumn.

CARROTS.—Thin these out as soon as they are large enough, eight inches apart in every direction, and sow more seed for succession.

CAULIFLOWERS.—Those protected with hand-glasses are now beginning to show flower, and when this is the case, break down one or two leaves to cover them from the wet and sun. If the weather prove very dry, the plants must be watered. Transplant others from the seed-bed, and sow again for succession.

CELERY.—The March-sown will be large enough to prick out. Take the largest, and contrive to thin the seed-bed all over, rather than clear it in any particular part. Prick them out three to four inches apart, on a piece of rich ground, there to strengthen six weeks, where you can cover them if required. Water them to settle their roots. In a small garden it is not advisable to have celery too forward, as trenches cannot well be prepared until some of the early crops are over.

CUCUMBERS.—Level the soil in the bed, and lay the branches out of each other's way; pinch off the ends of vigorous shoots, so as to throw strength into the bearing portion of the vine.

GOURDS.—These may be grown to perfection in precisely the same manner as advised for ridge cucumbers, but as they take up more room, space must be left for

them to extend beyond the limits of the ridge. It is advisable to put out strong plants from pots, affording them protection until such time as they are well established; but if you are unable to obtain plants, you may sow seed where the plants are to stand, and, although the produce will be somewhat later, it will be good.

HERBS.—Sow seed of angelica, borage, curled chervil, dill, fennel (also increase by division of the roots), purslane, rosemary, and rue (also increase by cuttings and offsets), on the open border. Balm, burnet, hyssop, lavender, pot marjoram, mint, pennyroyal, sage, tarragon, common thyme and lemon thyme, may be increased by cuttings and offsets of the root.

LETTUCES.—Transplant some of the strongest, thinning the place they were sown in, that the rest may perfect their growth in the seed-bed. Sow some of the different sorts for succession, where the plants are to remain. Shade and water after planting to insure a quick growth and prevent them from running to seed.

MELONS.—These require constant attention, both to the heat and the fruit. Not more than two or three melons ought to be grown on each plant at one time for general purposes, and a less number of fruit would be better where they are required for exhibition.

ONIONS.—These must be hoed and cleared. The plants for bulbing must not be closer than four or five inches; if, however, any be left, they may be drawn for salads, but it is better not to have the bed trampled upon oftener than is necessary; therefore it should be cleared of all weeds and properly thinned at once. Those intended for pickling should be sown thick, on poor ground, and well trodden in. These should not be thinned; the thicker they stand the better, the starving system conducing to make small handsome bulbs that ripen early.

PARSNIPS.—Seed may be sown for succession, and the advancing crop, as soon as large enough, thinned *out to eight inches* apart in every direction.

PEAS.—Sow some twice in the month. Peas should

be sown right through the season, every fortnight or three weeks, and not in large quantities. Earth may be drawn to the stems of those which are up and advancing, and such as are forward enough should have sticks placed to them.

PUMPKINS.—These may have precisely the same treatment as that recommended for gourds, and as such there will be no necessity for us to repeat the advice.

RADISHES.—Another sowing of these may be made by way of succession, but in so doing it is advisable to vary the sorts by way of a change.

SAVOYS.—As seed sown now will produce plants inclined to make smaller hearts than those sown earlier in the season, we recommend our readers to get in a supply at once, and thus make sure of a good crop of little, tender cabbages.

SMALL SALAD.—Make a moderate sowing of cress, radish, rape, and mustard, to succeed that sown last month.

SPINACH.—The sowing of this must depend entirely on the supply required; if it be wanted in any quantity it must be sown once a fortnight, as it should be pulled and eaten before it runs up to seed. It may be either sown evenly all over a piece of ground allotted to it, or even in drills a foot apart, and be thinned out to the same distance asunder, as soon as the plants are large enough to cut; for this purpose half-a-dozen leaves to each plant are necessary, and those which are left may be cleared of their leaves twice a week.

SPINACH, NEW ZEALAND.—In favourable weather this should be planted out, on poor dry soil, in a sunny situation, a foot apart in every direction.

TOMATOES.—A limited number of these plants may be put out under a south wall, or at the foot of a south bank, in the same manner as recommended for capsicums, and be afterwards treated in a similar way.

TURNIPS.—Make another good sowing of these, and with the hoe thin out such as are forward enough to six or eight inches apart in every direction.

VEGETABLE MARROWS.—These require similar culture to that advised for cucumbers, with the exception that they need more room; this being the case you must plant them accordingly, and watch them carefully. Seed may be sown of any approved sorts, to succeed such, if any, as are advancing in growth.

WORDS OF ADVICE.—This month, like the last, necessitates active measures; in a word, the heat increases hourly, and with it the necessity for watering. Then, again, losses, should there be any, must be repaired, and at once; for with activity it is quite possible to make good all arrears in the shape of sowing such seeds as have not been got in, and which should have been sown during the months of March or April. The heat of the earth is now sufficiently powerful to start those seeds which needed a hot-bed two months ago, and consequently those who had no such convenience will be able to grow many choice things a little bit later, that is all.

JUNE.

ASPARAGUS.—This should not be cut too closely, nor too late in the month, as it only tends to weaken the roots without an adequate return for impoverishing them. A good dressing of salt will prove advantageous to them, so will an occasional application of liquid manure during the present month.

BEANS, BROAD.—These will bear another sowing; but as they are not much in request in the latter part of the season, a moderate quantity will answer every purpose.

BEANS, FRENCH OR DWARF.—These may still be sown, provided you have not sufficient to carry you through the season. Earth should be drawn to the stems of such as are in need of it.

BEANS, SCARLET-RUNNERS.—Sow if not done already, or if you have a supply for succession; earth them up and stick them before they overgrow themselves.

BROCCOLI.—Seed may be sown early in the month to insure plants to cut from next April and May; and

such plants as are ready should be put out wherever you have a vacancy at every favourable opportunity.

CABBAGES.—Get out a good stock of these as you can find room for them; and towards the end of the month seed may be sown of some of the smaller kinds. They will be invaluable for planting out as soon as the various summer crops are cleared away.

CARROTS.—Seed may be sown for pulling young, and such as are sufficiently advanced for the purpose should be weeded and thinned out to give them room to swell.

CAULIFLOWERS.—These may be sown thinly, to remain where they are, for thinning out to a proper distance as soon as necessary. Any recently planted out from the seed-beds will require shading and watering during the middle of the day, until such time as they have established themselves.

CELERY.—Put out a few of the strongest plants for early use in rich manured ground, well dug, and in trenches not more than six inches deep. They will require shading and watering in very hot weather.

CUCUMBERS.—Give air, stop leading shoots, and regulate them so as to spread equally over the beds. For pickling purposes seed may be sown on ridges.

HERBS.—Sow seed of curled chervil and purslane in the open border. Pennyroyal and winter savory may be increased by cuttings or division of the root.

LETTUCES.—Should you have any plants ready for planting get them out at once, wherever you have room, and sow a row or two of the large cos kinds in trenches prepared as for celery, there to stand and be thinned out to a proper distance to heart. These will come in at a time when they usually become scarce.

ONIONS.—Hoe and weed to thin and clean such as are in a pretty forward state, and sow more for salading purposes. The best kinds for storing are those of moderate size, if taken up when perfectly ripe and thoroughly dried previous to putting away.

PEAS.—Sow the early kinds now, as they grow faster than late ones, and are sooner in flower. Earth up any

in an advancing condition, and put sticks to such as require them.

POTATOES.—The final crop of these should be planted out at once; and a few of the quick-growing sorts may be planted for digging as new potatoes in the autumn.

RADISHES.—Make another sowing of these in case you require a further supply; thin out such as require it, that they may have sufficient room to swell, and water liberally in dry, hot weather.

SMALL SALAD.—Mustard, cress, radish, rape, &c., may be sown again, to succeed such as is matured and being used up fast.

SPINACH.—Thin out such advancing crops as require room, and sow a small quantity for succession. It is useless to sow much at a time, as it soon runs to seed.

SPROUTING BROCCOLI.—Make another sowing of this for succession, and plant out any from the seed-beds, in rows eighteen inches asunder and fifteen inches apart in the rows.

TURNIPS.—Sow for a principal crop, roll the seed in, and, if there has been no rain for a considerable time, water the ground the day before and the day after.

WORDS OF ADVICE.—Watering and weeding are two most important operations just now, and, to do any permanent good, must be effectually carried out. The former work, when every drop of water has to be dipped, or drawn, and carried, is too frequently only half done, and, under such circumstances, injures rather than assists the crop. Our advice is, saturate every inch of the soil, if it takes a week to do it, or leave it to nature to accomplish that which you are not disposed to do as it should be done.

JULY.

BEANS, BROAD.—Top those in flower, and draw earth to the stems of such as are sufficiently advanced for the *purpose*. Another sowing may be made early in the *month if necessary*.

BEANS, FRENCH OR DWARF.—A small sowing of these may be made early in the month to succeed such as are advancing; but as frost may set in early, it is not advisable to sow any great quantity.

BEANS, SCARLET-RUNNERS.—Stick any that require it, and water liberally in dry, hot weather.

BROCCOLI.—Sow the Walcheren about the middle of the month, and put out any of the former sowings, which will now be strong and stout, in rows eighteen inches apart, and from a foot to fifteen inches asunder in the rows, for succession.

CABBAGES.—These may be planted out wherever you have vacancies, pretty close together, so that when they have grown a little every other one may be pulled for immediate eating, which will afford the remaining ones room to grow and heart. Seed may be sown for succession.

CARDOONS.—These may be thinned out to one, and that the strongest, plant in each clump. Seed may also be sown moderately thin on a bed of light, rich soil, for a late supply.

CELERY.—Plant a main crop, using the strongest plants for the purpose, as follows:—Dig trenches, a foot to a foot and a half wide and a foot deep, four feet apart from centre to centre; put a good three inches thickness of rotten dung in the bottom, and fork it six inches deep into the soil, well mixing it as you proceed; level, and plant nine inches apart down the centre of the trench, and earth up as the plants advance.

CUCUMBERS.—Train the shoots along the surface of the bed, so as to be out of each other's way; give the fruit ample room to grow, water liberally, and give proper air; plant out some on ridges, under hand glasses, and sow again if necessary.

ENDIVE.—A sowing may be made for winter use at the beginning of the month, and, if requisite, at the end of it also, for a further supply.

GARLIC.—These may be taken up as they ripen, for storing. For this purpose they must be well dried in the shade, and hung up in bundles till wanted.

HERBS.—Sow seed of curled chervil and purslane in the open border. Clary, hyssop, rosemary, winter savory, and tarragon, may be increased by cuttings, slips, and division of the roots.

LEEKs.—Transplant nine inches apart, in trenches prepared as for celery; water them occasionally with weak liquid manure, and earth up from time to time as necessary.

LETTUCE.—Continue to sow enough to meet the consumption, and plant out any that you may have ready wherever you can find room.

PARSLEY.—A liberal sowing of this useful herb may be made for winter use, either broadcast or in drills. As soon as the plants are large enough, thin them out to six inches asunder, to encourage a vigorous growth.

PEAS.—Sow as long as you feel disposed to risk a crop; but, as a rule, they do little good after June. Draw earth to the stems of those sown last month, and stick any that require support.

POTATOES.—Earth up well to cover the tubers, and give them room to swell; and take up those kinds the haulm of which are beginning to wither.

SMALL SALAD.—Sow for succession those kinds recommended last month, should you stand in need of a further supply.

TURNIPS.—These may be sown after showery weather, in the early part of the month, and those which are up must be carefully thinned with the hoe to give them room to swell.

WINTER GREENS.—These should be planted out in quantity on the richest ground you have at liberty, and be liberally watered afterwards, provided the weather is very dry.

WINTER SPINACH.—Sow according to your requirements, on moderately good ground, for succession, and thin out such as require more room to spread.

WORDS OF ADVICE.—Much of the work of this month depends upon the weather. Possibly it may be *extremely hot*, heavy showers prevalent, and vegetation *luxuriant*; or the soil may be parched, rainfalls

few and far between, and scarcely a vestige of healthy foliage visible. As a rule, however, the rains of July are not of a nature to render watering an unnecessary operation; on the contrary, there is nothing tends more to invigorate a crop than a judicious watering after a slight fall of rain.

AUGUST.

ARTICHOKES, GLOBE.—As soon as the heads are gathered the stems should be cut off close to the ground, the dead leaves removed, and the soil round about them loosened with the hoe.

BEANS, BROAD.—Top those in bloom, and draw earth to the stems of any sufficiently advanced to require it.

BEANS, FRENCH OR DWARF.—Water these liberally in dry weather, and keep them closely gathered, or otherwise their productiveness will be considerably reduced.

BEANS, SCARLET-RUNNERS.—Earth up and stake any that require it, and top the late crops.

BROCCOLI.—Plant out the last of any or all kinds from the seed-bed, choosing showery weather for the job; the Cape varieties, if intended for autumn use, must be copiously watered in dry seasons.

CABBAGES.—Seed should be sown for a good crop to come into use during the spring and autumn; plant out some of the June and July sowings pretty thick for an autumn and winter supply.

CABBAGE, RED DUTCH.—Sow a small quantity of this for summer use on a bit of well-manured ground, and thin out or prick out as soon as large enough to strengthen.

CAULIFLOWERS.—Seed may be sown to stand the winter on an open sunny spot, and covered with hand glasses as soon as the weather renders such a course necessary. Hoe and draw earth to the stems of such as were planted last month, and water whenever necessary.

CELERY.—This requires earthing up as it grows; the soil should be broken small and drawn to the stems

with great care; and to prevent it falling into the hearts of the plants they should be kept closed during the operation. Continue to plant out, removing each one with as much soil about the root as possible, and water copiously immediately afterwards.

CUCUMBERS.—These should have all the weak and useless shoots pinched off, dead leaves removed, and be shut down in cold winds, and always towards evening. Those out of doors require the same treatment, all but shutting down. The hand glass should be kept over them in heavy rains.

ENDIVE.—Sow the green-curled for a winter supply, and plant out any that are large enough on a dry, sloping bank, a foot apart in every direction.

HERBS.—Sow seed of curled chervil and purslane in the open border, and coriander in a frame. Winter savory, balm, mint, thyme, and sage may be increased by cuttings and division of the root.

LEEKS.—Earth these up three or four inches high to blanch the lower portion; and plant out the thinnings from the seed-bed in favourable weather.

LETTUCES.—Plant out all the kinds in open spaces for immediate use, some of the late sowings for an autumn supply, and make another sowing, about the end of the month, of both the cos and cabbage varieties for late use.

ONIONS.—Any that have nearly come to their growth should be bent down to throw the greater share of nourishment into the bulb—so say the market gardeners—it may hasten the ripening, but nothing more. Sow a few for winter salading, and thin out any that require more room.

PARSLEY.—This should be rogued, as it is termed: that is, every root that has not a well-curled foliage should be removed, and the rest cut down pretty close to encourage new growth.

PARSNIPS.—Keep these clear of weeds, and thin where necessary to a foot apart in every direction, otherwise *they will not* have sufficient room to swell.

PEAS.—Earth up and stick the late crops before they

have an opportunity of falling over, and water liberally in dry weather.

RADISHES.—Sow the Black Spanish, or some similar variety, on soil of a moist and light nature for succession, and water such as are coming into use.

SMALL SALAD.—Sow as before if the supply be required, particularly mustard and cress and rape for cutting young.

SPROUTING BROCCOLI.—Where this is overcrowded take out every other plant, and replant on another compartment, as, unless it has ample room to grow now, it will never stand the winter as it should do.

TOMATOES.—All leaves that shade the fruit should be removed at once, so that they may be fully exposed to the ripening influences of the sun; and in case unfavourable weather prevents their ripening quickly, remove the full-grown fruit with a portion of the stem, and hang them up in a sunny situation to finish.

TURNIPS.—Sow after rain, for no good season ought to be lost, for spring use, and thin the former sowings to nine or eighteen inches apart every way, according to the sorts.

VEGETABLE MARROWS.—Water these frequently and liberally in dry weather; and for the purpose of preventing evaporation, cover the surface of the soil between the runners with short grass of something of a similar nature.

WINTER SPINACH.—The prickly-seeded should be sown at once for standing the winter, on a piece of ground that has not been recently manured, and which lies high and dry, and open to the winter's sun. This is absolutely necessary, or the crop would fall a prey to the *spinach moth*, or *grub*.

WINTER GREENS.—Plant out every description wherever you have room, not too wide apart at first, because after they have made a little growth you may remove every other one to give room to those remaining.

WORDS OF ADVICE.—So far as the work of this month is concerned it is not very heavy, but nevertheless it is of much importance. The summer is nearly at an end.

and upon proper management will mainly depend the supplies of the next winter and spring. In a word, the few weeks of growing weather remaining must be made the most of, that is, autumn sowing should be strictly attended to; at the same time not a seed must be put in the ground a day too early, otherwise the plants will overgrow themselves before winter, and will stand a poor chance of escaping frost. The dryness of the soil is a great drawback to seed-sowing, because it is unwise to water them—better wait for natural moisture, if possible; if not, soak the soil previous to putting in the seed, and cover with litter or mats till they begin to germinate.

SEPTEMBER.

ARTICHOKES, GLOBE.—If these were not cut down as advised last month, the sooner you do so the better after the heads are gathered, as it promotes the growth of shoots from the root before the winter sets in.

BROCCOLI.—Any of the late kinds for spring use may now be planted out from eighteen inches to a foot asunder every way; and such as are advancing in growth should be earthed up at once.

BRUSSELS SPROUTS.—Advantage should be taken of showery weather for transplanting plenty of these in well-manured ground two feet asunder every way. Seed may also be sown at once in case you omitted to do so last month.

CABBAGES.—These may be planted out on well-manured ground nine inches apart now, so that in a short time every alternate one can be drawn for greens and the remainder earthed up and left to heart for late spring use. Plants of the August sowing should be pricked out on a bed three inches apart every way to gain strength previous to being finally transplanted. Also plant out in any spare ground young cabbages six inches asunder in rows fifteen inches apart, to be drawn as coleworts; or, as the market people call them, collards.

CARDOONS.—A dry day should be selected for earth-

ing up these to blanch ; the operation should be performed as soon as the plants are from two to three feet in height, by tying the leaves loosely together, digging and breaking the soil fine, and drawing it about a third of the way up the stems.

CAULIFLOWERS.—Prick out the August-sown ones ; the warmest and best place in the garden should be chosen, if they are only to be protected in the ground, but if you have a common garden frame and light to spare, dig up a space the size it will cover, and plant them three or four inches apart all over it.

CELERY.—Earth up as usual, choosing dry days for this work ; such crops as are not sufficiently advanced may have a little soil drawn to their stems, and be well watered afterwards.

CUCUMBERS.—If you have any in frames that you are desirous of keeping in full bearing, it will be necessary to add fresh linings to ensure a uniform heat, and to protect them at night by covering with mats.

ENDIVE.—Prick out a portion of the July sowing on a warm border, and blanch such as are large enough by tying up, or placing a board or slate upon them. If required, a few more plants may be put out for succession.

HERBS.—Sow seed of angelica, carraway, and pot marigold in the open border, and coriander in a frame. Tarragon should be increased by offsets, and such herbs as require it should have their decayed flower-stalks cut down, and the bed or beds cleared of weeds.

HORSE-RADISH.—Form new beds as directed for January, which is the better month of the two ; though when it has been allowed to stand over the former month, or, at the latest, March, this is the last chance of success.

LETTUCE.—Plant out a portion of the former sowings of the cabbage variety in a frame, for winter use ; and the brown cos on a warm border for an autumn supply. Sow again one or more of the hardy cos kinds, on a raised bed of light soil, in a sheltered spot, to remain until the spring.

MUSHROOMS.—For the purpose of growing these manure should be prepared by collecting moderately fresh stable-dung into a heap, after having extracted all the long straw and litter. Turn this over in a dry place, or where rain cannot reach it, every three or four days, until all the rank steam has been got rid of, and the whole is in a mellow condition. It will then be in a fit state for making up into beds as soon as necessary.

ONIONS.—As these ripen they may be drawn, dried in the sun on the ground for a day or two, and stored in a dry and cool place. Sow at once, if not already done, to stand the winter; thin the autumn sowing where they are too thick, and put out the thinnings on a warm border, one foot asunder every way.

PARSLEY.—The latest sown will be all the better for thinning a little, and the best way to do it is to pull up plants here and there as required for use. Such as was sown between the months of March and May should be cut down that it may make new growth before the winter sets in.

POTATOES.—Those that are ripe may be taken up and stored; and this may be known by the haulm decaying. It is unwise to let them remain in the ground after that period, as a second growth frequently takes place in wet weather. They may be stored in a dry cellar covered over with straw, or in pits covered over with straw and mould.

SEEDS.—These should be gathered as they ripen; they will otherwise be in danger from birds, or the pods bursting and dropping them about.

SMALL SALAD.—Sow as usual if there be a demand for a further supply; all the care they require is a little protection in bad weather.

TOMATOES.—Follow the directions given last month respecting the removal of all useless and ill-placed shoots, and such leaves as prevent the sun having full control over the ripening of the fruit. The young *green fruit* which is not likely to ripen in time may be *gathered for pickling*.

TURNIPS.—Give those crops intended for use their final thinning, and thoroughly hoe the ground between them at the same time. For the purpose of keeping slugs under, give the plants an occasional sprinkling of lime and soot, early in the morning while the dew is on them. Hoe and thin out the earlier crops to nine inches apart every way, if small; or from a foot to eighteen inches from each other, if large.

WINTER SPINACH.—Give this crop a good hoeing, removing a portion of the plants where too thick, so as to leave them six or eight inches apart; the more room they have the faster they grow, and the better the flavour.

WORDS OF ADVICE.—Weeds are a terrible nuisance just now; they must be kept down by constant hoeing, or otherwise they will not only choke the rising seedlings and spoil the appearance of everything, but will also cause the ground to be cold and damp. Remove the cause and the soil will be warm and dry for the reception of future vegetables. Just about this time there will be many crops that have done their duty and require to be rooted up; clear them away at once, dress and dig the ground, and replant with cabbages, and other subjects to stand the winter.

OCTOBER.

ARTICHOKES, GLOBE.—As soon as these have done their work, have the flower-stems cut down, most of the larger outside leaves removed, and the roots covered with litter, or something of the kind, as a protection against severe weather.

ASPARAGUS.—As soon as the tops decay let them be cut down close to the ground, and the beds cleaned and covered with a three-inch layer of well-rotted dung. It is advisable not to interfere with the alleys, lest by digging or forking, that portion of the roots which extend to them be injured, or perhaps destroyed.

BEANS, BROAD.—Sow, towards the end of the month, a few Mazagans on a sheltered border of deep strong loam that has been well manured, where they are to

remain; or on a warm border for transplanting in April.

BEEF.—These may be taken up, very carefully, as soon as ripe; the leaves removed to within an inch of the crowns of the roots, and preserved in sand.

BORECOLE.—When you have a vacancy, available plants may be put out from a foot to fifteen inches apart in the row, or if there be room for more than one, the rows should be two feet asunder.

BROCCOLI.—As a check to luxuriant growth, which renders these plants very liable to injury from frost, it is advisable to take them up and lay them in by the heels—that is in a slanting position—close together, covering the roots and stems up to the leaves. The Cape varieties, now heading, also require protection from frost.

CABBAGES.—The August-sown should be planted out for spring use twice as thickly as they are wanted, that when every other one or two out of every three are drawn for greens during the winter, the others may be left to form cabbages. The weakest may be left in the seed-bed to be pricked out three inches apart for future planting.

CAPSICUMS.—Let these have all the ripening influences of the sun by removing such leaves as shade the pods too much, and as soon as there is any sign of frost, gather them, even if still green.

CARDOONS.—On a dry day the leaves of these should be gathered up in a bunch and slightly tied round with bast, to prevent the earth from entering their hearts; then with the spade break the soil fine, and with it earth them up their full height, to whiten or blanch.

CARROTS.—These must be taken up without injury, thoroughly dried, and preserved in sand. Any that are broken or cut in the lifting will not do for storing, and should therefore be put on one side for immediate use.

CAULIFLOWERS.—Prick out from the seed-bed such plants as are large enough in frames, and under hand-lights; also pot off a few singly in small pots, and

place them where they will have plenty of light and air, as well as protection from rain and frost, until they are planted out in the spring. Such as have been some time in frames, or under hand glasses, must be cleared of dead and dying leaves, and have air and moisture supplied to them, whenever the weather is at all favourable.

CELERY.—Earth up, to the full extent of their leaves, such plants as are required for immediate use, but let the successional plantation alone as long as possible, so that the foliage may have its freedom to grow larger and stronger. In the event of frost, protect the forward crops with a good covering of long litter.

CHIVES.—These, which require replanting every two or three years, may be taken up now, if not already done, separated, and planted out in any quarter of the garden where the earth is moderately good; it does not require rich soil.

ENDIVE.—The last crop of this useful salading plant may be put out on a dry and warm border, with a south aspect, and a limited number in a frame, for protection, as soon as severe weather sets in. Also see to the blanching of a few full-grown plants weekly, or oftener if necessary, by tying up or placing a board or tile upon them.

GARLIC.—These may be planted out now in drills nine inches apart and six inches deep, on a light and dry soil, not recently manured; but where it is of an opposite character—heavy and wet—the work had better be deferred until February or April.

HERBS.—Sow seed of angelica, carraway, and pot marigold, in the open border. Tarragon may be increased by offsets.

HOT-BED.—Whatever time of the year you make a hot-bed, the construction is the same, and the present is as good a season as any. Shake out the warm dung well, and pile it in a square heap, one foot larger all round than the frame which is to stand on it, and three feet six inches high; this should be patted down as you

pile it, and be kept flat on the top; then lift on the frame and put on the glass; thrust a stick half-way through it from the outside—you can always try the internal heat by pulling this out and feeling the end. Let out the steam by lifting up the light behind in the middle of the day; when the heat is moderately strong, put three inches of good loam inside the frame all over the dung, and you may sow your seeds of any kind in pots to raise for planting out; cucumbers and melons should be potted off two or three in a forty-eight sized pot as soon as they have two rough leaves; they may then be grown a fortnight or three weeks; but as soon as there are four good rough leaves, pinch off the top, and when they are to be put out into the hot-bed, turn out the ball of earth whole; place it upright in the centre of the light, and heap up dry sifted mould, obtained for the purpose, all round it, rather higher than the surface of the base, so as to form a basin to hold water; this heap you will extend by adding mould all round it, as you see the roots come through the sides of it, until at length you fill the whole of the frame to a level of surface of the old ball, levelling down the portion that at first was higher than the ball and formed a basin. As the side branches of the plant grow out place them on the bed, so as to divide them equally all round, and when they have grown pretty nearly to the side and end of the bed, they may be topped again; but if, after topping, the side shoots do not show fruit, when they have grown two or three eyes long they may be topped, to induce the growth of lateral branches which will bear. Air must be given daily from the first by tilting up the glass a little behind; they must also be covered at night securely against frost, and when the heat declines the dung must be removed from the front straight down from the frame to the ground, and be replaced with fresh, hot, prepared stable-dung; then, in a day or two, serve the back the same, and after two or three days *you may serve the two sides or ends the same.* It is *only by hot linings* the heat can be kept up.

LETTUCE.—Plant at once, in warm situations, sheltered aspects, or in frames for present use; supply the cos kinds, while young, with air on all favourable occasions; but the cabbage varieties intended for a winter supply will not require so much.

MUSHROOMS.—Provided the dung has been collected and prepared as recommended last month, it will be in proper order for making up at once. As regards the size of the bed it matters little, so long as the proportions are uniform; but a serviceable one ought to be five feet wide at bottom, by four feet high, sloping from the sides and ends like the roof of a house. As soon as the foundation is laid, which should be done with the roughest and longest of the dung, the remainder must be built up, trodden firmly during the formation, and made solid with the fork—solidity being the main secret of success. A stick should then be thrust into the middle of the mass, as advised for the hot-bed, and this should be examined daily until the heat has subsided to a moderate degree, for it will not be safe to spawn the bed before then. The bed will be in proper condition for spawning when it is of the temperature of new milk, for the heat need only be sufficient to excite the spawn to extend its fires into the dung and earth, and continue for some time in that condition. Beds vary in the length of time at which it is safe to spawn them—some requiring three weeks, others less, before they are reduced to the required temperature of forty-five or fifty degrees. When ready the cakes of spawn should be broken up into pieces the size of a hen's egg, and inserted into both sides and ends, just beneath the surface, covered with a three-inch thickness of fine soil, which must be patted smooth and firm with the back of the spade, and, lastly, covered with a foot thickness of clean, dry straw.

ONIONS.—The autumn-sown crop should be carefully thinned, either by hand or with the hoe; where there is only a small quantity the former method is best; but the soil must be gone over with the hoe afterwards to loosen it well.

PARSNIPS.—These when full grown may be taken up for storing in sand; but unless the ground is required they do better left where they are, to be lifted as wanted.

POTATOES.—These should be taken up as fast as they ripen, especially the main crops. Be sure they are ripe and well dried previous to being pitted, or laid in a heap, as the case may be; otherwise they will sweat, as it is termed, when, if they do not rot, they will, when cooked, turn out watery and strong.

RADISHES.—Thin out the late sowings, and sow again, in a frame, for succession. The best kinds for this purpose are the *French breakfast*, and *Wood's early frame*; both being quick-growers.

RHUBARB.—Towards the end of the month, such stools as are intended for forcing early should have all decayed leaves cleared away, and be supplied with a moderate dressing of good soil, covering up the roots with a little short litter at the same time.

SEA-KALE.—Those plants intended for early forcing must have all leaves cleared away as fast as they decay, and be afterwards covered with a moderate thickness of short litter. Seed should be gathered as soon as ripe, but if not wanted it is better to cut down the flower-stems before they bloom.

SHALLOTS.—Where the soil is light and dry, these may be planted at once; but if of a heavy, wet nature, rather than run a risk, you had better defer the work till the spring.

TOMATOES.—As any unripe fruit on the plants now is not very likely to mature in time to escape frost, it will be advisable to gather it at once, and hang it up where it can have the full benefit of the sun during the day (with protection at night) to ripen.

TURNIPS.—As the late sowings do not require so much room as those sown in the spring and summer, they need only be thinned to about six inches asunder in every direction.

WINTER SPINACH.—Weed well, and thin out to six or eight inches apart in every direction; stirring the

soil between the plants as you proceed, to encourage rapid growth and a superior flavour.

WORDS OF ADVICE.—If in want of a job you can employ your time by hoeing amongst all kinds of crops, being careful neither to bruise or break sound leaves, or loosen or injure the roots of anything. The plagues of the season are weeds and falling leaves, both of which must be removed at once, or otherwise they will cause much mischief to every plant upon the ground, by encouraging and promoting damp, preventing a free circulation of air, and excluding sunshine, all of which are injurious to plants generally. As the various compartments become vacant, have them dug up and ridged; heavy land may be manured now, light land in the spring.

NOVEMBER.

ARTICHOKES, GLOBE.—These should be amply protected against frost by first of all cutting off the leaves to within a foot of the ground, and then covering them with dry litter of some kind on each side of the rows, but not so as to shut out light and air from the hearts.

ASPARAGUS.—The beds should be cleared at once, by cutting down the seed-stems close to the ground, hoeing up and raking off the weeds, and mulching the surface with well-rotted stable dung. Those who wish to force a few roots may do so by planting them in a cucumber frame, the heat of which is now exhausted. For this purpose select four-year-old roots, take them up with care, and plant them close together, covering them with about six inches of light soil. By applying linings of well-prepared dung round the outside of the frame, a genial heat will be communicated to the roots, and cause the shoots to grow slowly, but strong. As soon as the shoots make their appearance, administer air daily in favourable weather, with a view to insuring a healthy green colour, and imparting a rich flavour. If treated as above they will be ready for cutting in three weeks at the latest.

BEANS, BROAD.—A few early *Mazagan* and long pod

may be sown at once, on a dry and warm border, where they can have protection when necessary, for the purpose of insuring an early crop.

BROCCOLI.—Where this has grown vigorously, and was not laid in by the heels as advised last month, if required for late spring use, the plants should be taken up with as much soil about their roots as possible, replanted in a slanting direction, and covered up as directed.

BRUSSELS SPROUTS.—If the tops have been cut off, as is the usual custom, a week or two before gathering, all you will now have to do is to clear away the dead leaves, but not the green ones, which are useful as a protection to the young side sprouts.

CABBAGES.—Earth up such as were planted in the autumn, for the purpose of strengthening and protecting them from being loosened by rough winds; and where they are infested by slugs, set traps for them—that is to say, lay cabbage leaves on the ground between the rows, which examine early every morning, and shake the intruders, which will congregate on the under surface of the leaves, into a pail of salt or lime and water.

CAULIFLOWERS.—As those producing heads just now are valuable, the plants should be taken up and either planted in a frame, or hung heels upwards in a dry and cool cellar or shed. Those in frames, under hand glasses, or potted singly, must be liberally supplied with fresh air and water in favourable weather, but when it is very fine the lights or glasses may be removed altogether, and only returned at night as a protection against frost, or when it rains hard.

CELERY.—In dry weather earth up all intended for winter use, to the full extremity of their leaves; and as hard frost, coming after rain, would be sure to destroy this crop, sufficient protection must be given to secure them from injury.

ENDIVE.—When these plants in frames are troubled with too great a quantity of moisture, it is a very good *plan to distribute a little dry dust carefully amongst them, as a preventive to mildew, mouldiness, and*

canker ; it is also a promoter of vigorous and healthy growth. A few of the most forward in the open ground may be taken up and planted in a cold frame for a supply during bad weather, as, for want of such precaution, many salading plants in an advanced condition are cut off in a few hours by heavy rains or sudden frosts.

GARLIC.—This may still be planted as opportunity offers, bearing in mind the advice given last month.

HERBS.—Clean and dress the beds for the winter, by spreading a few inches of very rotten dung over the surface, which will also help to protect the roots from frost. Sow seed of angelica and carraway in the open border, and increase tarragon by offsets.

HORSE-RADISH.—New plantations may be made as opportunity offers, provided you can spare the ground, and a few good, straight sticks may be taken up for general use.

MUSHROOMS.—Beds out of doors will have to be well protected by an extra thickness of straw, with mats over that, or you will not be able to exclude frost, or keep off wet—both of which are fatal. The bed that was spawned last month, although under cover perhaps, will nevertheless need particular care to prevent the baneful effects of cold, windy, frosty weather, whenever it occurs ; and to accomplish this, the covering should be removed once a week, the surface cleared of mouldiness or damp litter, should there be any, and recovered with clean, dry straw.

PEAS.—A moderate sowing of these may be made on a warm, dry border, for an early supply, for which purpose you cannot select better sorts than *Dilliston's Early Prolific*, or *Laxton's William the First*.

POTATOES.—Any that have not as yet been lifted, should be taken up as soon as the haulm begins to change colour, well dried in the sun on the ground, and either pitted or laid in a heap in a cool, dry shed or cellar. A few may also be planted on a dry, sandy soil ; but it will be useless to attempt to grow them on land of a heavy, damp nature.

RADISHES.—A few may be sown on a warm border of rich and light soil, where they can have protection in severe weather.

RHUBARB.—For the purpose of securing an early supply, a few old stools may be taken up, planted in large pots or boxes, and placed in a hot-bed to force.

SEA-KALE.—This may be secured next month by covering the crowns of the plants with a conical-shaped heap of sand or leaf mould, over which inverted flower-pots should be placed, and the spaces between the rows filled in with stable dung or leaves beaten down firmly and piled up a foot or more above the tops of the pots.

SHALLOTS.—No time should be lost in getting these into the ground, in case you omitted to plant them last month, in the same manner as then directed.

WINTER SPINACH.—Keep the soil well loosened about these plants, and do not tread upon the ground more than necessary when gathering the leaves, as it tends to check luxuriant growth, which is so essential to the health of the crop.

WORDS OF ADVICE.—The time has arrived when it is necessary for us to consider what we have done, and what we are going to do in the future, for the benefit of our garden. It will be well, as a commencement, to make out a list of such seeds as we contemplate sowing next year; the experience of last season will guide us as to those things which succeeded, and those which failed or did badly. As soon as we have settled this point, we may turn our attention to manuring and trenching all unoccupied ground, which may then be laid up in ridges to mellow by frost till wanted. Ground in this rough condition will merely require levelling down and raking over when the time arrives for cropping it.

DECEMBER.

ARTICHOKES, GLOBE.—The heads remaining, if any, should be cut off with a good length of stalk, that they *may, if not required for immediate use, be placed in damp sand, in a good place; with this treatment they*

will remain good for a long time. The larger leaves may then be removed, and the ground dug in a sloping ridge over each row, covering the plants all but the very hearts for the winter.

ASPARAGUS.—Dung and leaves may be got together in preparation for another bed if a further supply is required for succession.

BEANS, BROAD.—Sow on a south border, in a dry and sheltered quarter, in rows two to three feet apart, either the *long pod* or *Mazagan*, or both if required; or a few sown pretty close together, and protected with long litter, will be fit for transplanting in the spring. Any that are already up should have earth drawn to them for protection and support.

CABBAGES.—Never be without these, say we; but there are those who may consider two or three sowings in a year sufficient; rather let us have half-a-dozen from choice. It is the most useful of green vegetables; and, although there are particular seasons in which they flourish most, there are often vacant spaces which are better filled up than empty, both for appearance and use, and those plants which have not received a check are infinitely better than those which have been stunted in the seed-bed. Forward plants requiring earthing up should be attended to while the weather is favourable.

CARROTS.—Those who require a few young ones very early, may sow seed on a slight hot-bed at once.

CAULIFLOWERS.—Those which were planted according to last month's directions, in pots for protection, must be carefully watered and aired; young plants watched narrowly for slugs, and kept clear of weeds. Any in frames and under hand glasses must have all the air possible without risk, and be securely protected against sharp frost and heavy rain. The surface of the soil amongst all these plants should be regularly stirred, and a little dry dust sprinkled about them to prevent the green growth, which stagnant air at this season is almost sure to produce. Remove dead and dying leaves, and keep the glasses off night and day in very

mild weather, but be prepared to return them at a moment's notice. Where the autumn sowing failed, a pinch or two of seed may be sown in a pan or box, and placed in heat to germinate; and as soon as the plants are large enough to handle, have them pricked out on a slight hot-bed.

CELERY.—The advanced crops may now be fully earthed up in dry and open weather, as well as those which have made some growth: this is necessary, lest frost set in all of a sudden.

CUCUMBERS.—It is now time that a temporary seed-bed was prepared for raising young plants for the hot-bed; and for this purpose a one-light frame placed on a good heap of dung will be sufficient, provided the dung is forked up to the depth of a foot every alternate day until the heat has subsided sufficiently. The seed may then be sown in pots, and the pots plunged in the bed. As soon as the plants have two rough leaves pot off two in a forty-eight sized pot, and treat them afterwards as directed in October.

ENDIVE.—Blanch as required by placing a slate or board upon them, or tying up, if you prefer it. Such plants as you wish to preserve should be taken up at once and planted in a frame; or, if there be none at liberty, any protected situation, such as the corner of a shed, or outhouse, will do. Here they can be blanched when wanted, just as well as in the open ground.

HERBS.—Chervil, mint, and tarragon may be had now in perfection by potting up a few roots, and placing them in gentle heat.

MUSHROOMS.—This is the best season for collecting horse-droppings for the construction of spring beds, which will shortly have to be made up. Established beds should be exposed to the sun and air on a mild, dry day, but be covered up again in the afternoon. If, on uncovering, you find the material wet, it must be replaced by fresh, dry straw. Beds out of doors should be protected from frost and rain by an extra covering of clean, dry straw, and over this a mat or two for the ~~purpose~~ of carrying off the water.

ONIONS.—The August-sown should be frequently hoed, for the purpose of keeping them entirely free from weeds; besides which, by loosening the soil, the bulbs get more air and more room to swell.

PARSLEY.—As this is an herb always in request, and very susceptible to injury from frost and snow, if very heavy, it will be policy to cover a certain portion with hoops and mats, to protect it; but as this means of protection occasionally fails, a safer plan will be to take up a few roots, pot them off, and plant them in gentle heat.

PEAS.—Some of the earlier kinds may be sown to succeed those sown last month, for the chance of a crop; and any that are up and doing well should have a little earth drawn over them, with a layer of sand over that, as protection from slugs and frost.

POTATOES.—Those in pits must be examined occasionally, and where they show no symptoms of disease or fermentation they may be finally earthed up; but if there be any doubtful ones, it will be necessary to sort them over previous to doing so. Any stored in a heap must be likewise carefully looked over and the injured tubers extracted. A few of the *early frame* or *ash-leaved kidney* may now be planted in a slight hot-bed for an early crop.

RADISHES.—A small sowing may be made in slight heat, to succeed that sown last month, for an early supply. The sorts then recommended will be as good as any for sowing now.

RHUBARB.—This may be either forced in the open ground by the aid of dung and leaves, or a few roots may be potted and placed in any structure where sixty degrees of heat can be maintained, for succession.

SEA-KALE.—Keep up a succession by similar means to that recommended for rhubarb; it is a vegetable of which you cannot well have too great a supply.

WINTER SPINACH.—It is a common practice with many to pull this crop by handfuls, than which there cannot be a greater mistake, as by so doing the smaller plants get torn up, whereas if each leaf be picked singly the old plants will last much longer, and the

young ones attain their full size by the time the former are over.

WORDS OF ADVICE.—Let the weather be what it may, employment of some kind can always be found; for instance, in frosty weather manure may be wheeled on the ground ready to be dug in as soon as a thaw takes place; in wet weather indoor jobs can be seen to, such as making labels, sorting pea and bean sticks into their various lengths, cleaning seeds, &c., and last, not least, litter, mats, and other protecting materials may be got in readiness for using in cases of emergency. Many a pound has been saved by having these appliances close at hand when a sudden change of weather has taken place. It is also a very good time to collect manures, soils, sand, clay, loam, turves to rot into mould, peat earth, and the droppings of horses and sheep, cow-dung, and other fertilizing subjects too numerous to mention, for the production of vegetables of all kinds.

PART V.

SUNDRY OPERATIONS.

FORCING, FUMIGATING, LABELLING, ETC.; AND THE IMPORTANCE OF ATTENDING TO THE SAME.

FORCING.—There are various ways of accomplishing this operation; it can be done by means of hot-water pipes, flues, and stable-dung. The two former methods are resorted to where expense is no object; but where economy has to be studied, the latter mode will be found very effective for all ordinary purposes. By way of illustrating the subject we give illustrations of three structures (see Figs. 11, 12, 13).

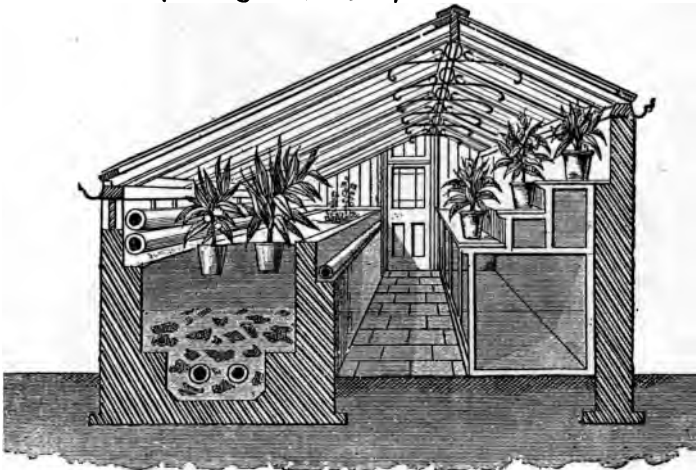


Fig. 11.—End section of a useful short back-roof forcing-house, having ventilators in lieu of front sashes, with top and bottom heat. The front pit is suitable for melons, cucumbers, &c., and the stage at back for plants requiring similar temperature.

Another cheap and handy method of heating a frame is by means of Mussett's stove, Fig. 14: A, boiler; B, flow pipe; C, return pipe; D, heating apparatus; E, paraffin lamp; F, hole in the ground to let down lamp.

The next sketch (Fig. 15) represents the apparatus, which is 20 inches high and 44 inches long, including boiler with a paraffin lamp attached: A, boiler; B, flow pipe; C, return pipe; D, heating portion; E, paraffin lamp; the dotted line shows the ground level; and F, hole in ground for removing and returning lamp.

HEATING GLASS STRUCTURES.—This is a matter of no small moment to both amateur and professional gardeners, and as it can now be accomplished so easily and cheaply by means of hot-water pipes, there is no reason why the former should not have his cucumber and melon house as well as the latter. The first thing to consider in starting is what sized pipes shall be used.

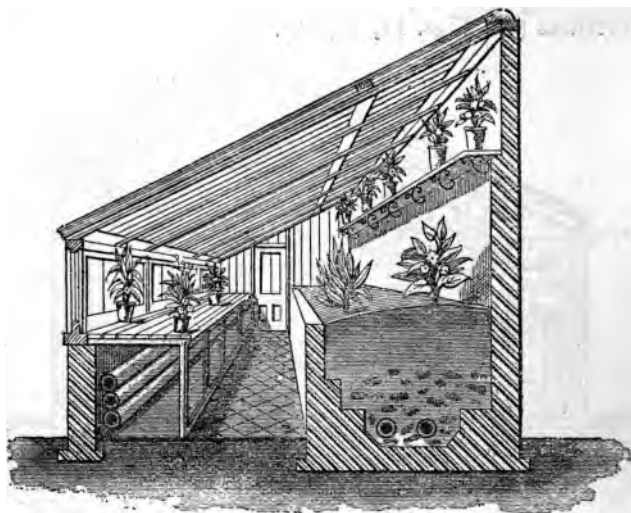


Fig. 12.—End section of a forcing-house, with pit for bottom heat at back and stage to front. Such a structure would be found very useful for the production of chilis, tomatoes, capsicums, &c., and also for melons and cucumbers.

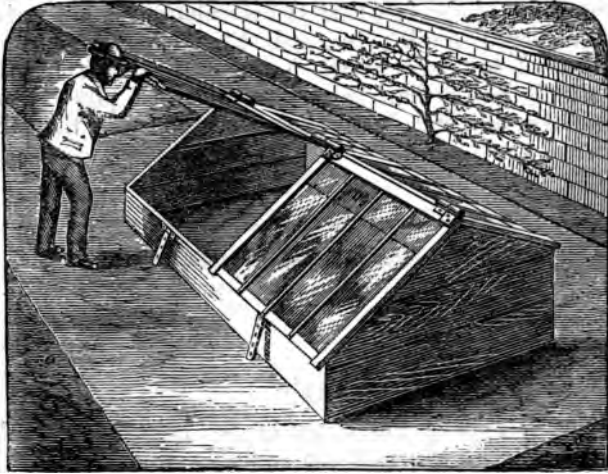


Fig. 13.—Plan of a two-light frame, suitable for cucumbers, melons, &c., and, in short, anything that requires heat.

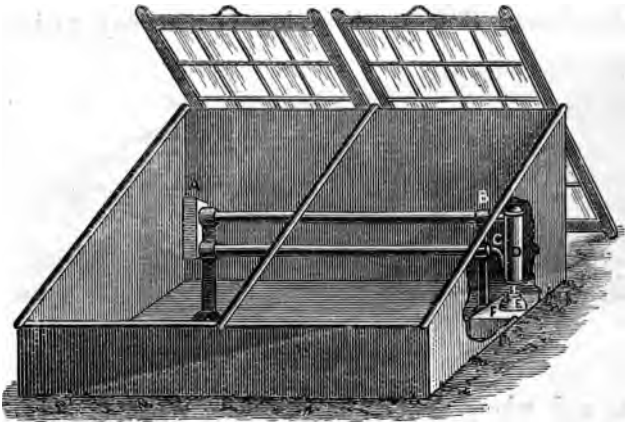


Fig. 14.

Shall we have four one-inch pipes, or one four-inch pipe? The prevailing notion is that one large pipe is preferable to four small ones. We must not, however,

lose sight of the fact that the circulation of hot water is quicker in small pipes, and that the heating surface presented to the air of the house is greater from four one-inch pipes than from one four-inch pipe. Perhaps the best excuse for using the latter is that the



Fig. 15.

larger volume of hot water in the large pipe would not cool so quick, and consequently would supply a latent heat which the smaller pipes, having cooled earlier, would fail to do. Another perplexing question with the amateur is, when he has built a new glass-house, How much piping is necessary to heat



Fig. 16.

it, and where shall it be placed? What sized and what shaped boiler is best to maintain a given temperature under all conditions of outside weather? To which we answer, that the quantity of cubic feet of air enclosed by the house must be calculated, *together with its architectural features*—whether it

be a span-roofed house, with its four sides and roof of glass, or a lean-to. The former is the best for light, but would necessarily require more piping than the latter, that is supposing the temperature in each house has to be kept the same, say fifty degrees. A lean-to (such as represented at Fig. 16), with a wall forming the back, is a form of house in which plants receive light on one side only, and should face to the warmest points. It is well known that glass radiates heat very freely, and this form of house, presenting as it does less glass surface to the cold air, would require less piping than a span-roofed house of the same dimensions. Again, the wall itself, having absorbed heat when the house was warmest, would gradually give up such heat as the house cooled, and thus contribute towards warming the house when warmth was most needed. As the more "laps" there are, where the panes of glass meet, the more heat is necessary, we have shown the policy of using large panes, and consequently reducing the number of laps considerably. It

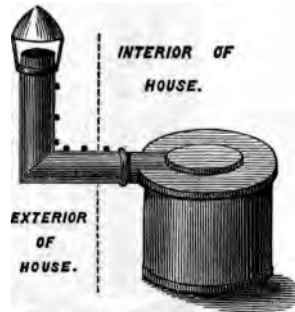


Fig. 17.

is better to have double the number of pipes kept at a nice mellow warmth, than a small quantity which you will be forced to keep quite hot. The best boilers are those which, when fixed, allow a free access of the flame to its outer as well as its inner surface; but for amateurs who prefer to look after their own fires, provided the work can be done in a cleaner and less laborious manner, there is nothing to surpass gas, which, if on the premises, can easily be conducted to the inside of the house. As we have already stated, the gas-fired boiler and its connections may all be inside the house, and thus apply the heat with much economy direct to the air of the house. Mr. Mussett has invented

a kind of hood or funnel-shaped cap of sheet-iron (Fig. 17), which is to be properly adjusted over the burners, in such a manner as to collect the fumes thrown off by the gas in combustion; and a pipe fitted to this funnel should lead to the outside of the house, for the purpose of conducting the vitiated air to the winds.

Since describing the foregoing our attention has been drawn to **TEBBS'S UNIVERSAL HEATING STOVE** (see Fig.



Fig. 18.

18), a very useful invention, and one likely to supersede all previous contrivances for heating greenhouses, conservatories, ferneries, libraries, and, in short, any place where *pure air and genial warmth* is required. Any one inspecting this apparatus will be at once convinced of its utility. The inventor describes it in the following terms:—“In introducing to the notice of the public my new Heating Apparatus,

the main object has been to place in the hands of all interested in the cultivation of plants under glass an original, safe, and economical means by which the greatest amount of heat can be obtained with the smallest amount of fuel, requiring little or no attention for twenty-four hours, and giving off nothing but pure heated air. This is obtained by *bringing the pipes or tubes together in one body,*

and allowing the smallest space between each for the circulation of hot water on their outer circumference, retaining the inner circumference for the heating of the atmosphere as it ascends by the natural attraction of the vertical heated tubes or pipes, which will be found much more effective than the old system of having pipes or tubes filled with water extended from the boiler by flow and return, as the heat becomes expended every foot it travels. By this new system I maintain the whole of the pipes or tubes at the same high temperature, thus heating the air more rapidly as it ascends through the inner circumference. They can be adapted for burning either gas, fuel, or petroleum oil, and can be made any size or shape."

FUMIGATION.—This has hitherto been one of the most unpleasant operations attending the cultivation of plants under glass, such as cucumbers, melons, vegetable marrows, &c., and one always dreaded by gardeners and amateurs—the difficulty of getting the material to burn, sometimes involving the necessity of remaining in the house until the operator has been nearly choked, on account of the inefficient means at his disposal for the purpose, the usual method being to use pots, and placing red-hot cinders in them, and filling up with the fumigating material, although attended with the danger of flaming or giving off sulphur from the embers, and some-



Fig. 19.—The Fumigator.

times proving a total failure, often seriously injuring the foliage of the plants above mentioned, and proving such a severe check to the fruit that their recovery is very doubtful. We have seen frames of fine healthy vegetable marrow, cucumber and melon plants, and many a house of cinerarias, verbenas, primulas, &c. (but flowers do not engage our attention in this work, and

therefore we have nothing at present to say on the subject), entirely singed and almost destroyed by this makeshift method adopted. We have had many fumigators brought under our notice, but all have been more or less complicated and costly:



Fig. 20.—A standard currant-tree covered and being filled with smoke.



Fig. 21.—The tree tied up after being filled with smoke.

others less complicated, but only to be used once or twice, and then set aside as cumbersome and useless for the purpose. One invented and patented by Mr. Tebbs, of which we give several illustrations, entirely does away with the danger and unpleasant consequences hitherto attending this important operation. We have tried them, and consider them the best yet introduced: they do their work thoroughly. No cinders are used in lighting; this entirely does away with the danger arising from sulphureous vapour; they are economical to use, as all the material put into them is consumed and given off in dense smoke, and the simple manner in which they are instantly set going makes one long to use them. They are made in four sizes, so that the largest cucumber or melon house, or frame, can all be equally and effectually fumigated. The small size will also prove a great boon for outdoor use. Our readers will see by the engravings that by covering a tree or bush with some thin cotton material (*which should be damped before using*), as represented

at Fig. 20, and tying it round the stem as at Fig. 21, when fully charged with smoke, the purpose can be

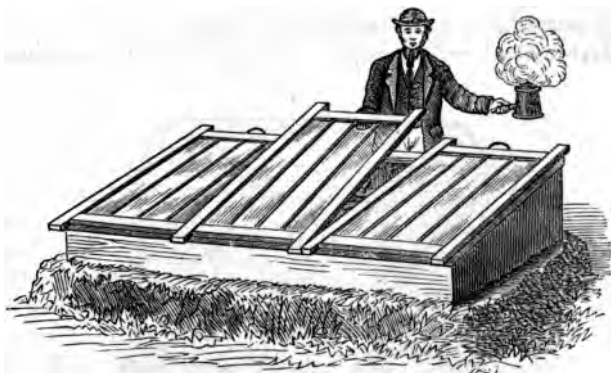
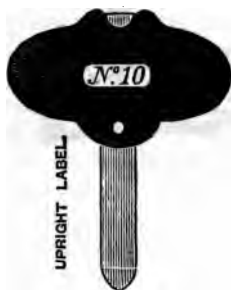


Fig. 22.—Placing the fumigator in a frame.

most effectively attained. Gooseberry and currant bushes, which frequently adorn a kitchen garden, in most seasons suffer terribly from caterpillar, &c., and



TEBBS'S REGISTERED COMBINATION LABEL,

Fig. 23.



Fig. 24.

this fumigator is invaluable as a remedy against them. Fig. 22 shows the operator in the act of placing one of the fumigators in a three-light frame. No gardener

or amateur for the future need allow his plants to become infested with aphid or any other vermin, the moderate price of this handy apparatus being such as will cause them to be universally used.

LABELLING.—Nothing attending the many operations



Fig. 25.

connected with gardening is of more consequence than the correct naming and labelling of everything you may either sow or plant: it not only adds to the pleasure of others, but it also shows at a glance what you have sown or planted, makes one familiar with the *names of vegetables, plants, and fruit trees, and forms*

a record of the successes and failures of the past season, thus enabling the grower to discard or continue certain varieties. In other words, it teaches him what kinds are best suited to his soil or locality. **TEBBS'S COMBINATION LABELS**, of which we introduce two, Figs. 23 and 24 (the former for pots or the borders, and the latter for suspending to trees, &c.), are in every way suitable to the purpose, and will be found both economical and durable.

A NOVEL SUGGESTION.—Although fern cases are not exactly legitimate adjuncts to the kitchen garden, we give illustrations of two very pretty and useful ones. It occurred to us they might (when not occupied by ferns) be turned to profitable account for growing small salads, watercresses, and other subjects interesting in a double sense, being nice to look at and eatable at the same time. The Rat-tail Radish (*Rafanus caudatus*) is a curiosity and good eating, and would look by no means out of place under one of these shades. Whether they will ever become popular for such a purpose we cannot say; we merely throw out the hint.



Fig. 26.

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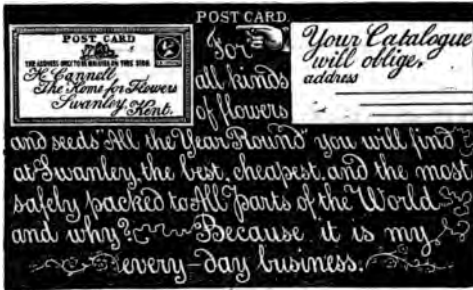
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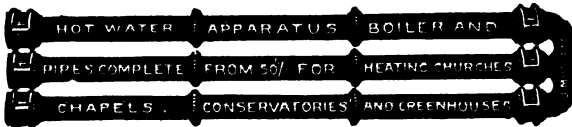
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