GLENNY'S

CATECHISM OF GARDENING

CONTAINING

INSTRUCTIONS

FOR THE

Culture of Vegetables and Fruit Trees,

AND ARRANGED FOR

THE USE OF SCHOOLS OF BOTH SEXES.

BY THE

REV. J. EDWARDS, M.A.

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PREFACE.

THE name of MR. GLENNY will be a sufficient warrant for the accuracy, in a practical point of view, of every remark made and every rule laid down in the following pages. My object has been to embody these remarks and rules in such language as would, in my judgment, render them easily intelligible to the thoughtful reader; and I shall be thankful, if it be found that I have not failed in this really important object. The catechetical form has been adopted, as the medium of conveying the proposed information to the reader, because the book is intended especially for the instruction of our youth of both sexes; and this form of question and answer appeared most likely to admit of the adaptation of the subject to their habits of thought and observation. Not but that the general reader may find an interest in the perusal of these pages, if he desire to become acquainted, if not familiar, with the first principles at least of a very important branch of scientific and practical knowledge.

To another class of persons, too, it is hoped that this little work may prove especially useful; I mean, to those of our countrymen who are emigrating to other parts of

the world. Whatever else may be their occupations, the successful culture of the garden will assuredly be one of their first objects; and the rules embodied in this Catechism, divested as they are as much as possible of technical and scientific language, and condensed within a moderate range of space, will, it is hoped, enable them to proceed safely and happily in this part of their undertaking. Of course, in this case, every allowance will be made for change of place and climate; the chief point being this, that, if the principles here laid down be well understood the management of a garden may be successfully undertaken in any place, under ordinarily favourable circumstances, by any intelligent man.

Whatever else may be the sentiments of the reader, I humbly trust that he will be led, in reflecting upon the blessings which he will here learn are placed within his reach, to a sense of deep gratitude for these His mercies, to the All-Wise and the All-Good; and that he may, as a dependent creature, be happily impressed with the earnest conviction, that though one may plant and another may water, it is God alone that giveth the abundant increase.

J. E.

London, May, 1849.

GLENNY'S

CATECHISM OF GARDENING.

Q. What is a garden?

A. A garden is a plot or piece of ground cultivated either for profit or for pleasure.

Q. What is the object or design of a garden?

A. The cultivation and production of fruit, flowers, plants, or vegetables, or some, or all of them.

Q. May not all the productions of gardens be called "vegetables?"

A. Strictly speaking, they may be, and, indeed, they are so called.

Q. How then are they to be distinguished?

A. By an accurate description of the properties of each.

Q. What is meant by the term "fruit?"

A. Fruit is well understood to mean those parts of the plant which contain the seed: as apples, pears, plums, cherries, peaches, and similar productions, which are for the most part eaten without the necessity of cooking.

Q. What is understood by "flowers?"

A. The term "flower" is applied to that class of

plants which, though a portion of the vegetable kingdom, are esteemed only for the beauty of their bloom, or the delicacy of their fragrance.

Q. What, then, is meant by the term "plant?"

A. The term "plant," as applied specially to the objects cultivated in a garden, represents that class grown for their ornamental qualities; many of them being valued for properties quite irrespective of their flowers.

Q. If all these productions are, strictly speaking, vegetables, what are we to understand most especially by this term?

A. The term "vegetable" is, by universal consent, applied, in an especial manner, to those plants the substance of which furnishes man with food, either cooked before it is eaten: as cabbages, carrots, potatoes, beans, peas, &c., or eaten raw, as lettuces, radishes, cress, &c., which latter are often called "salads."

Q. What is gardening?

A. Gardening is the art of rearing and cultivating select vegetable productions, so as to cause them to attain a greater state of beauty and of usefulness, than they are capable of attaining in their natural state.

Q. How is this to be accomplished?

A. By supplying to each kind of plant the conditions and circumstances best adapted to its individual nourishment. For, in the state of nature, that is, in the uncultivated state, plants must all fare alike; except that, where the conditions of a locality are such as will kill them, they are soon lost to that locality; but where the conditions are highly favourable to their growth, there they flourish.

Q. Do you mean, then, to infer, that where a particular locality agrees with a plant, it will grow as well without the aid of art as with it;—that is to say, that it will become as fine in the qualities which would recommend it, as if it were reared and cultivated in a garden?

A. No. Gardening always possesses one great advantage over unaided nature; for we are mercifully enabled to modify unfavourable conditions of season and climate; in the case of long continued dry weather, for instance, by watering plants,—by covering them in the event of severe frosts,—and by counteracting, in a great measure, the effects of excessive wet.

Q. What are the principal operations in gardening?

A. Digging, trenching, ridging, hoeing, drilling, raking, sowing, planting, pruning, earthing, manuring, and watering.

Q. What are the implements used in these operations?

A. A spade, digging fork, hoe, rake, trowel, dibble, watering can, and pruning knife.

Q. What is "digging?"

A. "Digging" is turning over the earth with a spade, from the depth to which the blade of that implement will penetrate.

Q. How is this operation performed?

A. The blade of the spade being thrust into the ground in a slightly slanting direction, the handle is forced back; and the soil thus loosened is lifted out, by placing the left hand close to the blade, and the other hand upon the end of the handle, and raising the body a little. The spade-full of earth thus

lifted is, by a twist of the hand, turned completely over, so that a fresh surface of soil is exposed.

Q. You just now mentioned a spade ; what is a spade ?

A. A kind of shovel with a flat iron blade longer than it is wide, fixed to a strong handle, about as long as a walking-stick.

Q. How would you set about digging a piece of ground ?

A. I should dig out the soil, one spade in width and one spade in depth, along one end of the piece ; which soil I should wheel at once to the other end of the ground intended to be dug.

Q. What then ?

A. Then turning my face to the gutter which I had thus made, and taking a spade-full of earth from the undug part, I should turn it over into the first gutter, and continue this through the whole length of the gutter.

Q. Do you mean that you would immediately fill up the gutter or channel you had made ?

A. I should fill the first gutter up with the mould dug from the second, which I should again fill by digging a third gutter, and continuing this backwards, till I came to the last gutter of all, I should fill that up with the soil I had at first wheeled from the other end ; and then all the ground would be loosened or "dug."

Q. You would then merely loosen the soil, and make a fresh surface : is it so ?

A. That would not be sufficient ; for I should also pulverize or break the lumps of earth, and level the surface as I proceeded with the "digging," especially if the ground were intended to be soon sown or planted.

Q. Tell me the object and advantages of this digging?

A. First, it loosens the ground so that rain can penetrate it; secondly, it admits air to the whole depth to which we dig; and, thirdly, it enables the fibres of plants to grow into it freely, and the rain to follow them.

Q. What is "trenching?"

A. "Trenching" is deep digging; that is, in "trenching," instead of confining the operation to one spade in depth, we go twice that depth, and perhaps more. To trench, we must mark out, at one end of the ground, a space three feet in width, and then dig out one spade's-depth of earth the whole width marked out; we must then dig in the same place, another spade's-depth all over the bottom, so that we make an opening or trench three times as wide, and twice as deep as the gutter or channel in ordinary digging.

Q. What do you do with the earth thus taken out?

A. It is wheeled to the opposite end of the ground, the lower spade's-depth being kept separate from the first or upper spade's-depth of soil.

Q. What is the next part of the process?

A. Having formed the trench, we mark out an equal width next to it, and first dig away the top spade's-depth over that piece, throwing the soil into the bottom of the first trench; then we dig out the bottom spade's-depth, and with it fill up the first trench completely; this leaves a trench empty. This is continued to the end of the work, when we fill up the last trench by throwing into the bottom the soil wheeled from the top of the first trench,

and next throwing on the top, the soil brought away from the bottom.

Q. Is this the only method of trenching ?

A. No. Sometimes, after the first trench has been dug out one spade in depth, it is found desirable to dig up the next spit, or spade's-depth, and to leave it in the bottom without removing it.

Q. What are the objects and advantages of trenching ?

A. To admit the air into the soil, double the depth to which it would be admitted by digging only, and to allow the rain to percolate or enter with freedom so much lower. This is desirable in all cases, whether the soil be reversed or not ; but when it is reversed, that is, when the lower soil is brought to the top, and the top soil thrown into the bottom, the object is to give the plants the benefit of fresh soil, which, having lain below the level where the roots ordinarily reached, has been resting.

Q. Why is not the soil always reversed in trenching ?

A. Because it sometimes happens that good soil is not thicker than one spade's-depth, and that the earth beneath is unfavourable to the growth of plants.

Q. How then are such soils benefited by trenching ?

A. Because the lower portion of soil, though not changed in position, is loosened, and the air and rain are admitted equally as though it were changed. Besides, a little of the inferior soil being at each trenching incorporated with the upper and better soil, the depth of good soil is gradually and permanently increased.

Q. What is "ridging?"

A. "Ridging" is laying the soil in alternate lines of hill and dale, or bank and gutter. This is done by taking the soil from one space and putting it on another adjoining; so that a whole piece seems as if laid out in stripes or banks on a small scale, and, of course, gutters between them.

Q. What is this done for in general, and in what seasons?

A. To allow the effects of weather to operate on the soil more forcibly. It is generally done in winter, that the whole mass may be more entirely frozen through; or, at any rate, that the frost may penetrate beneath a larger surface, because the action of frost is of great service to all kinds of soil.

Q. Is there no other object in ridging the soil?

A. It is sometimes done on very light soil, that plants may be grown along the bottom, between the ridges, where they are less exposed to drought; and sometimes in wet soil, that the crops may be grown along the tops of the ridges, where the roots would be drier than if the surface were level.

Q. How is the ground managed, after the frost has had its effect, and has gone by?

A. It is levelled; and it is then ready for crops, just as if it had not been in ridges.

Q. You mentioned the digging fork as being sometimes used in performing the foregoing operations: what kind of implement is that?

A. It is like a spade, except that the entire blade of the spade is replaced by three or four narrow prongs of metal. The outline is exactly that of a spade.

Q. What is "hoeing?"

A. "Hoeing" is stirring the soil with a small instrument called a hoe.

Q. What kind of implement is the hoe?

A. The hoe is a small thin plate of steel, usually broader than it is deep, fixed by means of an eye-socket transversely at the end of a long handle, the cutting edge slightly inclined towards the handle.

Q. How is it used?

A. If you force the hoe, with a chopping cut, under the surface of the soil, you stir the soil, and thus cut off anything that is growing. With the hoe you can also draw the earth towards you into ridges or mounds; or make small holes or gutters with it, the latter being done by means of the angular corner of the hoe.

Q. What is the object in hoeing?

A. Various objects are accomplished by hoeing. One is, merely to stir the earth so as to open the surface of the soil, and to admit air to the roots of plants; another is, to chop off anything that is growing where it is not wanted; another is, to form channels in which seeds may be deposited, which is called "drill-sowing."

Q. When is it desirable to chop or hoe off plants that are growing?

A. In all cases, where unprofitable weeds are crowding useful plants, and taking away their nourishment; and also, where plants are coming up too thickly, and are therefore crowding one another. The plants and weeds, so chopped up, are either left to die on the surface, or are to be removed at once.

Q. Is crowding then injurious to plants?

A. Yes; it deprives them of the proper degree of light, air, and moisture, necessary to their growth:

by hoeing out or cutting off the superfluous plants, you secure these advantages to the remainder.

Q. What is "raking?"

A. "Raking" is combing the surface of the ground with a tool called a rake.

Q. What then is a rake?

A. A "rake" is formed of a thin bar of metal, into which flat teeth are inserted at intervals; this bar is set transversely at the end of a long handle.

Q. What are the objects in using the rake,—that is, in "raking?"

A. The rake is used to level the surface of the ground, to draw off large lumps and stones, to collect weeds and rubbish after hoeing; and, generally, to pulverize the surface for various purposes, especially after seed-sowing.

Q. Why do you rake after sowing seed?

A. Because the seed has to be covered with soil. After sprinkling the seeds all over a plane surface, by raking backwards, forwards, and across, for some time alternately, you form little gutters in the soil, and fill them up again. Through this operation, the seeds first falling into these hollows, and then getting covered by the continuance of the action of the rake, become fairly imbedded in the earth.

Q. What is "drilling?"

A. "Drilling" is making small gutters in the earth, in regular rows, of different depths, and at different distances, according to the purposes in view.

Q. How are these gutters formed?

A. By means of the angular corner of the hoe, which is drawn along the ground, and which under a lighter or heavier pressure forms a shallower or deeper

gutter. The hoe is guided in a straight direction by the garden line. When one drill is made, the line is removed at both ends, and again set at the distance at which the drills are to be apart; then another is drawn: this is continued, until the number of drills required is completed.

Q. What is the garden line?

A. A cord, of the thickness of a quill, and, when in use, stretched tight between two iron or wooden pins thrust into the ground. It is more complete when one end is attached to a spiked reel on which it is wound when not in use.

Q. Mention some of the purposes of drilling?

A. Many seeds require to be sown in drills; and the larger the seeds the deeper must be the drills, which must also be wider apart as the plant is taller. Drills are sometimes drawn very shallow, merely to mark the ground for planting, it being necessary to guide the planter in the marking of proper distances and even lines.

Q. What is "sowing?"

A. The act of committing seeds to the earth.

Q. Are there different modes of sowing?

A. Yes, several; such as "broadcast," "dibbling," and "sowing in drills."

Q. How do you sow "broadcast?"

A. Sowing broadcast is sprinkling the seed by hand evenly over a plane surface. You must first stir the earth, that you may have some degree of moisture brought to the top to encourage the seed to vegetate; next rake it so as to be level; then sprinkle as evenly as possible the seed all over it. You then take the rake, and, without thrusting its teeth very deep into the earth, you keep moving the

upper half-inch of soil backwards and forwards and transversely, till the seeds are covered.

Q. What is "dibbling?"

A. "Dibbling" is making holes to receive the seed; and is generally adopted in the case of sowing large seeds.

Q. Describe the operation.

A. Dibbling is performed by hand, or by machine. Hand-dibbling is done by thrusting a dibble, or blunt-pointed circular piece of wood into the ground, to the depth at which the seeds should lie below the surface.

Q. What is "sowing in drills?"

A. Depositing the seeds in the drills or gutters made by the hoe. This mode is, for the most part, adopted where neatness is studied; for crops in drills look much better than those sown broadcast, and the ground is more easily, in the former case, kept clear of weeds. The seed is deposited in the drill as thinly and evenly as possible, and then with the rake a little of the earth, first drawn out to form the drill, is replaced to cover the seed.

Q. What is "planting?"

A. "Planting" consists in removing plants from one place to another, and inserting them again in the ground. It applies to every description of vegetable production that is removed while in a growing state; and, in many cases, the term is applied to the insertion of tubers and roots that are not growing.

Q. Are there any particular rules to be observed in planting?

A. In reference to planting, almost all classes of plants are subject to rules applicable to themselves exclusively. The planting of trees, shrubs, flowers,

and vegetables, requires management peculiar to their respective natures and habits.

Q. What general rules are there to govern the planting of fruit-trees?

A. First, a tree cannot be damaged in the roots, which nourish it, without receiving in its growth a check proportioned to the damages sustained; therefore every tree should be examined before planting, for the purpose of ascertaining the probable quantity of root it has lost by being taken up from the ground; and, according to the quantity of root that has been lost, the branches should be reduced by cutting, to compensate that loss.

Q. This is obvious; but what is the rule with respect to its being again placed in the ground?

A. When it is planted in the ground again, the roots should be spread out in right lines; the earth should be well and closely inserted among all the roots and fibres, and made solid by being well trodden in; the tree should not be planted deeper in the ground than it was before, and when planted, it should be made fast by artificial supports, so that the wind may not disturb it. It ought always to be borne in mind, that the ground should be in good order to receive it; and if the ground be too dry, it should be well moistened, for all plants require water.

Q. How does planting apply to vegetables and flowers?

A. Many vegetables are sown thickly on a small space of ground, to remain until they are large enough to be planted out elsewhere at proper distances. The only requisite is, that the ground, into which they are to be removed, should be in good condition, that is to say, moderately moist and loose;

or, otherwise, that each plant should be watered as soon as it is planted.

Q. How are such small plants inserted into the ground?

A. All ordinary plants are "dibbled in;" that is, they are inserted into a hole made by thrusting down a "dibble," or a piece of wood of the size you wish the hole to be.

Q. Does the dibble fix the plants so as to be sufficiently secure?

A. Yes, when you insert the root or stem of the plant, you make, with the same "dibble," a hole by the side of the first hole: this will have the effect of filling the first hole, and of pressing the soil against the root of the plant; and it will thus both secure the plant, and leave a hollow to hold water in case of rain, or to take a supply if given to the plant by hand.

Q. Then, am I to understand that, in planting trees and in planting smaller objects, the operation is the same, only that the one is on a larger scale than the other?

A. Yes. A hole must be made by digging, in the case of planting a tree; but for the small things it may be made with a dibble or trowel.

Q. Does planting become a necessary operation with everything in the vegetable kingdom?

A. No. When some vegetables are sown broadcast, they have only to be thinned or hoed out, so as to be left at certain distances; all the rest may be destroyed. These, thus left, are undisturbed in their seed-bed, and they remain there till perfect. Turnips, carrots, beet-root, parsnips, and onions, are mostly so managed.

Q. May not then these crops be planted out?

A. They would bear planting out, and sometimes are treated so ; but the cheapness of the seed and the dearness of labour render it desirable to adopt the system of hoeing out, as the most profitable way of managing the crop.

Q. What is the distinction between planting and transplanting ?

A. I should say, if I had a quantity of things furnished to me to grow, I should *plant* them ; but if I had to take them up from one part of my garden and to put them into another part, I should *transplant* them. The term "*transplant*" is usually applied to the removal and re-planting of small things.

Q. What is " pruning ? "

A. " Pruning" is the cutting away certain portions of trees or plants.

Q. What is the object of pruning ?

A. First, to reduce the quantity of wood and foliage or leaves, which have to be supported by the root ; secondly, to get rid of branches that are useless, or that are in the way. The former process causes greater strength to be secured to the branches that remain ; the latter not only increases the strength of the remainder, but also keeps a tree in the form in which you wish it to grow.

Q. Is there any rule for pruning trees ?

A. There are certain rules for pruning ; but the process is chiefly dependent upon what we require.

Q. What then is required in pruning ?

A. Ornamental trees are pruned to keep them in some particular form. Fruit-trees are pruned to keep down useless branches, to encourage bearing wood, and to give strength to the tree, such as will enable it to bear fine fruit.

Q. In respect to fruit-trees, are they all equally benefited by pruning?

A. Wall fruit-trees,—that is to say, trees nailed and trained to walls, require more pruning and more attention than any others: but all fruit-trees would be better for judicious pruning; for whatever is taken from a growing tree increases the vigour of the remainder; and there are always many useless branches, which, if permitted to remain, only exclude light and air, and neither are themselves productive, nor allow other branches to bear half so well as they might be made to bear.

Q. Are there no other important operations in gardening?

A. Yes; there is the operation called "earthing."

Q. What is that?

A. "Earthing" is placing the soil close around the stems of plants, so as to form a kind of little bank about them.

Q. How is this done?

A. Usually with the hoe. You stand on one side of the plant, and stir the surface of the ground on the opposite side, drawing the earth towards the plants; you then go to the other side, and in the same way earth the side on which you before stood.

Q. At what period of the growth of the plants is this done?

A. This is done with great advantage to almost all crops, soon after they get above ground.

Q. Name the most important crops so treated?

A. Potatoes, peas, beans, and the whole cabbage tribe, including broccoli and cauliflower. In the case of beans, peas, cabbages, cauliflowers, and many

other sorts of vegetables, it is done to give them an opportunity of striking fresh roots up and along their stems, and also to keep them warm in early spring. Potatoes are earthed up to cover the tubers well, as their exposure to the open air above the soil spoils them for every purpose but seed.

Q. What are the chief exceptions to this rule?

A. The onion, shallot, turnip, and plants whose nature it is to form bulbs on the surface of the ground.

Q. But is not "earthing" performed for other purposes?

A. Yes; plants are earthed up to blanch or whiten their stems; and the rule is, to earth up as fast as they grow.

Q. What crops are so treated?

A. Chiefly celery and seakale; that portion only, which is blanched, being at all eatable. In the case of seakale, the earthing is done before the plant begins to grow; and, when it comes through, all that is under ground is white and good to eat.

Q. What is "dressing" or "manuring?"

A. The application to the soil of certain substances, with a view to impart to it fertility, to give nourishment to the plants, and to assist in making the land easy to work.

Q. Why is this "dressing" necessary?

A. Because plants, during their growth, take from the soil certain substances that should be returned to it before certain other crops are planted on it.

Q. When does manure become necessary?

A. Generally speaking, manure is necessary to be applied when crops have exhausted the fertility of

the ground; but it is not necessary to apply manure before the planting of every crop.

Q. How is this?

A. Because different kinds of plants take up from the soil different substances for their nourishment; therefore, when land, which is fertile, has produced one kind of crop, it may still contain what is required for the nourishment of a crop of a different nature.

Q. Is there any general rule founded on this principle, as to the succession of crops?

A. Yes; the rule is, to avoid, if it be possible, planting crops of the same nature and habit, in succession on the same ground; but, at any rate, if the same ground be used, crops of the same nature and habit must not be planted there in succession without an intermediate manuring or dressing.

Q. What are the usual dressings and manures employed in gardens?

A. The dung of animals is the best and the most universally applied manure; next to this, decayed vegetables: but there are scores of other dressings that are very generally used.

Q. Do you conclude, that, if crops took nothing from the land, the land would want no manure?

A. Yes; clearly so. Suppose a crop of any kind be sown, and that, instead of being taken away, it be dug into the ground as soon as it is full grown, that ground would be richer instead of poorer, for the operation.

Q. Would not this be a loss?

A. There is certainly no gain while land is idle; nevertheless, it sometimes pays better to sow a green crop, to be dug in for dressing, than to crop the

land for the purpose of taking off the produce, or to incur the expense of manuring it in any other way.

Q. Then you mean to say that all vegetable produce, when it has rotted, is good for the land?

A. Yes; not a leaf nor a bit of wood should be wasted. There are no vegetable remains that may not be of real service to the ground; and, even after vegetables are burned, their ashes make good dressing for the land.

Q. What kind of animal manures are mostly used in gardens?

A. Night-soil, poultry-dung, horse-, cow-, sheep-, and pig's-dung, bones, the flesh of all animals, the waste of slaughter-houses, the sweepings of farriers' shops, and the waste of skin-yards.

Q. Then animal matter of all kinds is available?

A. Every sort of waste, in which there are animal remains, enriches the soil; but the animal manures chiefly in use and best understood are the dungs.

Q. What is the nature of night-soil as a manure?

A. It is, when decomposed, very strong and highly fertilizing in its nature; and, if laid on the ground two inches thick, and well amalgamated with the top spit of earth, it is one of the very best manures for onions, beet-root, mangold-wurtzel, and other crops requiring strong dressings; while it will bring heavy crops on even light lands.

Q. What is the nature of horse-dung as a manure?

A. It restores to the earth the greatest variety of fertilizing properties. Without taking into consideration the chemical nature of its contents, experience has proved that lands of all kinds are benefited by plentiful applications of horse-dung; which,

though it may be used in larger quantities than may be required, will do no injury to the soil.

Q. Is not cow-dung as efficacious ?

A. No; experience teaches us that it is not so strong. It is cooler in its nature, and differs but little from decomposed vegetables, or what is called "vegetable mould." Heavy dressings of cow dung will not injure the land, though they do not give such heavy crops as those of horse-dung.

Q. What is the nature of pig's-dung ?

A. It is very rank and offensive in the smell, and therefore ought to lie for some time mixed with other dung, or with light soil, to form a compost; and moreover, it should be judiciously used, and not in too great a quantity.

Q. What is the nature of poultry-dung ?

A. It is stronger than horse-dung, and when new, as strong as night-soil. It is chiefly used for top-dressings by the cultivators of flowers, who let it rot into mould ; they then use it very sparingly, having first mixed it with sand, and often with cow dung equally decomposed.

Q. What is the nature of sheep's-dung ?

A. Sheep's-dung differs but little from cow-dung ; but all the dungs may be mixed together with advantage ; and moderate dressings with the mixture, after a crop is cleared, will always be effective.

Q. You told me that plants take certain substances from the ground, and would in time impoverish it. Am I to understand that manures, of the kinds you mention, will supply the soil with an equivalent ?

A. Yes ; but there are cases in which other sub-

stances, besides dung, are required to make the ground all it ought to be.

Q. Under what circumstances would other substances be applied with advantage ?

A. Under various circumstances ; for instance, when the ground is very poor and sandy, marl would be of the greatest service.

Q. Are soils, then, in any case, rendered more fertile by intermixture with each other, altogether irrespective of the application of manure ?

A. Yes; and such intermixture generally proves beneficial, by altering the texture of the soil.

Q. Are not all the earths alike, then ?

A. No ; some are light, some heavy, some porous, and some adhesive ; and the intermixture of any two soils which have these opposite qualities, improves the consistence of each.

Q. What texture of the soil, then, is generally most favourable to vegetation ?

A. The medium between light and heavy, between porous and adhesive.

Q. You mentioned that marl would be of service on light soils ; what effect would it have ?

A. It would render the soil more adhesive, enable it to retain moisture longer, and prevent the manure, that might be given to it, from being washed through it too quickly.

Q. Would no other manure have this effect ?

A. Yes ; lime would improve it in like manner ; and lime is also of the greatest service on peat lands.

Q. What other properties has lime ?

A. It is one of the best materials to mix with decaying vegetable or animal substances, to make compost for dressing ground. It takes away offen-

sive smells, and hastens the decay of animal and vegetable matter.

Q. How is it best applied?

A. When put on the land by itself, it should be spread upon the surface, and be left exposed to the air till it falls to powder; when mixed with compost, which should be turned over repeatedly, it becomes, after lying some time, part of the mass.

Q. What quantity of lime, without mixture, would you put to a rod of ground,—that is, the one-hundred-and-sixtieth part of an acre,—or a piece sixteen feet and a half square?

A. A quarter of a peck,—that is, at the rate of ten bushels to the acre; and that only once in several years.

Q. You speak of applying lime by itself, and also of applying it mixed with compost; which mode of application is preferable?

A. It is better to mix it with the manures, for it would then be used, in smaller quantities indeed, but some at every regular dressing.

Q. You would, I find, apply lime in the same case as you would apply marl. Is there then any affinity between marl and lime?

A. Yes; marl is a carbonate of lime. The lime, after it has been on the land some time, becomes a marl in all respects.

Q. What other earths are used for dressings?

A. Chalk has the same effect as marl and lime, but it is still longer before it acts perceptibly.

Q. What other dressings of this kind are there, that are useful?

A. Wood ashes, and the ashes of burnt peat, of weeds, and of any other rubbish.

Q. Are there not some particular applications of these ashes?

A. Yes; the sowing of vegetable ashes on turnips as soon as they come up, and while the dew is on them, saves them from the attack of the turnip fly; the sowing of them also on grass kills the mosses, and is therefore beneficial to grass-plots and lawns.

Q. What other earthy matters are useful as dressings?

A. It would be difficult to point out any earth that may not, under some circumstances, be useful. Road sand is excellent for stiff lands; brick rubbish is good for any land; and refuse of all sorts should be saved for the dung heap, because there is no sort of refuse but contains something that assists vegetation.

Q. You told me that it is not necessary to manure the land for every crop you put in; explain this.

A. After a heavy crop, such as potatoes, carrots, parsnips, beet-root, cabbages, and such things as are produced in large quantities, and are of a heavy nature, it is necessary to dress, unless the ground was dressed when they were put in.

Q. Then manure would not be used immediately after lighter crops?

A. No; if I dunged for onions, I should get the next crop in without dung; and if I dunged for peas and beans, I should not dung for the crops intended to follow. What the ground had done, would be my guide as to what I should do for the ground; but I should always change the crops.

Q. What are the most useful fruit-trees for a cottage garden?

A. Fruit-trees, producing apples, pears, plums, gooseberries, currants, and raspberries.

Q. On what ground do you state that these are the most useful?

A. Because these fruits require the least care in their culture; and because, properly used, they form wholesome and nutritious food.

Q. Are these fruits all equally useful?

A. Apples are most so; because, independently of their being eatable without cooking, they are, when baked, a delicious and an economical treat for children, and they require no sugar.

Q. What are the qualities of the other fruits you named?

A. Pears are delicious, when ripe and in good condition; and with sugar they are a luxury when baked or stewed. Gooseberries are wholesome, and are good for puddings. Raspberries are continuous in bearing, and a few in a currant pudding renders it a rich treat. Plums are the best stone fruit.

Q. There are many other fruits as fine and as agreeable to the palate as these: why, then, are these to be preferred?

A. Because, from the instant apples are large enough, ripe or unripe, they are good when baked. Pears are as good when stewed. The windfalls, as they are called, may from first to last be all saved and eaten; and besides all this, the crops are generally heavy, and the trees give little trouble.

Q. What may be said of the rest?

A. The rest of those that were mentioned are prolific, require very little care, and continue a long time in season.

Q. Name the most useful vegetables?

A. Potatoes, onions, carrots, parsnips, beet-root, turnips, peas, French beans, cabbage, (both the

green and the red;) all these are excellent food, in all states.

Q. Are these crops all equally useful?

A. The cabbage, which may be preserved in vinegar after it is full grown, is the longest time in the ground in an eatable condition; for when it has only half-a-dozen leaves it forms good food; and from that time, until it has closed into a compact hard head, it is equally acceptable.

Q. Have the other vegetables you named any peculiarities?

A. They may all be kept in season for months while growing, and in fact they will literally keep good through the whole winter. The ripe peas and French beans may be thrashed out, and will keep for years, for stewing or making into soup.

Q. Are there not other vegetables equally wholesome while in season?

A. Yes, many; but for various reasons they cannot be equally useful.

Q. Name some of these?

A. There is spinach, which, when in season, goes to seed in a short time, and wants some care. Cauliflowers must be eaten quickly when they begin to flower, or they go by, and become worthless as food; besides, they require great care in their culture. Brussels sprouts and broccoli are very nice, but they are not profitable.

Q. On what principle have you formed your estimate of the most useful fruit and vegetable crops?

A. I have selected those which are the most easily grown, and which may be preserved for the greatest length of time with the least difficulty.

Q. Which are the most useful salads and herbs ?

A. Celery, leeks, shallot, parsley, thyme, savory, sage, fennel, lettuce, endive, radish; and small salad, such as mustard, cress, and corn salad. All these are useful in soups, as well as food for eating in their raw state.

Q. If you had a plot of ground large enough to admit of cultivating all these crops, how would you proceed ?

A. I should first examine the soil, and if I found the least indication of its being too wet in any part of the year, I would drain it.

Q. In what manner would you set about this ?

A. I would search out the best outlet for water, and cut drains from all parts of the ground into a main drain made along the lowest part of the ground leading to that outlet.

Q. What depth of drain would be necessary ?

A. The main drain should be four feet deep, if an outlet from it can be found for the water; or three feet six inches at the least. The drains that run into this main drain from the higher parts of the ground should be about six inches shallower.

Q. But suppose there were no outlet for the water ?

A. I should then dig a hole to take the water, and make the drains empty themselves into that hole.

Q. I can conceive a difficulty in that case : suppose the hole were to be filled with water higher than the mouths of the drains, the water could not then escape from the ground. How would you act under such circumstances ?

A. Just the same as if it were not so filled at

times ; because the water would not always be the same height; and although the drains were emptied only once in a season, still even that would do a great deal of good.

Q. What kind of drains would you make ?

A. I would dig them eighteen inches wide at the top, and let them taper down to a point at the bottom. I would then, if I could conveniently get them, lay drain-tiles at the bottom ; if not, I would try to get large stones, a layer of which I would place in the bottom, one foot in thickness.

Q. Have you any other alternative ?

A. If I could get neither stones nor tiles, I would get the clippings of hedges or light faggot-wood, and put a layer of them one foot thick, on the bottom of the drain.

Q. What next is to be done ?

A. In any case, the soil taken out must be replaced. As it would not, when broken up again, go into the same space, it must be laid in a ridge ; the surplus soil will, in time, partly settle down and partly be levelled on each side on the surface.

Q. When the soil dug out is replaced, will not that choke up the channel made for the water ?

A. No ; the water will find its way along the tiles, or through the open material used instead of tiles, in the bottom of the drain.

Q. Then a drain is a subterranean channel, and not an open water-course ?

A. Exactly so : open channels or ditches serve to convey away the water collected from many drains.

Q. What are the good effects of draining ?

A. It relieves the soil from stagnant water, and lets air into the ground. The rains can also sink

into the soil because it is not overcharged with wet; and there is in rain-water everything that is good for vegetation.

Q. How would you cultivate the apple-tree?

A. I would plant dwarf trees of choice sorts, grafted on what are called "Paradise stocks," which are favourable to early bearing; and these I would train espalier fashion.

Q. Explain what "training espalier fashion" is?

A. To train espalier fashion is to spread the tree out, like a fan, upon a wooden trellis, or rather upon stakes driven vertically into the ground at a foot apart and in a line; on these the branches are spread out, the lower ones close to the ground, and the others at equal distances above, being simply fastened to the stakes by tying.

Q. The trees would then form something like a shallow or flat upright fence;—would they not?

A. Yes; and in planting them, I should contrive to make them form a complete partition to the quarters of the garden; in which case, I could crop close up to the trees, which would seem to take no room at all, or, at least, only the space of the depth of their branches.

Q. Do you mean that you would plant your fruit-trees to form fences or partitions across your garden, and so to divide it into different compartments?

A. Yes; except that there should be openings left here and there, for the facility of passing; but, in other respects, they would form complete fences, six feet high, in directions most convenient for all purposes.

Q. Why do you consider espalier training the best for apple-trees?

A. The trees, as espaliers, are more easily gathered from, and pruned; the fruit is generally much better; less time is necessary for their management, and the plan is altogether more convenient.

Q. How would you cultivate pear-trees?

A. I would plant them against palings, if there were any in the garden; but if not, I would train them as espaliers, for the same reason as in the case of apple trees.

Q. Is it not generally admitted that standard trees bear more abundantly than espaliers?

A. Yes; because there is no limit to their growth: but I am supposing the saving of space to be an object; and, in proportion as standard fruit-trees spread, the ground under their shade is injured. I should not adopt standards for this reason also, because espaliers would generally bear as much as could be required, and do very little hurt to any crop next them.

Q. But this would be unimportant where a plot of ground was entirely devoted to fruit-trees. Would not standards then be preferable?

A. In a regular orchard, where fruit is the main object, I should prefer standard trees, and have the surface laid down with grass.

Q. Would you dispose of plum-trees in the same way?

A. Yes; I should divide my garden into compartments, by rows of espalier trees, and they would comprise apples, pears, plums, and whatever other kinds I might desire to cultivate.

Q. Would you then train all the trees alike?

A. Yes; as nearly as I could, I would have all the branches stretch out horizontally right and left,

allowing to each tree about fifteen feet of room to fill up.

Q. Do the different kinds of fruit-trees require any particular mode of planting?

A. No; in that respect all require the same kind of treatment.

Q. Describe the mode of planting.

A. The opening made in the ground for the trees ought to be dug large enough to admit of spreading out the roots, and of ample depth; and then it ought to be partly filled up again with the loosened soil, in the form of a blunt cone; the tree should then be placed upon this cone and held in its proper position, that part of the stem where the upper roots branch out being rather above the surface than below it. The roots should be spread out carefully all round, and the earth filled in, the tree being lifted and shaken a little, to get the soil down between the fibres of the roots.

Q. Is the ground left loose about the roots?

A. No, it must be pressed firmly with the foot. In treading, we commence all round the extreme points, and finish by a general pressure all over the surface, until the soil is firmly trodden in. By driving the espalier stakes down at once, and fastening to them the two strongest of the lower branches right and left, the tree will be held firmly in its place.

Q. Is no other step necessary?

A. Yes; the weak branches may be cut away close, and any other strong ones trained right and left, as nearly horizontally as possible.

Q. This is supposing the tree to be already formed. If it were young, and had not made these branches, what would you do?

A. If there were no side branches, I would cut the centre branch down to the point where the first two branches were wanted; the top eyes, or buds, would give these, as well as an upright leader; which is to be treated in the same way the next season,—it being necessary merely to watch the early shooting, and to rub off all the young shoots but those you want.

Q. How would you grow raspberries?

A. In rows across the garden, after the same manner as espalier fruit-trees, so as to divide the compartments of the garden, the plants being placed about four feet distant from each other in the row.

Q. What is the objection to devoting a plot of ground to raspberries alone?

A. If a plantation of raspberries were made, no crop could be raised between them with any convenience or success; whereas a row of them, dividing the compartments of the garden, seems to take but little room, and certainly gives better fruit, because a single row has the benefit of air and light, and is not so liable to blight.

Q. Is there any particular mode of planting the raspberry?

A. No; the plants are to be trodden firmly in, just like other trees.

Q. How are raspberries pruned?

A. When they have done bearing, the old bearing wood will die down, and young canes, as they are called, will have sprung up. The only pruning required is, after the leaf has fallen, to cut away all the old stems, and shorten the strongest of the new canes to about four feet in height. In the first year of the planting, not more than one strong cane

should be left to each plant ; but afterwards there may be two or three left, or even more. The weakly ones are to be cut away altogether, and this is best done early in summer.

Q. Do they require support ?

A. A stake is generally placed to each plant, and the canes fastened to it ; but by tying the tops of two or three canes together like arches, they will often support each other without stakes.

Q. How would you manage currant and gooseberry-trees ?

A. I should procure, if possible, plants three years old, and plant them in single rows across the ground.

Q. At what distance from each other should these be planted ?

A. The distance between the trees should be from four to six feet.

Q. What proportion of these small trees should be planted ?

A. One row of about a dozen gooseberries, and the same of currants, would yield a good deal of fruit,—enough for a small, or even a large family. A row planted in this manner would bear more than a close plantation would, particularly if the fruit is to hang to ripen.

Q. What pruning does the gooseberry bush require?

A. Chiefly to cut away all weak spindly shoots, and to shorten the strong ones of each branch ; the leader ought to be left. As the trees become old, young shoots from the main stem may be encouraged, and old ones that have done their work, as it were, may be cut entirely out.

Q. What different treatment does the currant require ?

A. None; except in the case of the black currant, which ought not to be cut much. Remove no wood, unless it is in the way of better branches, or unless it is too weak to be useful. Hence black-currant-trees must have not less than six feet of room, for they enlarge every season, and soon attain a considerable size.

Q. How would you cultivate strawberries?

A. If I wanted a quantity, I should make up a warm border of them, planted a foot apart every way; but in a small garden, in which only a few were wanted, I should plant them at the edge of the main path.

Q. Would such a position suit them?

A. They generally do well in such situations, and afford fruit enough; but it must be recollected, that, as the roots of strawberries grow all round, the plants must not be placed close to the hard path, but sufficiently distant from it to enable them to make roots outwards as well as inwards.

Q. Do you propose, then, to place them at some distance from the path?

A. I would place them nine inches from the extreme edge of it, because the plant will grow to that extent in the first season after planting. They should be planted nine inches from the edge, and nine inches apart in the row.

Q. Do they require any particular management after planting?

A. The points chiefly to be attended to are the removal of the runners, which weaken the plants; taking off the dead leaves; watering them, if the weather be dry, when the flowers are coming into bloom, and continuing to water them until the fruit is

swelled; and, lastly, giving them a dressing in the summer, after bearing.

Q. You recommend that they should be planted a foot distance from each other, when they are planted in a bed, and only nine inches, when they are at the edge of a path. How do you reconcile this?

A. When they are in a plantation by themselves, each plant is surrounded or shut in; and therefore, if they are too close together, they would lack air and light; but, when at the edge of a path, they have nothing to impede either light or air on the path side, and nothing very close on the border side; so that nine inches is plenty of distance, even if they should touch each other in the direction of the rows.

Q. Is there any reason why peaches, nectarines, apricots, and cherries should not be cultivated in the cottager's garden?

A. Yes, several: first, because they require more attention than the other fruit-trees that are recommended for culture; secondly, because their fruits are not so useful as those I have spoken of, although they are very delicious; thirdly, because these fruits will not keep; and, fourthly, because they do very little good unless they are planted and trained against a wall.

Q. If, then, a cottager has a wall, he may grow them?

A. The wall would be much more profitably occupied with pear-trees, the produce of which does keep well, and affords substantial and nourishing food for a family.

Q. The apricot has been called the poor man's tree;—would not that be desirable?

A. I think it would not be advisable to plant it.

At any rate, if he found one on his cottage, he would be right in keeping it, not for the use of the fruit in his own family, but the sale of it. I would not recommend any cottager to plant an apricot-tree, unless with a view of selling its produce; and if we once come to the cultivation of things with a view to sale, there is no end to the subjects which a cottager might grow.

Q. Does your objection to standard fruit-trees cease, where there is abundance of ground?

A. Yes: there is no substantial objection to them in that case, because apples at all events grow and ripen on standards, although not so fine as on espaliers. A great many of the best pears do the same. There is always, however, attached to the growing of standard fruit-trees, the risk and difficulty of pruning, of gathering, and of thinning the fruit when too crowded, as is frequently the case.

Q. What pruning do standard fruit-trees require?

A. The removal of all the weakly shoots, especially from the centre of the tree; the thinning of the branches, where they crowd one another too much; and the checking of occasional branches that are too vigorous in their growth for the rest of the tree.

Q. Is not all this especially needed by old standard trees that have been neglected?

A. Yes. In many cases it is found to be desirable to remove from such trees whole limbs, and to cut out large quantities of mere brushwood, which will never bear, and which will only choke the bearing branches, keeping out air and sun from the centre of the tree, and weakening the growth of the more healthy parts.

Q. Do you recommend severe pruning, then ?

A. Yes ; sometimes it would be desirable even to go so far as to cut back the tree to a mere skeleton, and let it make new growth ; and cases may occur, when it would be better to graft the tree with a better sort of fruit.

Q. How is this "grafting" to be done ?

A. By cutting a part of the remaining branches in such way that a branch, or rather a small shoot, of another and better sort can be fitted to it, then binding the two together, and surrounding the place of union with some kind of mixture to keep the air away.

Q. What mixture will do this ?

A. Grafting clay, which is made of two-thirds strong adhesive clay, and one-third cow-dung ; these are to be pounded or beaten together till they are perfectly mixed, and can be moulded into a lump, to enclose the graft.

Q. Is this the only material that can be used ?

A. It is the simplest and most easily obtained ; but there is also grafting wax, which is made of one part resin to two parts bee's-wax, warmed and mixed together, and then tempered with tallow till the mass will melt under a slight heat, and become hard when cooled. This is laid on with a brush all over the wounded part ; or it may be spread on rags, and strapped round the join in strips like a plaster.

Q. Are there many ways of grafting ?

A. Yes; as many as there are ways of making two pieces of wood of the same or different sizes fit together. If the branch and the graft are of the same size, you may graft in as many ways as you could splice a broken stick, provided you make some part of the bark of one touch some part of the bark

of the other, where both are cut; for unless the two barks are made to touch each other, that is, to meet close somewhere, no union of the part will take place.

Q. Is not this very difficult when the tree is large, and the piece to be grafted on is very small?

A. It is then more difficult certainly; but in this case it may be done in another way.

Q. Explain this way.

A. An angular gutter or hollow can be cut down the bark of the large stem, and the piece, which is to be grafted in, cut to fit in it, by making two sides of it angular so as to match the hollow first made in the branch; thus the bark of the graft will be even with the bark of the tree.

Q. Then you contemplate fixing the graft directly on the large branches?

A. Not exactly so; the tree need not be cut back too much: some healthy young shoots with smooth bark should be left to graft on; while the more branches are grafted the sooner the tree is renewed.

Q. Could not many different sorts be grafted on one tree?

A. Certainly. The only point to be careful about, in this respect, is, to choose different sorts of about the same habit, and to avoid placing a very rapid grower and a slow grower, or a strong and a weakly kind, together.

Q. Will this operation of grafting apply alike to all trees?

A. All trees can be grafted, and the grafts will unite; but it is supposed that plums, cherries, and stone fruit-trees in general do better by budding. In the event, however, of cutting back an old tree, I should graft.

Q. What is "budding?"

A. The insertion of the bud of one tree under the bark of another tree, and there binding it firmly; it then unites with, and becomes a part of, the tree into which it is inserted.

Q. Is the operation of "budding" difficult?

A. By no means.

Q. How is the bud prepared for insertion?

A. By shaving off a little bit of the wood with a leaf upon it, from a full grown branch of anything you wish to bud into another tree; for at the base of every leaf there is a bud, which, at Midsummer, can be plainly seen. You cut just through the bark, and pare it off from about half an inch above to half an inch below the leaf; the leaf is then cut off, leaving its stalk as a handle to the bud.

Q. How do you prepare the plant or stock to be budded?

A. By making a slit through the bark of the stem, or of a healthy young branch, cutting no deeper than just through the bark to the wood; then making another cut across it, but no deeper. The edges of the bark can then be easily raised from the wood, so that the previously prepared bud can be tucked under the bark thus raised, which is then tied down close upon the inserted bud. The bud soon attaches itself, and grows as it would upon its own branch. If this is intended to be encouraged instead of the old tree, all the shoots and branches, but this one bud, ought to be cut off.

Q. You say the buds can be seen at Midsummer; is that the season for budding?

A. Yes: for at that time the bark separates freely from the wood.

Q. Is grafting performed at the same season?

A. No: grafting, at least as far as regards hardy fruit-trees, is usually done in March, just as the sap is rising.

Q. What is the purpose of grafting and budding?

A. To change the nature of a tree. When an old tree is operated upon, it is to improve its fruit; but grafting and budding are also performed, to provide young trees of the finer kinds of fruit.

Q. How is this managed?

A. In this way:—Plums of known good quality are budded upon stocks of the wild plum; apples of fine quality are grafted on wild crab stocks, and so with other fruits. Thus, those which would have borne worthless wild fruit, bear only the sorts that are grafted or budded on them; for the wild stock is, in all cases, cut away, as soon as the bud or graft is established.

Q. You have recommended certain vegetables, as being highly useful: I wish to know how you cultivate them; and first, tell me about the potato.

A. There are many ways of cultivating this useful root. The most simple is to plant them with a wooden dibble, that will make a hole large enough to hold the potato, and six inches deep; one potato is dropped into each hole, the earth being pushed down upon it as you go along. The distance between the sets should be nine inches, and the rows two feet apart.

Q. What other way is there of planting potatoes?

A. If the ground lies in ridges, plant the sets nine inches apart, at the bottom of the ridge, and with a large hoe draw down the soil upon them so as to cover them five or six inches deep. Another

mode is, to draw deep drills with a large hoe, lay the potatoes at the bottom, drawing the earth over them to cover them to the proper depth.

Q. Is there any particular way of cultivating for early potatoes?

A. The best plan is to place the potatoes at the foot of a south paling, or wall, and with a spade to cover them with a kind of sloping bank, four or five inches thick.

Q. Are the potatoes prepared in any way for planting?

A. No; the only observation to be made is that whole potatoes are better than cut ones. They are selected, in general, smaller than such as are used for the table, and larger than those thrown to the pigs; what are called "chats," thrown by for the pigs, may however be used.

Q. At what season should they be planted?

A. In autumn, if possible; for this is the most likely way of securing a crop; first, because the potato has not begun to shoot, which is destruction to it as seed; and secondly, because then the seed potatoes, as they are called, may be had cheaper, whether they are procured by purchase or by exchange; both these points are essential.

Q. Do you think the crop sounder, and less liable to be diseased, when planted early?

A. Yes; but this arises from the fact of the potato not having exhausted itself by growing before it is planted; and not from the mere fact of its being planted in autumn.

Q. If then the seed potatoes are kept without becoming exhausted by premature growth, they may be planted in spring?

A. Yes; but even then they should not be put into the ground later than February; because, after that period, it is all but impossible to prevent their growing.

Q. Would it not be proper to provide seed tubers or plants in the autumn, even though the planting of them were deferred till spring?

A. Yes; for if you have to procure sets in spring, you cannot be certain that they have not sprouted. There are annually taken from the pits thousands of tons of potatoes, grown into a solid mass of roots and shoots, which are rubbed off clean; and, in this state, the tubers are sold for seed. If they be procured in the autumn, this cannot have been the case.

Q. Supposing them to be obtained when the crops are dug, how ought they to be treated?

A. They should be spread out in any dry, cool, airy place, not more than one layer in thickness; and if any of the eyes start, they must be carefully preserved. Frost, however, must be kept from them?

Q. What attention do they require after being put into the ground?

A. When they come up, it may be that they are rather more forward than may be safe; in this case, if there were but few, I should cover them with litter; but if the quantity were somewhat great, I would draw earth to them, to cover them up again, and thus save them from the effect of at least moderate frost. Generally, however, they do not make their appearance till they are tolerably safe against the effects of severe weather.

Q. Is this what is called "earthing up?"

A. No; they require more than this. As soon as

they have grown a few inches, the earth must be drawn up to their stems, so as to leave only their tops just out of the ground; they must then be kept well hoed, and clear from weeds, and in about a month must have a second earthing, and then left till the haulm dies down.

Q. Would the early ones, which I spoke of as being planted under the wall, require the same treatment?

A. No; they would appear much earlier, and should be earthed up in the same way as the others as soon as they had grown enough; but at any rate be sure to cover them with pea-haulm, or with straw, whenever there is any risk of frost, which of course there would be as late as May.

Q. Is, then, planting in autumn preferable, entirely on the ground of making sure that the potatoes are sound, and have not grown?

A. Yes; and if, in this respect, the sets could be relied on, it would matter but little how late they were planted.

Q. Are not potatoes sometimes planted late in summer, so as to be dug up fresh for use in autumn and winter?

A. Yes; Chapman's kidney potato is sometimes planted as late as July, and the produce dug up as new potatoes all the winter; but, in this case, the seed tubers are exposed to the cold dry winds, and everything but frost, wet, and warmth, from the time they are dug up in November, till they are planted, at which time many have not even started their eyes.

Q. How would you prevent the frost from injuring these?

A. I would continue to earth them up during all

the time they continue growing; and when the frost took the haulm, I would pull it all off, and put six inches more soil on the top, so that the frost could not reach the tubers. I should take them up as I wanted them.

Q. Is this treatment peculiar to Chapman's potato?

A. I have known others to be tried, but they have proved watery or waxy compared with Chapman's.

Q. What is the best method of preserving store potatoes?

A. Pitting them is the most common method, and many will keep well so; but a dry storehouse is better for the purpose. It is true they lose weight; but many persons think them all the better for losing the moisture. In a dry cold cellar, which the frost cannot reach, they may be preserved better than in any other situation I know of; but they must be occasionally turned over, and should not lie in too large heaps.

Q. Can potatoes be raised from seed?

A. Yes.

Q. Do the seedlings produce a crop the first year?

A. By sowing the seed in a hot-bed in February, potting off the plants one in a pot, and growing them in cold sheltered frames till the middle of May, and then turning out the balls and placing a foot apart in rows two feet apart, a full crop may be had the first year, and many new varieties will frequently be found on taking them up.

Q. You recommend peas for cultivation. How should they be grown?

A. A few single rows should be sown at different parts of the garden in preference to sowing them together in a plot.

Q. When should they be sown?

A. In February; and when they are well out of the ground, they must be earthed up, and sticks should be placed to them.

Q. Are peas a profitable crop?

A. On the score of economy I do not recommend them to be eaten green, so much as to be gathered ripe, because there are plenty of vegetables besides peas, when they come in green; but as ripened stock, they may be preserved for years, and be good as food.

Q. Do you consider the dwarfs or the tall sorts of peas best for cottagers?

A. The dwarfs, because the cost of the long sticks is very considerable, and the difference of quality does not compensate for it.

Q. How would you sow peas?

A. In drills drawn three inches deep, the peas being laid at the bottom one inch apart, and the earth being drawn in upon them so as to bury them two inches deep.

Q. How would you manage with the carrot crop?

A. This very useful root should be sown on ground previously trenched. After raking the surface smooth, the seeds should be sown as thinly and as evenly as possible, in shallow drills.

Q. Are not the seeds troublesome to sow?

A. Yes; they stick together a good deal, but the best way to obviate this, is to get some sand, and rub them in it till you have rubbed down the roughness which made them adhere, and then to sow the sand and the seed together.

Q. What next?

A. The seed is then to be covered in about an inch

or rather less. When it comes up, and has grown a little, the weeds and the carrots too must be hoed out, so that the carrots may be left at three or four inches apart. In about three weeks they require to be hoed again, both to get rid of weeds and to cut out any straggling carrots that may be crowding the others.

Q. Are not the young carrots useful ?

A. As soon as they are large enough, the thinnings may be used as a present supply; the remaining plants must be left at six or seven inches apart.

Q. At what season should they be sown ?

A. One crop should be sown in March, and another at the end of April: the first an early kind, the second a large kind. The first serves all the summer; the others are taken up to be preserved in earth or sand through the winter.

Q. How do you cultivate the parsnip ?

A. In all respects in the same way as the carrot, except that, being a larger root, it requires more room. The distance between the plants should be nine inches every way, and the crop must be kept very clear of weeds.

Q. The beet-root is of the same habit as the parsnip. Do you give it the same treatment ?

A. It can be grown in the same way; and if there be room, it comes the finer and often the more tender for being undisturbed; but, with care, it can be sown and planted out.

Q. When are these root crops gathered in ?

A. In the autumn, when they are full grown, and generally before the frost comes on with severity.

Q. How do you recommend the onion to be grown ?

A. Begin by dunging the ground well, mixing the dung thoroughly with the top spit of soil: then sow the seed thinly, as well as shallow in the soil; and let the sowing be as regular as possible.

Q. At what season?

A. In March and April.

Q. How thickly should the seeds be sown?

A. If it were practicable to place a seed at every six inches, it would be quite right to do so; but as it must be wasted, waste as few as you can. The plants have to be hoed out, and left six inches apart every way; they must be hoed too, three or four times in the season, to prevent the weeds from overrunning them. Some leave them rather thicker, for the sake of drawing out the overplus for spring onions. They may be watered while young, but not when they have begun to grow in earnest.

Q. When are they to be taken up?

A. As soon as their leaves turn yellow, they may be drawn, and laid in the sun to harden and ripen. When quite dry they should be stored in a cool dry place, free from exposure to frost and damp, both of which are destructive to them.

Q. Are they not sometimes sown in the autumn?

A. Yes; sometimes they are sown in August on poor ground, and allowed to ripen, as if for pickling. They are then planted out like other bulbs in the spring, on rich land, and occasionally form extraordinary roots or bulbs. They may be also sown as salad onions, to be drawn like spring ones, nearly all the year round.

Q. Are leeks grown like onions?

A. No; they are almost always grown in rows planted out from a patch of seed. They are sown

in March, and planted out as soon as they are large enough, about six inches apart, in single rows here and there about the garden. They are the better for being earthed up after they have grown strong, and then they are allowed to stand till they are wanted.

Q. What is the usual practice in growing the cabbage tribe?

A. Cabbages are sown and planted out at all times of the year, but the principal crops are sown in August and early spring. These plants are, however, used so generally, that many persons sow a pinch of seed in each of the months from February or March until August.

Q. How ought the plants to be treated?

A. As soon as they are so far grown as to have formed four rough leaves, they should be "pricked" out six inches apart one way, and three inches the other.

Q. What is meant by "pricking out?"

A. "Pricking out" is a kind of temporary setting of the young plants, when they first come up, and while they are yet too small for the process of being finally transplanted.

Q. What is the object of "pricking out?"

A. Merely that they may grow a little strong before being permanently planted out; and they are planted out from time to time as the ground is ready or they are required.

Q. Can cabbages be used as food at any stage of their growth.

A. It is a general practice to eat, while they are young, as many cabbage plants as it may be right to leave to become full grown cabbages.

Q. In being transplanted do they require much space?

A. Plant them for economy of room in rows from eighteen inches to two feet apart, and the plants six inches apart in the row. Two out of three may be drawn, in different stages of their growth, to be eaten as greens, one out of every three being thus left undisturbed, to come to heart.

Q. How are they further managed?

A. They should be earthed up as soon after planting out as they begin to grow. At whatever time ground is vacant, a safe planting of cabbages may be made, and therefore one can hardly mention any month that would be improper for either sowing or planting cabbages.

Q. Is there any different treatment wanted for the red cabbage?

A. Yes: in planting them out, a row should be put here and there, not two rows together. Plant them out within a foot of each other, and, when they have grown so as to be almost touching each other, dig out every other one, and make another row of those that have been so dug out, placing them at two feet apart, in both cases, and earthing them well up the stems.

Q. Can they be safely transplanted, when of such a size?

A. The removed plants will often gain the advantage. Of course the transplanting must be done with some care.

Q. Do they not require very rich ground?

A. The ground should be well dunged for the cabbage tribe in general, but especially for the red

cabbage, which grows to a great size, and remains on the ground a long time.

Q. What is the proper season for sowing these red cabbages ?

A. They may be sown at any time, and will require to be pricked out like other cabbages. When strong enough, they should be planted, as I have already said, in a row here and a row there, and not all together in one quarter of the ground.

Q. What is the savoy ?

A. The savoy is one of the cabbage tribe ; it is large, and is chiefly used in winter.

Q. What peculiar quality has it, different from the quality of the common cabbage ?

A. It is remarkable for its exceeding hardiness, and, in this respect, it stands at the head of the cabbage family ; for it supplies greens in such severe winters as have cut off all other supplies,—Scotch kale alone excepted.

Q. When should it be sown ?

A. It ought to be sown about March, April, or May, and planted out in June, July, or August respectively ; for it is essentially planted as a winter green, and is rarely much valued, except in a hard winter when nothing else is to be had, or when other vegetables are dear.

Q. Does it require any particular management ?

A. Like the rest of the cabbage tribe, it requires to be pricked out when young, and to be allowed to grow strong before being finally planted out ; and when planted out and growing, it should be well earthed up the stem. The plants should stand at two feet apart from each other.

Q. At what time should turnips be sown ?

A. In the early spring, at Midsummer, and at Michaelmas ; and, if a constant supply be required in a small garden, it is better to sow a few once a month from the end of March to the end of September. While, however, in hot dry weather, you may safely dispense with turnip sowing, you may as safely sow them after a good hard day's rain.

Q. Are turnips a useful crop ?

A. There is no vegetable more wholesome than the turnip ; but, of course, the quantity sown must be determined by the wants of the family.

Q. After sowing, what is required ?

A. When they have grown so as to have two rough leaves, hoe them out, leaving them six inches apart ; and, in a fortnight or three weeks after, if it has been growing weather, hoe them again, to clear away the weeds, and to cut off any straggling turnip that may not have been cut clean off at the first hoeing.

Q. Of the French or kidney beans, which are preferable,—the dwarfs or the runners ?

A. The dwarfs ; because, when in the seed state, they are an excellent substitute for bread or potatoes ; and because of their usefulness as a made dish when stewed, their easy culture, and the facility with which they may be kept for a number of years, when gathered and thrashed out.

Q. How are they sown generally ?

A. They are sown in drills, six inches apar the drill, and the drills two feet from each other ; the drill should be drawn three inches deep, the beans being laid at the bottom the proper distance, and enough earth drawn in to cover them to the

depth of two inches. When they are well up, earth should be drawn to their stems, and they will then only require to be kept clear of weeds until they begin to bear.

Q. You think these should be used in the ripe state ?

A. If they be left till ripe, and then be well harvested, they are far more profitable than when they are eaten green ; there are, besides, many other green vegetables at that time, that are fit to be eaten.

Q. Does the ripening crop of kidney-beans require particular attention ?

A. When there is a good set of beans, and they are beginning to swell, you may pinch off the tops of the plants to prevent them from growing, and so make them throw all their strength into the seed.

Q. Is any one kind preferable to others, for this mode of culture ?

A. What is called the white kidney bean is the best in appearance.

Q. How are the ripe beans to be cooked ?

A. When these are to be cooked, they are to be first soaked from twelve to twenty-four hours in plain water, and then to be boiled gently in water with a handful of salt, until they become tender.

Q. Will not the scarlet-runner bean prove as good, when in a dry state ?

A. No ; but it is a much more profitable bean to grow for eating in a green state, because it is so prolific in bearing ; from the day when the first beans have swelled large enough to be gathered, the plant is, in fact, prolific for months.

Q. Is the broad bean a good vegetable for a family?

A. A row or two of these, in different parts of the garden, may give a good dish of beans two or three times in the season; and it is withal a prolific crop considering the space it occupies.

Q. How is the scarlet bean best grown?

A. The beans are to be planted two inches deep and six inches apart, in a single row. If there be any unsightly, bad fence near the place, they will hide it well. When they are well up, and have a pair of broad leaves, draw the earth to them to support their stems as high as the seed leaf, and at once put down a row of proper bean sticks.

Q. What are "bean sticks?"

A. Slender poles, ten or twelve feet high. If these cannot be had, a long line, or a series of laths, supported by upright stakes, must be fastened transversely, and a common packthread placed from each bean to the laths.

Q. At what stage of their growth should the French or kidney beans be used as food?

A. They are to be gathered while the pod is still fleshy and tender, just before the beans within begin to swell.

Q. How is the broad bean grown?

A. A drill must be drawn, where they are to be sown, and the beans dropped into it about six inches apart. They will require to be earthed up, as soon as they have grown so as to have two rough leaves. When they are in full bloom, and the beans begin to set, pinch off the tops of the plants, which will cause them to throw all their nourishment into

the beans. These ought to be pretty nearly full grown, before they are gathered.

Q. Is there much difficulty in cultivating the lettuce and salad herbs generally?

A. No; the lettuce is more tender, and more likely to suffer from vermin than the hardy cabbage tribe; but the lettuces, of various kinds, grow freely in good light soil.

Q. Are they sown and transplanted?

A. It is very common to sow lettuces, radishes, and onions on the same bed; the drawing of the onions and radishes is supposed to give room in time to the lettuce, which, in its turn, gets into growth; and then, if some be pulled up to be planted elsewhere, those that remain are thinned sufficiently to come to a heart in their seed-bed; while the others, if carefully removed, are little worse, perhaps something better, for the change.

Q. But, if you wished to grow lettuce in any quantity, you would not do so?

A. No; I should sow the seed early in spring, that is, in the beginning of April; and as soon as they were large enough to be handled safely, I should plant them out in the open ground, not more than a foot apart every way, watering them in, and keeping them clean with the hoe, for weeds would materially injure them. The root of the lettuce does not go far into the ground, and surface weeds materially check their growth.

Q. Is there more than one kind of lettuce?

A. Yes; there are the cabbage lettuces, and the cos lettuces, and many varieties of each; the former are the hardiest, but the latter the best.

Q. How is endive grown?

A. It may be sown in April or May, and the plants pricked out, as soon as they are large enough, not more than three inches apart. To make it reach a handsome growth, there ought to be a warm bank to plant it out upon ; or, what is next best, a south border. In August it may be planted out.

Q. Does it require any further preparation for use ?

A. When large enough for a salad, the plants have to be blanched, either by placing a flat piece of tile or board upon them, or by tying them up in the same way as you would tie lettuces ; and when the plants are white inside they are in perfection.

Q. What other salads or herbs may be grown advantageously in a moderate garden ?

A. Parsley, sage, thyme, marjoram, fennel, corn salad, cress, are all useful in salads, broths, or soups ; and though a very few plants of each would be sufficient for a large family, it is well to have them ready at hand.

Q. How would you raise parsley ?

A. From seed sown in rows nine inches apart. The young plants must be thinned as soon as they can be got hold of ; but not finally thinned to the proper distances, till it can be seen which of the plants have the best curled leaves, that they only may be left.

Q. Would you raise in the same way the other kinds of small salad, which you enumerated ?

A. No ; corn salad is obtained from seed sown in short drills ; these must be drawn across a bed, over which you can easily reach for the purpose of picking off the leaves which constitute the salad, the plant itself being retained in order to produce more.

Sage, thyme, fennel, and indeed all other culinary herbs, have only to be raised from slips, of which one plant taken from each will produce many fresh plants.

Q. What other vegetables can you expect to cultivate with advantage in your moderately sized garden ?

A. I am not aware of any thing else important.

Q. But have you included all the garden vegetables ?

A. No ; there are broccoli, cauliflower, Brussels sprouts, and spinach, which are all good and useful in their way ; even asparagus and sea-kale are luxuries within reach of every man who has a garden : but none of these are essential.

Q. Are they of difficult culture ?

A. No. Broccoli and similar things will grow with the same treatment with which we rear a red cabbage or a savoy ; and the spinach may be produced by seed sown in drills, thinned out to four inches apart: when large enough, it must be pulled up, the roots cut off, and the leaves boiled.

Q. How are the herbs reared by slips ?

A. The plants need only be torn asunder down to the bottom, and the slips planted at a foot apart : these will soon become well-rooted and healthy plants.

Q. Tell me how you would manage your garden in the month of January ?

A. That must depend greatly on the weather. Frost sometimes continues all through January, and the ground is covered with snow. This puts a stop to everything ; but, if it be frost only without snow, many things may be done in the garden.

Q. What, then, can be done under such circumstances?

A. Manure may be wheeled into the parts requiring to be dressed, and it may be spread on the surface, being then ready to be dug in. Compost may be turned over, and if for this end you have to use a pick-axe, so much the better; for the frozen surface will have had the benefit of the frost, and you will then expose another surface to be frozen.

Q. Is this all that can be done in such inclement weather?

A. Advantage may be taken of inclement weather to do indoor work, such as examining seeds, thrashing them out, and cleaning them. Pruning also may be done in the warmer part of the day.

Q. But suppose that the weather is not frosty all through the month, and that there is fine weather sometimes?

A. Then you may dig or trench up vacant places in the garden, and, if necessary, manure them. You may also plant out cabbages, if you are likely to want them, and a few early potatoes may be planted. If you have any peas or beans autumn-sown, you may earth them up and stir the ground between the rows. You may continue to earth up celery as it grows, and always cover tender crops at night, whether fine or frosty, because the weather may change in an hour.

Q. Are there any crops to be sown in January?

A. If you are anxious for early radishes, you may sow a few on a warm border. This border must be protected with litter, which should not remain on the seeds any longer than the weather is frosty at daylight.

Q. Are not peas and beans sown in January?

A. Sometimes, for the chance of an early crop; but the profit is not equal to the risk, and therefore it would be better not to sow them.

Q. What is to be done with tender crops in severe weather?

A. They must be covered with litter, which must be fastened down to prevent it being blown away.

Q. Does not this make tender crops both expensive and precarious?

A. Yes; there is a great consumption of time in covering and uncovering them.

Q. These are strong objections, then, to the growth of tender crops in such a garden as we have described?

A. They ought not to be grown under such circumstances; for there are many winter and spring greens that produce all the vegetables a family requires; and, what with potatoes, carrots, and beetroot in store, cabbage plants fit to draw, cabbage sprouts ready to pick, and even winter spinach if you thought it worth growing; there is hardly any excuse for wasting time and ground on doubtful crops.

Q. What are the principal operations in February?

A. Digging or trenching where the crops have been gathered, leaving the surface rough or in ridges, to get the benefit of any frost; manuring or any thing else, that may obviously be required.

Q. Can anything be done to facilitate clearing the ground for these operations?

A. If you have a piece of cabbages which have been cut somewhat close, and which are only useful for sprouts, take the whole up, and plant them very close together in some unimportant part of the gar-

den, and dung and dig up the ground where they stood. If a piece of savoys has been more than half cut, a row or two may be made good with the uncut ones, and the stumps transferred to some other place for sprouts, so as to set the ground at liberty for other purposes.

Q. Why do you recommend the stumps of cabbages and savoys to be taken up and re-planted?

A. Because, although they are not worth all the room they occupied originally, they frequently afford an acceptable dish of sprouts; besides which, they do just as well, closer together, as they do when wide apart, and in all limited gardens the space they occupied is an object.

Q. What crops may be sown or planted in February?

A. Very few; there is no real benefit in beginning these operations too early. The main crop of potatoes should, however, be planted in dry weather, during this month, and the earlier the better.

Q. Are there any other operations to be done in February?

A. The same directions and remarks apply as in January. The weather is just as uncertain.

Q. What should be done in March?

A. If the weather be pretty open, the sun begins to have great power, and sowing may be commenced. I should sow a few cabbages, early carrots, turnips, onions, leeks, broccoli, and, (if I intended to grow any), Brussels sprouts, radishes, savoys, beans, peas, and lettuces, but of these only a few; also spring spinach, if I thought it desirable. Parsley too should now be sown.

Q. You say you would sow a few only of these

things. Do you mean that you would only sow a portion of what you intended ultimately to have in the ground?

A. Yes; I would not depend on one sowing for a crop; it would be far better in many cases to sow a part this month and a part next. It is desirable to have two sowings of almost every thing, and of some things many more even than two.

Q. Are there any crops to be planted?

A. I would plant cabbage plants out, if I had any left in the seed-bed. I would also plant more potatoes, in proportion as the ground could be spared.

Q. Will these crops be early?

A. Yes; all these crops, if the weather prove fine and other circumstances be favourable, will be fully a month earlier than those put in next month, and very nearly as early as those planted last month, or even as those put in during last autumn, if they shall have survived.

Q. May not some early crops be sown thickly in autumn, and planted out in March?

A. Yes; beans may be so treated. If they have survived the winter, they may be planted out in rows, six inches apart; and, if you put more than one row in a place, the rows may be two feet apart; but it is preferable to plant single rows of them in different parts of the garden.

Q. How would you regulate the quantities of each crop?

A. By what might be wanted, in the first place; —next, by the capacity of the crops for keeping;— and by the length of time during which they are capable of giving a supply while they are on the ground, or by their value as food.

Q. Exemplify this.

A. Potatoes would for these reasons have a large share of attention ; onions, perhaps, next ; for they are as wholesome and nutritious, as they are valuable for their capacity for being kept after gathering. We may mention carrots, for their long-continued goodness as a crop, capable of being constantly drawn, and for their excellent keeping qualities as a store all the winter. Beet-root for its value in keeping all through the winter, forming an excellent vegetable, or a cold salad, and exceedingly wholesome and nutritious.

Q. These are all root-crops. You have said nothing of " greens ?"

A. Cabbage plants would be great favourites, because they may be planted out every month in the year ; and either as coleworts or greens, (as they are called), as sprouts, or as full grown cabbages, they actually afford a supply the entire year through. Generally, I should give a large preference to those crops, which are useful to us during so many months in the year.

Q. What are the necessary operations in April ?

A. This must be looked upon as a month for general sowing. Sow again all the seeds recommended to be sown in March ; and let the present sowing be in larger quantities, because this may be relied on as the main crop. The sowing should include salads of all kinds ; all the cabbage tribe ; onions, leeks, carrots, parsnips, beet-root, lettuce, radishes, a few turnips, celery, kidney beans, scarlet-runners, and herbs, such as parsley or others that require sowing.

Q. Is there any planting to be done in April ?

A. You may plant sage, thyme, mint, and other

herbs that will grow from slips. You may also plant out cabbage plants, and cabbages intended for pickling.

Q. What other work is there to be done?

A. To earth up whatever crops require it; to hoe and clear the crops that want to be thinned, and to weed all the beds.

Q. Then April is a busy month?

A. Yes, if the weather prove favourable; but if the weather be wet, we ought to abstain from doing everything that requires us to tread on the garden ground: it is better to wait for favourable weather, than to trample on wet ground; for trampling upon it squeezes out the wet and air, and forms it into hard lumps that take a long time to pulverize again, if the land be at all heavy.

Q. Is wet the only hindrance at this season?

A. If the weather be frosty, we are equally stopped in our work during part of the day; but the sun becomes so powerful now, that, though we have frost in the night, it is generally thawing all day.

Q. Are there any crops, besides those you have named, that need be got in during this month?

A. Peas and broad beans may be sown again or not, if a supply of them in succession is thought desirable. It is an advantage certainly to follow up the first sowing of peas by successive sowings, because, if there be thrice as many as are required when green, they cannot be too plentiful when dried. Peas are next in importance to bread in any thoughtful family.

Q. What are the principal operations in May?

A. To hoe and thin out onions, turnips, carrots, spinach, beet-root, and other broadcast crops

that are forward enough ;—to weed and clear the ground all over ;—to prick out the young cabbage, savoy, and other greens, that they may gain strength for planting out, or to plant out at once any that you observe to be strong enough for planting out. Towards the end of the month, prick out the celery plants three inches distance in a bit of rich ground, that they may get strong enough for planting out.

Q. What sowing should be done in May ?

A. Sow more radish seed and more peas, if wanted ; savoy seed for a later crop ; endive, and a further succession of salad herbs; and Scotch kale, if it be at all desired.

Q. Is there any other work to be done in May ?

A. Anything, that was omitted to be done in April, should be done the first week of this. The garden should be made neat and tidy in every part, and the paths weeded. Vacant spaces should be dug, dunged, trenched, and got ready for crops.

Q. What is required to be done in June ?

A. Hoeing is the principal labour required in June. What with the thinning out and the weeding of onions, carrots, turnips, spinach, beet-root, and parsnips, the weeding of all the crops, the earthing up of beans, peas, and other things in drills, the hoeing is almost incessant. All the seed beds must be thinned out ; all the cabbage tribe must be pricked out to grow stronger; while those, which were pricked out last month, should be planted in the proper places to complete their growth. The principal crop of turnips must be sown this month. Potatoes may still be planted, if you can rely on the sets not having grown ; but if they have grown, do not use them ; rather be satisfied with a short crop than plant such sets.

Q. Is this all there is to do in June?

A. Those articles, of which a succession is required, may be still sown; for instance, salad herbs, radishes, lettuces, endive, corn salad, cress, and the like; and the weather may be so hot as to require the aid of the watering-tub and the barrow. Potatoes, that are up and growing, must be earthed up well.

Q. Do you recommend watering generally in dry hot weather?

A. Not unless crops are very much distressed by drought; for watering prevents the roots of the plants from descending so vigorously after the moisture as they otherwise would; and therefore it should only be begun, when you have made up your mind to persevere in it. I would only water on the last extremity, and then, instead of merely sprinkling, as is too often done, I would literally soak the ground as much as a very heavy shower of rain would do it.

Q. What are the principal operations for July?

A. In some measure a continuation of the management required for June; but there are other matters to be attended to as well;—sticks or other supports must be put to the scarlet beans; peas must also have sticks placed to them; potatoes have to be earthed up; the beans, that are in flower, may be topped to prevent the strength of the plant being expended in growth instead of swelling the beans.

Q. Are there any crops to be planted in July?

A. A trench may be dug a spade deep and a foot wide, into the bottom of which some good rich dung may be forked, and mixed with the under soil. Into this may be planted a row of the strongest celery plants, chosen from the bed into which they were

"pricked" out to strengthen: the distance between each plant should be nine inches.

Q. Some of the operations seem applicable to all times; are they not so?

A. Yes; the earthing up of crops is to be performed whenever they are ready for it. Planting out of all the cabbage tribe is proper, wherever the plants are large enough, and you have room to plant them in. Hoeing is proper, whenever the crops want thinning, or the beds want weeding. If the weather were to be wet in July, advantage ought to be taken to plant every foot of vacant ground with the advancing crops on the seed beds, or in the nursery beds in which they are pricked out. Turnips might be sown with advantage in a similar case; for the wet makes the seed begin germinating immediately.

Q. What is the proper practice of the garden for August?

A. Look well to the parsley, and pull up all the plants of it that have not very curly leaves. Hoe again between all the crops, clearing away the weeds, and stirring the ground. All the cabbages and other crops planted out may be earthed up. Peas not already stuck should have the sticks placed to them.

Q. What other work should be attended to in August?

A. Earth should be drawn down into the celery trenches as fast as the plants advance; and, when the trench is filled, the earth has to be drawn up to their stems as fast as they grow. Cabbage seed may now be sown: top the beans that are in flower, gather all kinds of ripe seed, continue planting out useful greens, and plant out leeks if you have any in the seed-bed. Some of the earliest-sown onions

require to be pulled as soon as the leaf turns yellow: many persons break down the foliage of the onions to hasten their ripening; but this is a bad practice, and nothing is gained by it. Watering may now be necessary for some few things, particularly newly planted-out subjects.

Q. How is the garden managed in September?

A. The season is getting past for many crops: early peas have done bearing, and all that have been allowed to seed, should be gathered as soon as the haulm changes colour, or the pods begin to dry. As every kind of crop is cleared, something else should be done with the ground: fill it, for instance, with winter greens, or dig it, leaving it rough and ready for anything you may want.

Q. This is not all that has to be done in September—is it?

A. There are other things: sow winter spinach; take up ripe potatoes; pull up ripened onions, and dry them on the surface of the ground for some time before they are stored; earth up celery; make everything clean by weeding; take up carrots that are to be stored, as also beet-root.

Q. September is a busy month, then?

A. It is a month, in which many crops are gathered in, especially things usually allowed to go to seed. If there be any ground vacant, plant out cabbage plants in rows one foot from each other, and the plants only six inches apart; because they may be all drawn for bunches of greens, or some may be left at proper distances to grow to cabbage.

Q. There is no sowing in September, I observe; is it a bad month for that?

A. There would not be time for anything sown

in September to come to maturity before the winter sets in ; therefore it would be all lost time, and totally useless.

Q. What is required in October ?

A. Little or nothing but gathering in crops, potatoes, carrots, parsnips, beet-root, red cabbages, and many other things ; also earthing up celery, and keeping all the crops clean. All crops planted out, such as cabbages, savoys, kale, and others—should be earthed up at some period, and the soil stirred between them. This should be done as soon after they are planted out, as they begin to grow.

Q. I suppose, then, that there is but little difference from this time to the end of the year, in the general management of the garden ?

A. Not much difference, except that some people value autumn-sowing more than others, and sow beans and peas then ; and there is the addition of planting trees, and the like.

Q. What difference is there in the November management ?

A. November is an important month in planting fruit-trees, making strawberry plantations, changing the places of any thing, and in making alterations in beds, paths, and edgings.

Q. What trees are to be planted in November ?

A. Plant apple, pear, plum, currant, gooseberry, and other fruit-trees and bushes ; and in the planting out of winter greens, or the taking up crops, continue to make the most of the ground. You may now prune the bushes and trees, and train those that require it.

Q. Is there any routine work ?

A. Continue to hoe and earth up, particularly

celery, and generally keep all the beds, paths, and borders clear of weeds. If you sow beans at all in the fall of the year, the sooner it is done in this month the better.

Q. What is to be done in December?

A. Much the same as in November. Plant all the trees you have occasion to plant; never leave till the spring any planting which you can do this month, for there is no better time for the planting of trees, than when the leaves are all off, and the trees are at rest.

Q. But planting can only be done in fine weather; what is there to be done in case the weather is unsuitable for these operations?

A. In bad weather, gather in manures and composts; sweep up and gather in all the leaves you can procure, to rot into vegetable mould, and lose no opportunity of adding waste or refuse matters to your dunghill.

Q. Now you must tell me something about fruit-trees. You have said you would plant them in November and December;—are these the only two months in which planting may be performed?

A. No; but they are the best months for the purpose. There is not, however, much difference in the suitableness of three or four of the early winter months for that object; that is to say, from the beginning of October, provided the weather be open.

Q. Why is it that these months are the most suitable for planting fruit-trees?

A. Because they are then at rest. Trees are most at rest when the leaves fall, and they remain at rest with little variation, until the buds can be seen to swell; but from the instant the sap is

upon the move, the check given by transplanting becomes the more felt and is more injurious ; therefore I prefer November and December for moving trees of the deciduous kind, especially fruit-trees.

Q. What are the particular operations concerning fruit-trees during each month ?

A. November and December have been already mentioned as the best months for planting them. In January also you may plant, if it has been omitted before. The last two of these months afford the best period for pruning.

Q. What is to be done in the following months ?

A. February, although not so good as January, will still do for planting. Pruning should, if possible, have been by this time all completed. Strawberries should be cleaned and top-dressed. In March, no more planting or removing can be done with propriety, for the check would be too great.

Q. What operations are suitable for April and May ?

A. Early in April, train any of the shoots that have been loosened in the winter, that is, fasten them in their places on the espalier rails. If the weather be very dry, water the strawberries effectually. Little more will be required, during the month of May, than rubbing off with the thumb those buds that are pushing out where branches are not wanted.

Q. What are the summer operations necessary for fruit-trees ?

A. In June, as soon as the fruit of any tree is fairly set, thin their numbers before the general swelling of all shall have, in any way, lessened the vigour of the tree. Examine gooseberry and cur-

rant trees, and clear them of vermin, which often infest them at this period. In July thin all the fruit to a reasonable crop, and again carefully remove the vermin from them.

Q. What operations are necessary in the autumn months ?

A. During August, September, and October, the gathering of fruit is all that is required. This must be most carefully attended to, as their being kept in a sound state as long as possible, depends upon this in a great measure. Apples and pears, for keeping, should be gathered when the pips inside begin to change colour ; they are then in the best condition for keeping : they must not be bruised in the storing. Choose the middle of sunny days for the gathering, that the fruits may be perfectly dry, and then lay them on clean straw ; after being stored a short time, they begin to exude and ferment, on which account it will be necessary to wipe the damp off occasionally, until they cease to sweat.

Q. You suppose, then, that any person who would attend to the rules and operations you have explained to me, would be successful in gardening ?

A. There is no question but that any judicious and thoughtful person might make his garden productive and profitable by following these directions. They comprise all that is of any real service to him in the pursuit of this object ; and he has, in these directions, a complete key to any further advance he may desire to make in the art and science of gardening.

FINIS.

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