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Gardener's Pocket Manual.

A SHORT, PRACTICAL

TREATISE ON GARDENING.

BY

WALDO F. BROWN,

OXFORD, OHIO.

SPRINGFIELD, OHIO :

T. H. Edwards & Co., Publishers.

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INTRODUCTION.

Doubtless there should be a reason for the writing of any book, whether great or small. My reasons for writing this little work have been: First, that I felt that there was need for a cheap practical book on gardening, and second, that the experience of twenty-five years as a gardener, and a sincere love for the calling, had enabled me to gain some valuable facts that would be of profit to the general reader.

I am aware that there has existed a strong prejudice against books on farming and gardening, but I believe that it is rapidly disappearing ; partly because of growing intelligence among farmers, and partly because more of the writers of modern books on these subjects have been practical men. From boyhood until forty years old I cultivated, in connection with a small farm, a market garden, and in that

prove his method of farming as he sees what can be done on a small amount of land by heavy manuring and good culture. The farmer having a large amount of land from which to select his garden spot, and a supply of manure with which to enrich it, ought to and may have the best of garden vegetables ; and from the latter part of May, when he begins on his early peas, lettuce, spinach and radishes, until the beginning of the next year, at least, the garden will contribute something every day to his table, and from years of experience at the head of a family, I estimate that at least what would cost \$100 in market, can be grown on one-fourth of an acre.

To show what a small garden may be made to contribute to the wants of a family, I append a letter written by my brother. I visited him in Indianapolis in the summer of 1876, and was so much pleased with his garden that I asked him to write an account of it for publication:

INDIANAPOLIS, IND., December, 1876.

My garden was but a small affair, of a little more than four rods square of ground. I got a pretty good spread of manure on it from a neighboring pig sty, but on spading it up found that I had a heavy, badly tramped and rather wet piece of ground. I accordingly threw it up in four beds with open drains between, giving it as I went along a thorough pulverizing. Excepting onions,

I planted about all the vegetables in an ordinary kitchen garden. I gave good culture, and no quarter to the weeds, for I had no room for them. I found that I could hoe the ground all over by devoting my spare hours from the factory for two days. I planted some sixty hills of Early Rose potatoes, and we got fully forty messes from them. Lettuce, radishes, beets, peas, beans, tomatoes and cucumbers in abundance; also a dozen good heads of cabbage. One hill of Hubbard squash that bore nine fine squashes. Not having room for the vines on the ground, I trained them like grape-vines on the fence, pinched off the laterals thoroughly, and how like Jonah's gourd they grew, and were the wonder of the whole neighborhood. As soon as the squashes attained a little size, I gave the vine near the stem a strong loop of cloth as an extra support, and they did first-rate. I had but little trouble with the bugs, for the vines were as high as my head, and I could see on the under side of the leaves so easily that I killed all the old ones and had no young ones to contend with. I shall try this mode of running vines high and dry again. Tomatoes I treated the same way, and never had them ripen so well or decay so little, and how easily they were gathered from vines securely fastened to the fence as high as your head.

Wife says we got more real good from our forty-four hills of Lima beans than any other vegetable in the garden, and I guess she is right, for we had all we could use green, and have a gallon or over of dry ones. I must not forget our three rows of sugar corn that gave us, as roasting ears, so many excellent dinners. My gardening was a success every way. It paid in every sense of the word. I got a great deal of pleasure out of it, a great deal of good eating out of it, and saved quite a little sum of money by it. Brother mechanic, try it if your patch of ground is no larger than a bed-quilt, for it will pay.

E. W. B.

CHAPTER II.

SELECTION AND PREPARATION OF GARDEN SPOT.

Conceding that a garden is as valuable to a family as the preceding chapter asserts, it will pay to select the best spot on the farm for it, or if necessary, spend quite a sum of money in the preparation of a garden spot.

The best soil for the garden is a sandy loam on a dry foundation. On many of our upland farms there are streaks of what we call "black ground." These black, loamy soils are warm, and give vegetables an early start, and it will pay to locate the garden on such soil, even if it must be at some little distance from the house.

Where a soil of this character is selected, Fall plowing will be found of great benefit, as it will enable you to plant hardy vegetables a week or ten days earlier than you otherwise could.

If you have not black loam, you must take such land as have and go to work to

make it as nearly as possible what you wish it to be. It will be found a profitable investment to expend fifty or even one hundred dollars on a quarter-acre to put it in good condition, rather than to cultivate land in the condition that a majority of our gardens are in.

Our market gardeners near the great cities find it necessary to expend nearly or quite \$300 per acre each year on their land, in order to cultivate it profitably.

To have a profitable garden you must be as nearly as possible independent of the weather, so as to grow good crops whether it be wet or dry, and if your land is thoroughly underdrained, deeply worked, and well enriched, you will find your crops flourishing, when on soil without such preparation they would be a failure.

If, in addition to the above, you protect it on the west and north by a tight board fence or evergreen hedge, you have all the conditions necessary to success. If the garden is a heavy clay, coat it well with sand; if too sandy, haul on swamp muck, or clay, and so bring it to the condition desired. It will take some labor and expense to do all this, but when once done it is permanent, and no one will ever regret the cost.

CHAPTER III.

MANURING.

There is an idea prevalent among farmers that there is danger of getting the garden too rich. Such is not my experience, nor that of any market gardener. My garden is located on a slope of black land, such as I have described, and has received a heavy coating of manure each year for the last fourteen years. I also learn from books and papers, and from personal observation among market gardeners, that they use large quantities of manure every year.

It will be particularly necessary for a new garden to be heavily manured, and I would recommend that it be done in the Fall or early Winter, applying it after the land is plowed, if level, or before if the garden is to be ridged. Use the best stable manure you can get, and if there is any danger of foul seeds pile it up and let it heat, so as to destroy them.

It is well, also, to prepare some special manure for using in the hill or drill, as it

will give the plants a good start. On nearly every farm valuable fertilizers are worse than wasted, which if saved and applied to the garden, would give a wonderful growth to the vegetables.

Perhaps I cannot do better than to describe my *fertilizer factory*. In the rear of my privy I laid some boards flat on the ground, and put a board roof over them. On this floor I put a load of dry mellow earth and sods, and on this we empty all the chamber slops. Under the privy we placed a box two feet wide and four inches deep. Every few weeks we empty the contents of the box in our "fertilizer factory," thoroughly mixing it with the earth and using a little land plaster with it. Our hen manure is saved until Spring, when we also mix it in and shovel over the pile until it is thoroughly mixed and "fined." If this manure is properly managed, I believe it to be worth as much as Guano, and it will cost nothing but a little time.

It can be handled as readily as meal, and if it is well worked and dry, there will be but little offensive odor about it.

Whatever kind of manure is used, it should be thoroughly composted so as to make it fine and immediately available as

plant food, and also to destroy the germ of any seed that may be in it.

It is also a good plan to have a supply of liquid manure to use for vines after they are beginning to grow.

To prepare this, set up a barrel like an ash leach, fill it with the best manure you can get, if part of it is night soil or hen manure all the better; then pour over it the suds from the washing and save the liquid that leaches through.

In applying this manure, make holes with a sharp stick a short distance from the roots and pour it in them, and after it has settled fill the holes and loosen the soil with a hoe. If it should be applied to the surface in dry weather, it would cause the ground to bake. It may be applied directly to the surface just before a rain, but should be diluted if very strong.

CHAPTER IV.

SEEDS AND PLANTING.

Having selected your garden spot and sufficiently enriched and pulverized it, the next thing in order is to plant. As I propose in the chapters in which I describe the different vegetables to tell when to plant, and what distance apart, I will not speak of that here, but will only give some hints as to seeds and laying out the garden.

The first requisite is good seed, and a failure in this respect is most discouraging. The gardener should make it a rule to save his own seed as far as possible, but this should never be done, as is too often the case, from the poorest.

Generally, in the family garden, the beans, peas, corn, etc., are picked as long as they are in an eatable condition, and the seed gathered from what is left. Such a course is sure to result in degeneration. If, on the contrary, a section or row from the very best be set apart for seed, or the

earliest and best shaped tomato or melon be saved, no seed can be purchased that is better, and but little that is as good.

If seeds are obtained from the grocery, they should be those put up by our best seedsmen, who have a reputation to sustain, as not rarely old and worthless seeds are palmed off upon the merchant who sells on commission.

The safest plan is to send your order to some reliable seedsman to be filled, by mail, and you will generally get what you order.

There is an impression among many that seedsmen, as a class, are dishonest, and this impression has been caused by the failure of seeds sold on commission, which seeds have often been bought as refuse by some dishonest party who never grew a seed in his life.

I have visited many of the largest seed growers in the United States in Illinois, Michigan, New York and Massachusetts, and I have never seen so much system and care in any other business as is exercised in the growing and handling of garden and flower seeds.

My advice is to send early to some reliable seedsman for such seeds as you may need, and so long as the man you are

dealing with furnishes you with seeds that suit you, give him your patronage.

The old-fashioned way of laying off the garden in narrow beds with broad walks is a wasteful one. I adopted the rule, twenty years ago, of putting everything in straight rows, running the whole length of the garden. This saves space, and at the same time enables us to use a horse in all rows over twenty inches wide, and a hand cultivator in narrower rows. If the family is small, and an entire row is not needed of some varieties, two or three can be planted in a single row; as, for instance, a row ten rods long could be planted in lettuce, spinach, and early beets.

One thing more in connection with planting, and that is, that with many kinds of vegetables it should be frequent, so as to furnish a succession that is fresh and tender, and so soon as a vegetable has outlived its usefulness, it should give place to another.

The garden that is manured liberally should be cropped constantly, and much of it should be made to grow two or three crops a year.

CHAPTER V.

CULTIVATION AND MANAGEMENT.

The cultivation of a garden should be most thorough, and with the garden spot well drained and manured, so that it will not settle down and become hard and compact, I find it of great advantage to plow late in the Fall. My practice is to spread the manure, and then plow as deeply as possible, in lands from eight to ten furrows wide. We then clean out the dead furrows, and pile the soil on the center of the land. This leaves the garden in such shape that the surplus water runs off freely and the frost also penetrates deeply, rendering the soil mellow and easily worked.

A garden managed in this way can be worked much earlier in the Spring than one unplowed or plowed flat, and with early vegetables, such as peas, spinach, lettuce, radishes, etc., two weeks time can often be saved, and as we need and enjoy early vegetables the most, this is a matter

of great importance. Cultivation should begin as soon as the plants can be seen in the row. The best time to kill a weed is before it comes through the soil, and if the surface is stirred as soon as it can be worked after each rain, myriads of weeds will be destroyed, and, in addition, the mellow surface will retain the moisture. A garden that is deeply plowed and underdrained will, if the surface is kept mellow, endure an amount of drouth that would utterly destroy the crops if neglected. Not a weed should be allowed to go to seed, and if this is followed up persistently, the labor of caring for the garden will be much lightened in a few years.

When I began in my garden, fourteen years ago, the weeds would come up with the early vegetables, so that I could scarcely find the rows: but for twelve years not a weed was allowed to go to seed, and although we had weeds, still our plants were never choked with them.

In 1876, I put a part of the garden in onions for seed, and the year proving a wet one, they grew so rank that we could not weed them without injuring the crop, and the weeds matured their seed, and this Summer we have had to renew the old fight on that part of the

garden, and we appreciate the old adage, that "one year's seeding makes seven years' weeding."

Keep all the ground occupied. Let one crop follow another. As soon as the early peas, spinach, lettuce, etc., are past their usefulness, follow up with quick maturing crops, and rather than let the weeds take possession, plant the vacant spots in corn for the family cow, when it is too late for it to mature.

CHAPTER VI.

GARDEN IMPLEMENTS.

While a garden may be cultivated with the tools ordinarily used on the farm, it will pay to have some extra and better ones, particularly if a large garden is to be cultivated.

A garden line is indispensable, and it will be found economy in getting it—as indeed may be said of every garden supply—to get the best. A good, hand-twisted cotton line will, with care, last a great many years.

Another implement which I have found of great use, and that is inexpensive, is a

DRAG OR PULVERIZER

Of which the cut is a good representation.

Any farmer can make one in a short time with a saw and hatchet, and while it will not crush dry hard clods, I have never found its equal for smoothing freshly plowed ground. It may be made of any size, but for the garden I prefer a small one, not more than four feet wide, and if it is not heavy enough I ride on it. By the use of this a garden can be put in such condition that a rake need not be used at all. A large drag similarly made, will, under certain conditions of soil, prepare either corn or wheat land for the crop better than any implement I ever used. It will make a smooth, mellow surface without packing it as a roller does. The side pieces of the small drag should be four inches square, and it may be made of inch boards, but hard lumber should be used for a heavy two or four-horse drag, heavier sides should be used, and two-inch boards.

I am sure no farmer who once uses one of these implements will ever be willing to do without one.

I have used for several years a hand cultivator, and have found it of such advantage that I can heartily recommend it. Every gardener knows the importance of stirring the soil as soon as possible after a

rain, both to kill the weeds which always start, and to prevent the formation of a crust, and consequently rapid evaporation of moisture, and while I do not claim that any hand cultivator will supersede the hoe, it does enable a single man to stir as much soil, in a given time, as five or six men could do with hoes. I have examined and tried many hand cultivators, and find

RUE'S HAND CULTIVATOR

Gives the best satisfaction. While the ordinary farm garden can be planted by hand, there are doubtless some who will read this book whose garden operations are extensive enough so that they will need a drill for planting. There are many kinds now in use that can be adjusted to sow far more accurately than can be done by hand, every kind of seed from beans to turnip, and after using four different varieties, I have given to

RUE'S GARDEN SEED DRILL

the preference. It operates on the same principle as the common drill, and can be adjusted in a moment to suit any kind of seed.

All the tools to be used in the garden should be light and sharp, and kept free from rust. The work of the garden is much of it done in the evening, when wearied by a day's work, and if your tools are sharp and light it is quite a relief to the tired muscles.

I have found a light spade made by cutting the sides from a long-handled gravel shovel an excellent implement for the garden, particularly in spading among small fruits, and in making flower beds.

CHAPTER VII.

MANAGEMENT OF HOT BEDS AND COLD FRAMES.

I am aware that but few farmers will be willing to give the care necessary to the management of a hot-bed, and yet it is a necessity if we would get the most good from our garden, and will be but little trouble, if located near the house and not started too early.

Probably the first of April is as early as it is best for the farmer to plant a hot bed, and a single sash three feet by six, or even smaller, will be ample to start all the vegetables and flowers needed.

For making a hot-bed, the manure must be forked up a few days beforehand, and must be hot at the time it is put in the bed. I prefer to make it on top of the ground, and then bank up round it to protect it from the cold. For an early bed, the manure should be from one foot and a half to two feet deep. For sweet potatoes, or a bed made late in April,

from ten to fourteen inches is sufficient.

The manure must be shaken to pieces and evenly spread, and pressed down by treading on small pieces of board, as if trodden with the feet some pieces would be trampled too much and others not enough.

Late in the season make a simple frame of boards a foot wide, placed in a sheltered spot, and arranged with a slope to the south so that when covered with boards the water will run off.

From the hot-bed, as the plants become crowded, transplant into this frame, and when heavy rains or cold nights occur, it can be covered with boards. In this frame plants can be hardened and prepared for the open ground, and early in May melons, cucumbers, Lima beans and such tender plants can be started in pots or on inverted squares of sod. Three-inch flower pots cost but \$1.00 a hundred, and with care will last many years, and a single cucumber or melon vine will thrive in one of these pots until out of the way of the striped bug, and the tenderest plants can be transplanted from the pots without wilting.

Where the pots can be had I would recommend them, but sods are a very good

substitute. Find a smooth, firm turf and cut the sod two inches thick; divide it into squares three inches each way, and place them grass side down in manure in your frame and plant your seeds on them, and then cover with half an inch of fine earth, as the seeds germinate the roots penetrate the sod, and at transplanting are not disturbed, and the decaying sod furnishes nourishment to the plants.

Cabbage and tomato plants may be transplanted into these frames, and will become stocks and form new roots, so that the final transplanting to the open ground will check their growth but little.

If you do not make a hot bed or a cold frame, I would advise trying the following plan:

Make a box six by eight inches square, to be used as a mold, and round this box make your hill, sloping a little to the south; pat it down with the spade on all sides of the box, and then carefully lift the box out and lay a pane of 8x10 window glass over it. After the plants come up the glass must be removed in the middle of the day if the sun shines hot, and as soon as the nights are warm they can be left off entirely.

This is the cheapest way to start a few

hills of early vegetables both as regards time and money.

As sweet potatoes are grown on nearly every farm, the subject of sprouting them seems legitimate to this chapter.

It is of great advantage for every one who wishes to set out more than two or three hundred sweet potato plants, to raise their own plants ; by so doing they can always have them when wanted, and can take advantage of suitable weather, or can attend to setting them out late in the evenings, a few at a time, and the plants are always fresh and vigorous. Even if the plants cost more than they would to buy them, the advantage above-mentioned would overbalance ; but the fact is, that with reasonable success, it will be found quite profitable to sprout not only for your own planting, but for the neighborhood. The writer has had 20 years' experience in sprouting sweet potatoes, and has made many failures, but for several years has had almost unvarying success, and believes he can state so plainly "how to do it," that any one with a little care can succeed. The great danger with the novice is, that he will burn the potatoes by getting the bed too hot; and if the bed is left uncovered in the

middle of the day, the heat of the sun from above and that of the manure from below is almost sure to be too much for them.

About five years ago we adopted the plan of covering the bed as soon as made with straw and corn-stalks to a depth of a foot or more, and have found that by this means we could preserve a uniform temperature, and in addition the evaporation of moisture is checked, so that the bed will require no watering until the plants begin to come up.

Our beds are made perfectly flat, by simply nailing together four boards, two 16 feet long for the sides, and end boards 6 feet long. A bed of this size is large enough to hold one barrel of medium-sized potatoes.

The manure should be thrown in a pile about ten days before the bed is made, and after it is well heated should, if very strong, be turned once and thoroughly mixed, and when put in the bed (which should be from the 10th to the 20th of April,) should all be hot; shake thoroughly and pack solid, until you have 10 inches in the bed. The packing should be done by having two pieces of board 4 feet long and a foot or so wide; lay one in

the bed and get on it and jump up and down; then lay down the next one touching it, and step on that; then take up the first one and put in front, and so on, until you have gone all over the bed. Now put on four inches of good soil—not too light; cover the bed with fine straw a few inches deep, if wet all the better, and over the straw lay your corn-stalks, bound in bundles. They should be plenty enough and so arranged as to turn off water if a heavy rain falls.

As soon as the bed is warm enough to feel comfortable to the hand, take off your covering and lay on the potatoes so that they will nearly touch each other and cover with about three inches of light wood dirt that will not bake; then replace your covering, and if you find the temperature right, it need not be uncovered again until the plants begin to come through. If the bed seems too cold, open in the middle of the day and let the sun shine on it till about two o'clock.

The bed may be examined by running the hand into it without removing the cover. If not more than ten inches of manure is used, and it has been properly handled, there will be but little danger of the bed heating too much when covered.

When you draw the plants, lay a strong board across the narrow way to sit on, so as to reach the middle ones without tramping the bed. After the plants begin to come up, take off the cover, and if the nights are warm leave it open, but if cold put on the bundles of corn-stalks, but the straw will not be needed.

Give plenty of water when the plants are coming up, but it will harden the plants to let them get somewhat dry when large enough to pull. Always water freely a short time before pulling the plants.

If care is taken not to disturb the potato, a second drawing of plants may be had.

I plant my main crop from May 20th to June 10th, but they do well planted later, and I have raised a fair crop set the 4th of July.

For the earliest sweet potatoes, transplant the first plants that sprout, and set them in a frame three inches apart each way.

CHAPTER VIII.

VEGETABLES; THEIR VARIETIES AND
MANAGEMENT.

I propose in this chapter to take up in alphabetical order the different garden vegetables, describing those varieties that have proved the best in my experience in gardening, and also give the methods of culture that I have found to succeed best.

ASPARAGUS.

It seems strange that this excellent vegetable should be found in so few gardens and that it is neglected in many gardens where it has been planted. It is propagated from seed and is best set out at one year old. Instead of putting it in some out of the way corner, I would recommend that a row or two be planted at one side of the garden. Prepare the ground by deep and thorough working and liberal manuring; stretch your line and make holes with the spade large enough so that you can spread the roots out, and deep enough set that the crown of the plant will be covered two inches. I would recommend setting the rows

three feet apart, and the plants in the row nine inches. The bed should be planted in the Spring, and the sooner after the land is in working order the better. Salt is a valuable manure for this plant, and may be applied at the rate of a bushel or more to the square rod. A liberal application of coarse manure in the Fall to protect the bed will be valuable in causing it to start earlier than it otherwise would.

As soon as the frost is out of the ground in the Spring, dig the surface over lightly a few inches deep, taking care not to injure the crowns of the plants. Cut for use when the shoots are from four to six inches high. Cut a little below the surface and be careful not to injure the young buds. The cutting should cease by the middle of June.

BEANS—BUSH.

Perhaps no one vegetable is so extensively used on the farmers' table as this. It can be grown on almost any soil, but the garden varieties will respond to liberal manure and culture as well as any other vegetable, and will be improved both in yield and quality.

It is a tender vegetable, easily killed by frost, but we usually plant the Black Wax in April, as it is a hardy variety. They

should be planted once in two weeks up to the first of August. We generally plant three in a hill, with the hills just far enough apart to cut between with a hoe. The rows should be 18 inches apart.

Beans should never be worked when the vines are wet.

The following varieties will be found excellent and sufficient:

Early Valentine—Has round pods, tender, and of good flavor. If planted after the ground is warm it will be fit for use in five or six weeks. Salmon color, with pink spots ; a prolific bearer.

German Wax—We have used this in the family almost exclusively for several years. It seems to possess all the virtues, being hardy and prolific, and also tender and of excellent flavor ; the pods are stringless and of a rich waxy yellow ; seeds glossy black ; a little earlier than the Valentine.

Golden Wax—grows a little larger than the former, and is wonderfully prolific, pods the same color as German Wax bean, one side white the other is red specked ; a little later than German Wax.

Royal White Kidney. An excellent late variety ; pods long and well filled with long white kidney-shaped beans.

quantity rather than quality. Planted this distance apart will give about 18,000 roots to the acre, and if they can be grown to average from two to three pounds each there will be an enormous yield of food, for every pound each that the roots average you will have nine tons of beets. I doubt if as much food can be grown on a given amount of land in any other crop as this. A man with a village lot where manure can be had in abundance, could keep a cow and several pigs the larger part of the year, as the thinning would go far toward feeding them through June and July, and the surplus leaves in August and September, and then he would have from ten to twenty-five tons of good, sweet roots for winter feed, and while turnips and some other roots soon begin to depreciate in quality, the beets will be as good in March and April as when put away.

Beets that are to be kept for Spring use should be buried out-of-doors, and those intended for winter use should be covered with earth in a box or barrel in the cellar.

The varieties most esteemed are

Early Egyptian—This variety is comparatively new. Shaped like a flat tur-

nip and of the deepest red color; very sweet and tender ; seeds very small.

EGYPTIAN BLOOD TURNIP.

Improved Blood Turnip—This was produced by selecting the finest specimens of the old Blood Turnip. A little larger than the Egyptian ; blood red ; of very perfect form ; small top ; good for early use, and also a fine keeper.

Early Turnip Bassano—Early and productive. Root, flat turnip-shaped, light red ; flesh white, marbled with bright pink ; leaves, small light green, veined with red.

I have grown this variety on very rich black land to average six pounds each, taking 100 roots as they grew in the row, and as they will bear closer planting than the field beets, I should recommend the

man with a single cow to feed and rich land, to sow this variety for Fall and early Winter feeding, but they will not keep well through the winter unless sown late.

Long Blood—Is the standard winter variety, and cannot be excelled. The roots are uniform in size, and blood-red color ; very sweet, tender and delicious.

SWISS CHARD, OR SEA KALE.

Swiss Chard—This is a variety that makes no root, but has a luxuriant growth of leaves and stalks, which are used as greens. The stems are very large clear white and very tender, and are used as a substitute for Asparagus. The plants should be thinned to one foot apart.

Red Mangel Wurtzel—A large, long variety, grown for stock feeding. Most of the root grows above ground. Plant

in rows two and a half feet apart and one foot in the row.

Yellow Globe Mangel Wurtzel—A large, round, orange colored variety. A fine yielder and an excellent keeper; best for late Spring feeding.

White Sugar—A large, field variety; excellent for stock.

CABBAGE

fills an important place in the family garden. It is perfectly hardy, enduring hard frosts in the early Spring, and will stand without injury till the ground freezes in early winter. It can be grown large enough for use in June, and can be kept in good condition until the following May. The waste of the crop is valuable food for cattle or hogs. It may be planted from the first of April until August, and can be grown as a second crop after early beans, peas, potatoes and other crops.

Culture. Cabbages require a rich, mellow soil, and too much pains cannot be taken in the preparation and manuring of the soil.

For early cabbage, sow the last of February or early in March, either in hot bed or in a box in the house, and if fine, stocky plants are wanted, transplant into cold frames when well into the second leaf

setting them three inches apart each way. They may be planted in the open ground as soon as the ground will work mellow, if they have been previously hardened by exposure to the air.

The early varieties may be set eighteen inches apart, and the winter varieties about two feet : or if very large, like the Marblehead Mammoth, two by three feet.

EARLY WINNIGSTADT.

In transplanting cabbage *always set in the ground up to the first leaf, no matter how long the stem may be.*

Some years ago it was very difficult to grow the plants, on account of the black flea that destroys them as soon as they make their appearance above the soil. Constant watchfulness will generally save them. The very morning that they make their appearance be on hand while the

dew is on, and sprinkle them thoroughly with air-slaked lime or sifted ashes. Follow this up daily, until they are well into the rough leaf.

If plants are wanted for the family only, sow in boxes set up a few feet above the ground, and you will find it a perfect protection.

For two or three years past, the green worm has attacked nearly all the cabbage grown in Southern Ohio, and much of it has been ruined. I am not prepared to give an infallible remedy, but the following are recommended and are worth trying :

Sprinkle your cabbages with boiling water poured from a water pot; dust with buckwheat flour, or sprinkle with strong lime water. All these remedies are said to be effective, but I have not yet had occasion to test them.

The best way to keep cabbages through the winter is by burying them, as they retain their tenderness and crisp flavor much better than when kept in a cellar. If the heads are solid and well matured, turn them upside down in a dry place—two rows together. Pack as close together as possible, then throw the earth upon each side. The outside leaves will

protect the head, and if some boards or hay is put over the top to keep out the rain, they will keep with but little earth. If you have loose cabbage that has just begun to head, set them in beds four feet wide, covering the roots well, and pack them as closely as possible, (heads up.)

PREMIUM FLAT DUTCH.

Raise the earth at the sides a little higher than the top of the cabbages, then gather leaves from the orchard or forest and cover the top six inches deep, and above this fix a shelter of boards or corn fodder. Managed in this way, loose cabbage will head and be of the finest quality.

The varieties of cabbage are so numerous that I might fill several pages with a

list, but the following will be found sufficient and satisfactory:

Early Jersey Wakefield—Heads of medium size, generally cone-shaped, but sometimes nearly round and very solid. It is reliable for heading, and will bear close planting.

Early Sugar Loaf—Heads conical ;

STONE MASON MARBLEHEAD.

leaves spoon shaped ; color bluish green. An excellent variety for the North, but does not succeed well in the South.

Early York—A well known and popular variety. Early ; of excellent flavor, and may be planted close—from 15 to 18 inches.

Early Winnigstadt—This is one of the best varieties of cabbage in general use in cultivation. It comes early, and may also

be planted for winter. It makes a large, regular conical head, often attaining a

MARBLEHEAD MAMMOTH DRUMHEAD.

weight of 20 pounds. It bears the heat well and keeps either in hot or cold weather. Quality excellent.

CABBAGE—WINTER.

Stone Mason—This variety is noted for its sweet and delicate flavor, and its reliability for forming a large, solid head, nearly every plant heading up fine and solid when well cultivated. It is very hardy, and will endure the cold of extreme Northern climates. One of the best for family or market.

Premium Drumhead—This variety has been greatly improved under the careful

management of our best seed growers, and now for size and general excellence ranks among the best.

Premium Flat Dutch—Perhaps no variety of cabbage has given as good satisfaction or is so universally cultivated as this. It is earlier than the Drumhead, and has proved to be as reliable and profitable as any variety grown in America.

Marblehead Mammoth Drumhead—This is the largest cabbage grown. Heads have been produced weighing over fifty pounds, and under good cultivation it has been grown by the acre to average thirty pounds. Mr. Gregory who originated this variety, says that it does better when sown where it is to grow than to be transplanted.

Red Dutch—This variety is valued for pickling. It is of medium size, and makes a very solid head. It should be sown early, and planted two feet apart each way.

CAULIFLOWER.

This is a vegetable seldom found in the farm garden, and yet it is worth a trial. I have succeeded in getting splendid heads from it. It is the most delicate of any of the cabbage family. It produces within

its long, pale green leaves a white head resembling a basin rounded full of the curd known as cottage cheese.

The seed should be sown in April, and

EARLY ERFURT.

transplanted and treated as cabbage. It requires, however, more water, and if drouth occurs, they should not be allowed to suffer.

The Early Paris and Erfurt Large Early White will be found reliable varieties.

CARROT.

The carrot is worthy of a place in the farmer's garden. It is an excellent ingredient in soups, and is relished by many when boiled with meats. It is unsurpass-

ed for feeding both horses and cattle. With rich land and thorough culture it is very productive. I have grown 600

bushels to the acre. They should be sown early in May, in drills 15 inches apart, and thinned to 4 or 6 inches in the row.

The Early Scarlet Horn will be found the best early sort. It is of deep color, fine grain and will do well on shallow soil.

EARLY SCARLET
HORN.

The Improved Long Orange is best for the main crop. It has regularly tapering roots, and deep orange color. For field culture, the rows should be 18 inches apart, and the plants 8 inches in the row.

CELERY.

This plant is one of the best and most healthful salads in use. When blanched it is used raw, and it is also excellent for seasoning soups.

The seed may be sown in the open ground in April, and to make the plants stocky they should be transplanted when three inches high, setting them three or four inches apart.

The best shelling bean, and also good for winter use.

Navy—This is the standard bean for field culture, and brings the highest price in the market.

GERMAN WAX.

In my experience there is no crop that leaves the land in better condition for wheat than this. The heaviest crops of wheat grown under my observation for

the last two years have been on bean stubble. They will also produce a profitable crop on land too poor to grow anything else on, and as they do not need to be planted early, a crop of rye can be grown to full size and plowed under before planting them.

We find from the 10th to the 15th of June is the best time to plant, and we harrow and roll until the land is in fine condition, and then sow with the wheat drill 18 inches apart, and use about one bushel of seed per acre. After drilling in

the seed, roll, and if the season proves favorable, they will need no cultivation, and can be cut with the scythe.

If heavy rains come on and start the weeds before the beans are large enough to shade the ground they must be worked, which can be done with a small shovel-plow once in a row, as with a little care a gentle horse can be made to walk in a row 18 inches wide.

If they are cultivated it will be necessary to pull them, as the surface will be too uneven for a scythe. If they are mowed, it should be done before the pods are dry, or they will shatter.

Should the weather be unfavorable at gathering time, they may be started so as to cure with little damage. The way to do it is to set stout poles (three inches in diameter) in the ground by punching holes with a crow-bar. Let the poles be six or eight feet high and sharpened at the top. Put something at the base of the poles to keep the beans off the ground, and keep slipping them down from the top, the stack will be so narrow that there will be no danger of heating or molding, and the top bunches can be so arranged as to shed the water perfectly.

We have, for many years, practiced

threshing our beans by tramping with horses, and find it much easier and more rapid than using a flail, and if care is taken to keep the barn floor well covered there will be found but few split beans.

I am aware that the Navy bean is not a garden bean, but as this work is intended largely for farmers I have thought that this digression would be acceptable.

BEAN—POLE.

We have so many good varieties of Bush beans and the labor of poling is so great, that it is not worth while to plant any but the best, which undoubtedly are:

Large Lima—A well-known and productive bean.

Small Lima—Which is as rich, and much more prolific, besides being more easily shelled. And the

Giant Wax—A very rich bean, with clusters of large, flat, waxy, yellow pods, equal if not superior to the German Wax in flavor. This variety may be grown as a corn bean.

The Lima beans are tender and should not be planted until settled warm weather, and it is best to make a hill raised a few inches, as they are very sensitive to cold and wet, and the seed will not germinate unless the conditions are favorable. It

will increase the yield to pinch back the vines when they reach the top of the pole.

THE BEET

Is a valuable and important vegetable. The early varieties are perfectly hardy and may be sown as soon as the ground can be worked, as they will endure a hard freeze without material injury. It is well to sow thickly at the first sowing, as if a severe freeze comes usually some will escape if others are killed.

Beets may be sown from early in March until July. I have grown good crops sown as late as July 4th, and it is well to make a late sowing to preserve for winter, as they will be sweeter and tenderer than those that have attained their full growth.

When beets are grown for stock, or a large yield is desired, I have found the best time to plant to be early in May.

In the garden they may be grown in rows 15 inches apart, and they may be sown quite thick in the rows, and thinned for early greens. The turnip-rooted varieties will bottom well on rich soil at six inches apart.

For field culture, I prefer to plant two and a half feet wide, and thin to a foot in the rows, as for feeding stock we want

It may be planted in the trenches where it is to grow from the middle of June to the middle of August, but the latter part of July is the best time. Dig trenches ten inches deep, a foot wide, and five or six feet apart. Spread several inches of well composted manure in the bottom of the trenches, and mix well with the soil.

The roots of the plants should be shortened and also the leaves cut back at transplanting. Water thoroughly, and protect from the sun for a few days till the plants become established; then give constant and thorough culture.

About the first of September begin to earth up. Hold the leaves tight with one hand to prevent getting the soil into the center of the plant—which causes it to rot or rust—and with the other hand draw the earth round the stem. Keep earthing up through October, and as cold weather approaches, cover with straw or litter, so

LONG
ORANGE
CARROT.

as to prevent freezing. The varieties that will give best satisfaction are: Incomparable Dwarf White and Superb White Solid.

CORN.

It must be remembered that it takes a much richer soil to grow a good crop of sweet corn than of field corn. It is not profitable to plant on any but well manured soil, and not until the weather becomes warm and settled--after the first of May. A planting should be made every week until the middle of July.

Plant Blood Red Sweet or Early Minnesota for the earliest and latest plantings, and Stowell Evergreen for the main crop.

The first two named varieties are not only early, but of excellent flavor.

Blood Red Sweet has remarkably large ears for an early variety.

Stowell Evergreen possesses the rare merit of remaining a long time fit for use, and as it bears large ears and often two to the stock, and will bear closer planting than field corn, it can, on rich ground, be grown profitably for early feeding of stock.

The early varieties may be planted two by three feet, and the Stowell a little wider.

White Pop Corn is a most excellent variety : small, clear grains; very prolific; and, when popped, very tender.

CUCUMBER.

The cucumber is a very tender plant, very sensitive to cold, and it is of little use to plant in the open ground until the weather is warm and settled, which, in this latitude, is often not until nearly or quite the first of June. There is always great risk from the striped bug if planted early, but they rarely disturb them if planted after the middle of June.

For pickles, we plant from June 15th to July 10th, and usually grow them as a second crop where early peas have been raised, and then invariably sow turnips between the rows at the last hoeing of the cucumbers. For many years I have followed this plan, growing from half an acre to an acre each year, and making it very profitable. It will be found necessary to manure liberally where land is cropped in this way, but with three crops to be marketed, it will pay.

We select a dry, rich piece of land, if possible, underdrained black land, and plow under a good coating of manure in the Fall. We then give it a light coat of finely composted manure, and let it remain

until Spring. As soon as the land can be worked in the Spring, even if as early as the last of February, we work mellow with cultivator, or double-shovel and harrow, and put in our peas, either Tom Thumb or Early Philadelphia, sowing the former twenty inches and the latter two feet apart. These come into market from the 25th of May to the 5th of June, and we pick them twice, and then plow under what is left and prepare for the cucumbers. As the ground dries out very rapidly at this season of the year, we take the harrow and roller to the field with us, and use them while the land is freshly plowed. We then mark off five feet apart each way and drop at each check a shovelful of fine manure, and over this we raise a hill some four inches high and a foot broad ; on this hill we drop a dozen seeds, and cover by stepping on it and pressing it firmly down into the soil, and then with the side of the foot cover with a half inch or so of earth.

For pickles, we always plant the Early Cluster, as they are very prolific and make a very symmetrical pickle, and do not run to vine so much as many other varieties. In ten days they will be large enough to thin and hoe. We leave four plants in a

hill, and at each working draw a little fresh earth to the plants.

They should be worked once a week, or oftener if rains fall to make a crust and

EARLY CLUSTER.

start the weeds. In about five weeks, the vines will begin to run across the rows ; some time between the 25th of July and the 10th of August, as soon as the ground can be washed after a rain, sow turnip seed, at the rate of one pound per acre. If you can get through between the rows with a one-horse harrow do so, and follow with hoes, and hoe lightly all the ground that the harrow does not stir. If the vines have run so that the harrow cannot be used, the entire surface must be lightly hoed over.

In six weeks from planting you can begin to gather pickles, and as long as the weather is warm, they must be picked every day. We pick in the forenoon on Monday, Tuesday and Wednesday, and

in the afternoon on the last three days of the week. so as to finish up as late as possible on Saturday, or there will be a great many large ones on Monday.

You need not be afraid of hurting the turnips by tramping them, for in ten years experience I have grown my best crops in this way.

I have, for fifteen years, sold pickles at 300 for a dollar, delivered to my customers at their houses, and have found them a very profitable crop.

If we pick more any day than we can sell, we put them down in salt, filling a barrel with alternate layers of salt and pickles, using about three pecks of salt to a forty gallon barrel.

The most profit will be found in a pickle about three or four inches long, and from three to four thousand can be salted in a forty gallon barrel.

The following varieties comprise all that the farmer will need.

Early Russian—This is our earliest variety ; quite small ; grows in pairs ; good for the table, and makes a fine, small pickle.

White Spine—A good variety for table use ; early and prolific ; growth uniformly

straight and smooth ; a good variety for forcing under glass.

Early Cluster—The best of all for pickles; very early and productive ; makes but little vine, and bears in clusters.

GHERKIN.

Improved Long Green—The best

large variety in cultivation; a good bearer; grows about a foot long, and is of excellent flavor ; makes a hard, brittle pickle. Must be planted six feet apart each way.

Gherkin—A small, oval variety, grown exclusively for pickles. They should be picked when young and tender, and about an inch long.

GOURD.

Although gourds cannot be classed as garden vegetables, yet they are useful and convenient.

They should not be planted until the weather is settled, unless they are started in pots or on squares of inverted sod, as described in Chapter VIII.

If you want straight handles, the dipper gourds should be furnished a brush or trellis to run on, but for several years I have grown them on the ground, as I do

squashes. Some of the handles will be straight and some curved, so that the gourd can be hung by the handle on the

SUGAR TROUGH.

edge of a barrel or wash boiler, and by taking pains in cutting them, the curves in the handle are advantageous. The large variety should always be allowed to run on the ground, as they are too heavy for the vines to support. The handle varieties are very prolific, and a single hill will furnish all the dippers a family needs.

The Sugar Trough varieties should be planted ten feet apart each way, and but two plants allowed to the hill.

Gourd Dipper—This variety varies in size from a pint to two quarts, with handles from six to fifteen inches long. They are convenient for dipping hot liquids, as the handles do not heat through readily. They also make good homes for birds, if a hole is cut in one side, and they are tied securely in trees about the house.

Sugar Trough Gourds have no handles, but grow to a very large size. I have grown a thousand, in a single year, that would hold an average of four to five gallons each, and I have selected many

specimens that held from seven to ten gallons each. They make a thick, strong shell to which a bail can be fastened, so as to use them for baskets. They are very light, but durable.

In the early times, in many parts of the West, they were used for catching sugar water, and I have seen them that had been in use for ten years.

We have used them for many years for nest boxes, sawing them down low and secure them in place with a shingle nail to keep them from tipping over by the hen stepping on the edge.

They are also convenient for many household purposes, and when cut through the middle horizontally, so that in holding them the thumb is inside the divided handle, they make capacious and convenient dippers.

They should be sawn apart before freezing weather in the Fall, and the seeds removed, and then inverted and left till Spring, and the freezing and thawing will cause the pith to peel out of them, so that they can be easily cleaned.

LETTUCE.

This vegetable needs a rich soil if you would have it form a head, and as a very small amount of land will produce all that

any family can use, we can certainly afford to make it rich.

It may be sown as soon as the land can be worked in the Spring, in the open

EARLY PRIZE HEAD.

ground, and may be sown in September and kept through the Winter with a slight protection.

The early varieties run to seed quickly, and it is best to sow at the same time some of the head varieties for late use. It may be sown quite thick, but should be thinned to a foot apart before it becomes crowded, if you would have fine heads.

Early Curled Sillesia—This is the best early sort. Hardy, of strong growth, and excellent flavor.

Large Drumhead—Heads large, somewhat flattened; pale green outside; white

at center ; crisp and tender ; an excellent summer variety.

Ferry's Prize Head—I believe this to be the best Summer Lettuce known. It forms a large head of the very finest flavor, and as it is slow to run up to seed,

LARGE DRUMHEAD.

remains in use longer than any other variety. I recommend this above all other varieties.

MUSTARD.

Chinese—To those who are fond of early salads this plant deserves to be better known. It grows with tender, crisp leaf stems, and may be used with lettuce, or alone, and will be found excellent. Sow once in two weeks through the season, and if dry, water, as it requires a good deal of moisture.

MELON.

Neither Musk or Water Melons should be planted in the open ground until the weather is warm and settled, and if they

JENNY LIND.

are to be started in pots or on sods. I would not advise planting before the first of May. They may be planted under a single pane of glass, as described in Chapter VIII, and if this is done, and careful attention given them, they may be planted a week or two earlier than otherwise.

Melons require a rich soil, and it is best to mix a shovelful of fine, rich manure in the hill, and if they do not appear thrifty, use liquid manure. If your soil is a heavy clay, it will pay to haul sand to be used in the hills.

Musk Melons may be planted six feet apart each way, but Water Melons should be from eight to ten apart.

The greatest enemy that the melon grower has to contend with is the striped bug, and some years it is almost impossible to secure a stand. I would always recommend a free use of wheat bran, and from my experience I think it will save

them. Just as soon as they are up, apply a handful to each hill, heaping it round the stem up to the leaves. Go over them every few days with a fresh application, and particularly after each rain.

As seed is not expensive, I would recommend always to plant at one side of the hill, and when the melons begin to

GREEN NUTMEG.

come up, plant again the opposite side of the hill. If the first planting should be destroyed, the second will often escape.

Melons may be planted among early potatoes by omitting every third row, as the potatoes can be dug before the vines run much.

Melons may be planted late in June and will mature, as they make a very rapid growth during the heat of Summer. o

MELON—MUSK.

Jenny Lind—The earliest of all the green-fleshed kinds ; sweet, and of delicious flavor ; size, small ; skin, thickly netted and thin. One of the best for the home garden.

Early Yellow Cantaloupe—This variety is earlier than the green-fleshed kinds ; of

CASABA.

good size, nearly round ; flesh, salmon color and thick, musky flavor.

Green Citron—Nearly round ; six to eight inches in diameter ; flesh, green and of delicious flavor.

Improved Green Nutmeg—This has been much improved on the Seed Farm of D. M. Ferry, by careful selection, and it is now regarded as the best of its kind. It is of large size, thickly netted, and

deeply ribbed : flesh, deep green, rich and sweet.

Cassaba—One of the largest and best varieties in cultivation, attaining a weight of 12 to 15 pounds. Flesh green, sweet and delicious.

MELON—WATER.

Phinney's Early—A very early variety

PHINNEY'S EARLY.

of medium size and good form, a very prolific bearer ; skin, smooth with narrow white mottled and dark green stripes : flesh, light red, and very sweet. One of the best for family use, but the rind is so brittle and thin that it does not bear carriage well.

Mountain Sweet—An excellent family variety. Light, green mottled ; flesh, scarlet and very solid, and of delicious flavor ; rind, thin.

Mountain Spout—A large, striped variety, with drab-colored seeds and bright scarlet flesh. One of the best for market, as it will yield a greater weight to the acre than any other variety, and

PEERLESS.

bears transportation, and will keep a longer time than most others.

Black Spanish—Round, with scarlet flesh and black seeds ; size, medium.

D. M. Ferry's Peerless—This is claimed to be the best melon grown. Size, medium ; of good form ; light, mottled green ; thin rind ; small, white seeds ; scarlet, solid flesh, and deliciously sweet.

ONION.

Until quite recently the idea has prevailed that onions could not be grown from seed in the latitude of Southern

Ohio. It has been demonstrated, however, that larger and better onions can be grown from seed than from sets.

As the growing of onions from sets is well understood, I shall pass it by and tell how to grow them from seed.

The soil for onions should be clean and rich, and it is best to select a spot and keep it for this purpose, as onions, unlike most crops, may be grown on the same land for many years, and the crops will improve.

The seed should be sown early in April or as soon as the ground can be put in good condition. Sow in drills far enough apart so that you can hoe between them. Scatter the seed in the row so as to have a seed every inch.

In cultivation, keep the surface mellow and free from weeds, but there is no need of cultivating more than inch deep.

If but a few for family use are to be grown they can be sown and cultivated by hand, but if a large crop is to be grown a seed drill and hand cultivator are indispensable.

Where a small amount of ground is occupied, I would recommend a top dressing of sifted manure to be applied after they were up, just before hoeing. When

the bulbs are nearly formed, and the tops begin to fall down, ripening will be hastened by rolling an empty barrel over them to break down the tops. A second crop can be grown on the land by planting late cabbage between the rows the latter part of July.

The following varieties are the most popular, and will give satisfaction :

Large Red Wethersfield—This is the best keeper, and the standard variety for the general crop. Large size, deep purplish red ; flesh, purplish white ; very productive ; strong flavor. Not so good for family use as Yellow Danvers or White Portugal.

Yellow Danvers—I think this the best variety for general culture. It is of globular form ; above medium size ; flesh, white, and of mild flavor ; a good producer. I have seen six hundred bushels grown on an acre from seed sown in April.

White Portugal—A large, flat onion, of excellent flavor. Fine for family use in Summer and Fall, but does not keep well. When sown thickly so as to produce small bulbs, it is excellent for pickles.

PARSNIP.

Plant early in Spring, in deep, rich

soil, using plenty of seed, as it is slow to germinate, and if heavy rains occur to beat down the ground, the plants will not all come through. Cover the seed evenly about an inch deep. When three or four inches high, thin to six inches.

Let them remain in the bed all winter, as the frost improves them.

If you have more than the family needs, the cow will appreciate them.

Long White Dutch, or Sugar—Is the common variety, and is too well known to need a description.

Hollow Crown—A long, very symmetrical variety, with smooth, tapering root and a cavity at the crown, from which it takes its name.

HOLLOW
CROWN.

PEAS.

Early peas should be planted as soon as the ground can be worked, and on a warm dry soil, and while some of the late kinds will bear profitable crops on moderate soil for the early varieties, *the ground*

cannot be too rich, and as they ripen in time to grow a full crop after them, you can afford to manure heavily.

The tall varieties that need sticks should be planted in rows four feet apart, using about a pint of seed to 100 feet of row.

The small, early varieties may be planted much closer. Tom Thumb and McLean's Little Gem 15 inches, and Early Philadelphia and Carter's First crop 30 inches apart, using a pint of seed for sixty feet of drill.

The wrinkled peas are of more delicate flavor than those that remain full and plump, and they also remain longer in season than other kinds.

At the first planting plant Tom Thumb or Early Philadelphia, and at the same time McLean's Little Gem and Dwarf Blue Imperial. These will follow each other in regular succession, and furnish peas for three or four weeks. All of these may be grown without sticks, but Philadelphia and Blue Imperial will do better with support.

Early in May plant Champion of England and Large Marrowfat, and you will prolong the season many weeks.

These varieties are described as follows :

Extra Early Tom Thumb—This, with me, has proved as early and more profitable than any other variety. I have gathered five pecks of green peas, in the pod, to the square rod, but to succeed with them *the ground must be rich, and they must be planted early.* They grow but nine inches high and stand erect, so that in gathering them you can use both hands, as you do not need to support the vines with the other hand as with the taller varieties. Very productive, and of good flavor.

Carter's First Crop—This is as early as Tom Thumb ; grows two feet high, and bears abundantly ; of good flavor.

Early Philadelphia—This variety is also called Extra Early and Early May. It is but little different from Carter's First Crop, but possibly a few days earlier. Grows $2\frac{1}{2}$ feet high, and ripens evenly.

McLean's Little Gem—This is a dwarf, green, wrinkled variety. The peas are large and very sweet and rich ; nearly as early as any ; grows one foot high. It is really a valuable acquisition.

Large Blue Imperial—Grows three feet high ; pods large, containing eight or nine peas ; seed, large blue and a little flattened. A good bearer, and of excel-

lent flavor. Must be planted early, or it will mildew.

Champion of England—This is one of the richest and most productive peas grown. Grows from four to five feet high ; seed, pale green and much shrivelled. There is no better variety cultivated.

Large Marrowfat—An excellent variety ; grows five feet high, with large pods well filled with large, rich peas ; a great bearer ; should be found in every garden.

PEPPER.

Sow in April, under glass, and transplant when the weather is warm and settled.

The large variety should be planted eighteen inches apart ; the small, one foot.

Long Red Cayenne—A long, slender, pointed pod ; extremely pungent ; color, bright red.

Large Bell, or Mango—A large sort, of square form, with thick shell and mild flavor ; quite early.

RADISH.

Sow the first crop as soon as the ground can be worked, and every two weeks through the season.

The soil best suited is a sandy loam, made rich and light by good, strong well-worked manure, as a quick growth makes a sweet, tender radish.

Sow in drills twelve inches apart, and thin to two or three inches in the row.

The winter varieties may be sown from the first to middle of August.

Early Long Scarlet, Short Top—This is a standard variety; grows on good soil from six to nine inches long, about half above ground. Color, bright scarlet; roots, taper regularly, and is tender and crisp.

Red Turnip—A small, round, red variety, with a small top; very early, and of remarkably quick growth.

White Turnip--Like the above but pure white in color; a little later than the red, and bears the heat better.

Rose, Olive-Shaped—Skin, fine scarlet, flesh, rose color, tender and excellent.

New French Breakfast—A medium-sized, olive-shaped radish, with small top and of quick growth. A beautiful scarlet

EARLY
LONG
SCARLET
SHORT
TOP.

color, except the root, which is pure white. One of the very best in cultivation, as well as the most handsome.

California Mammoth White China,

FRENCH
BREAKFAST.

EARLY ROSE,
OLIVE-SHAPED.

Winter—This was introduced by the Chinese in California. It is pure white, about a foot long and two to three inches in diameter, tapering regularly to the

root. Keeps well through the winter. A valuable addition to our list.

Rose China, Winter—Of conical form and smooth skin; a lively rose color; flesh, firm. This and the above keep best buried in the ground. When kept in the cellar they should be covered with sand.

SPINACH.

This vegetable deserves a place in every garden. It is easily cultivated, and will furnish a delicious dish at a time when the appetite craves for something green.

It may be sown in September for early Spring use, and will need but slight protection through the winter. Sow again as soon as the ground can be worked, and once in two weeks for a succession.

There are but few varieties, and for general use the round Summer variety will be found the best. Leaves large, thick and fleshy; stands the winter well; sow quite thick, and thin for use until the plants are six inches apart.

The soil should be rich.

SAGE.

Sow early in Spring, in shallow drills; press the seed firmly into the soil and cover half an inch deep. In the Fall, or the following Spring, transplant, setting eighteen inches apart each way.

SQUASH.

Squashes require the same general treatment as melons.

They need a rich soil, and warm temperature, and must not be planted until

MAPPLEHEAD.

the ground is warm and the weather settled.

Their greatest enemy is the striped bug, and constant watchfulness will be required to save them.

The Summer varieties may be planted

five feet apart, but the winter varieties should be ten feet apart.

Of Summer varieties there are two Early Bush Scallops. An early, flat, scallop-shaped variety ; color. white or

yellow ; good flavored ; and very productive.

SQUASH—SUMMER.

Summer Crookneck—The richest and best sort for Summer. It is of a yellow color, with a rough, warty surface. It is used only when young and tender. When

ripe it has a shell almost as hard as a gourd.

Squash Winter — The best winter squash known. Flesh, bright orange, fine ground, dry, sweet and rich flavor. Keeps perfectly well through the winter. The skin is of a dark, bronze color.

Marblehead—This is an admirable new variety. It is the finest grained squash

WINTER CROOKNECK.

and the best keeper known. About the size of the Hubbard, and of a bluish green color, with a bright orange flesh. Requires the whole season to mature.

Boston Marrow—An excellent Fall and Winter variety. Bright, orange color, with salmon colored flesh. Dry and fine grained.

Winter Crookneck —This is the easiest

cultivated of all the squash family, as it is seldom troubled by bug of any description. It yields enormously, and will mature if planted as late as July 10th. I have grown enormous crops of them after early peas. They may be planted also between early potatoes so late that they will run but little before the potatoes are dug. They are fine for pies, and of fair quality for the table, and make a cheap and excellent food for hogs.

TOMATO.

For the early crop, seeds should be sown in March, in hot-bed or in a box in a warm window. When two inches high, transplant, setting them three inches apart each way. This gives them good, fibrous roots, so that the final transplanting does not check their growth.

If extra fine and early tomatoes are wanted, a second transplanting is advisable, giving them still more room before the final transplanting.

Water copiously.

New varieties, each said to be earlier than its successor, have been brought out each year, and while much has been claimed that did not stand the test, no vegetable has been more improved than this.

The following varieties include the best :

Canada Victor—This has sustained its reputation for earliness, and possesses a good form and flavor ; ripens well, and colors up to the stem.

Ferry's Early Smooth Red—One of the earliest ; medium size, deep crimson,

TROPHY.

smooth skin, and perfectly smooth surface ; solid, and of uniform size.

Hathaway's Excelsior—Quite early ; of medium size, smooth and solid ; a desirable variety.

Trophy—This variety has sustained its reputation better than any new variety originated for years. It is medium early, of large size, and uniformly smooth and solid. One of the very best.

Tilden—This variety ripens early, keeps a long time after it is gathered, and bears carriage well. It is very productive; Mr. Tilden, of Iowa, who originated it, claims to have grown 500 bushels to the acre of it. Fruit, large, roundish oval; skin, smooth; color, bright red.

Large Yellow—A large, flatish tomato

CANADA VICTOR.

of bright, yellow color; used for preserving.

Yellow Plum—A small, plum-shaped, yellow tomato. Fine for pickling and preserving.

TURNIP.

This crop should occupy a more important place on the farm than it does. I have often sold turnips, by the car-load, at from twenty-five to thirty-five cents per

bushel, and have made more clear profit per acre from them than from any crop I ever grew.

If there should be no demand for them in market, they can be easily wintered in

PURPLE TOP, STRAP LEAVED.

pits and fed to cattle and sheep, and will be found profitable food.

They may be grown as a second crop, and require moderately rich land, finely worked.

I have grown large fields of them to average 300 bushels to the acre, and single acres that yielded 500 bushels.

I have also grown them successfully by plowing clover sod after a crop of hay

had been cut, or by burning off wheat stubble and then working the surface fine with the cultivator and harrow.

To succeed well with them, there should be a light coat of finely worked manure spread on the surface and harrowed in.

I prefer to sow during the first ten days of August, but if I have a large crop to put in, or there are indications of a dry

EARLY WHITE, FLAT DUTCH.

Fall, I sow a part of my land at any time after the middle of July, when the ground is in order.

The common practice is to sow just before a rain. It is the worst possible time. The rain forms a crust, and also brings up a crop of weeds ; the turnips do not make a thrifty start, and are often destroyed by the garden flea, and if they make a stand there will always be a crop of weeds with them.

I have grown turnips for twenty years

without a single failure, and some years have had a crop when no one else in the township did, and I attribute it to this rule :

Always sow your turnips as soon after a rain as the ground can be worked without packing.

Have your land fine and smooth, no matter how much it is packed if there is an inch or two of fine, mellow earth at the surface. Sow one pound of seed to the acre, and cover with a light drag, or if a small piece of ground, by raking lightly with a garden rake. If it does not rain heavily until your turnips get a little started, they will rarely need any cultivation ; but if the ground is very weedy, it will pay to hoe them on foul land.

I would recommend sowing in drills fifteen inches apart.

To keep them through the winter, we pile in ricks three feet high and narrow at the base so that the sides will slope at an angle of forty-five degrees, and throw a foot of earth on them without any straw, and then protect the outside with straw, corn fodder, or coarse manure.

From the many varieties in cultivation I have selected the following as the best:

Early White Flat Dutch—Sow in

Spring, and use as soon as large enough. It is spongy when full grown.

Purple Top, Strap Leaf—This is the best variety for the main crop. It makes a quick, vigorous start, so that it is seldom destroyed by the “flea,” yields largely, and outsells any other in the market. It is purely an American variety, and without doubt the best for the main crop.

Improved Purple Top, Ruta Baga—Probably the best variety of Swedish turnip in cultivation. It is of fine shape and flavor, large size, with solid flesh. Should be sown from June 20th to July 15th, on dry, rich land. They succeed best on low ridges, two and a half feet apart. Thin to ten inches in the row and cultivate.

CHAPTER IX.

THE FLOWER GARDEN.

“ Bring Flowers.

They speak of hope to the famishing heart,
With a voice of promise they come and part.
They sleep in dust through the winter hours,
They break forth in glory, bring flowers, bring
flowers.”

The last ten years has witnessed a great advance in the cultivation of flowers. Not only have florists introduced new varieties and improved many of the old ones, but the cultivation of flowers has become general, so that it is the exception to find a home unadorned by them.

There is no cheaper nor purer pleasure than that which is found in the cultivation of flowers. The tired mother who can spend a little time in the flower-garden in the cool of the evening, will find herself rested by it far more than if she sat down with hands and mind unoccupied.

There is now such a variety of flowers that the taste of every one can be gratified

—some preferring the old, standard varieties, and others desiring to experiment with the new kinds.

It is a good plan for the farmer's wife to have a small flower garden so located that she can see it when about her daily work.

A bed of Portulaca, Phlox, Verbenas, Petunias and Dwarf Convolvulus, all of which are easily cultivated, will make a brilliant show for many months. A row of the old-fashioned Four O'clocks, a circle of Cypress, a window or trellis covered with Morning Glories, Ornamental Gourds or Balloon Vine, a few plants of Zinnia and Coxcomb, and a hedge of Sweet Peas will beautify the home and furnish flowers for cutting.

While the cultivation of flowers is simple, yet it requires the exercise of judgment as well as anything else.

Such seeds as Balsam, Phlox, Convolvulus, Aster, Zinnia, Four O'Clock, etc., may be sown in the open ground, but the soil must be well prepared, and the seeds sown after the weather is warm and settled.

Verbena should be sown early in a frame or box in the house, and the earth

pressed firmly with a board, and kept always moist.

Small seeds, such as *Portulaca*, *Campanula*, *Dianthus*, etc., should be sprinkled on a smooth surface, and barely covered out of sight, by sifting light mellow soil over them and then protect them from the sun with cloth or green branches.

Most varieties of flowers can be easily transplanted, but a few such as Poppy, Sweet Peas and Mignonette should be planted where they are to remain.

In sowing small delicate seeds of any kind it is of the utmost importance to have the soil in fine condition, and to press the earth with a piece of board, so that it will be brought in close contact with the seed.

The flower garden usually occupies so little space, that the labor will be small to bring it to a good condition. It should be deeply dug, and enriched with thoroughly decayed manure, and sand and fresh mould from the woods should be added until it is rendered pliable and porous.

The flowers that I have described in this work while they comprise but a small part of those found in our modern catalogues, will give a sufficient variety, and

be found to include those that are most easily cultivated.

I have arranged them for convenience under different heads, classing Climbers, Foliage Plants, Everlastings, etc., by themselves,

To succeed with many of the delicate flowers, a frame and glass will be found a necessity in starting them, so that they can be protected from cold winds and rain, and the heat of the sun.

FLOWERS BLOOMING THE FIRST SEASON.

Abronia—A trailing plant with Verbena-like flowers. A native of California. Half-hardy annual. Mixed colors.

Adonis, (Pheasant's Eye)—A hardy annual growing about one foot high. Flowers deep red. Delicate foliage.

Ageratum—A flower of bush-like appearance, prized because it blooms so long and abundantly ; mixed colors.

Agrostemma—A hardy, free blooming plant. Flowers resembling a single pink on long, slender stems. Twelve inches in height ; mixed colors.

Alyssum—Sweet Alyssum has pretty little white flowers, useful in making up all kinds of small bouquets. It has a very delicate fragrance.

Antirrhinum. (Snap Dragon)—One of the most showy and useful border plants, blooming abundantly from the first of Summer until after frost. Half hardy ; mixed colors.

Dwarf Antirrhinum—About six inches high ; mixed colors.

Aster—The Aster is now a general favorite. It blooms under favorable circumstances until frost comes ; mixed colors.

Balsam—A magnificent annual, needing rich soil and good cultivation ; mixed colors. The side branches should be removed.

Bartonia—Very showy, half hardy annual. Leaves, gray and downy ; flowers, a bright, metallic yellow.

Browallia—Half hardy annual ; very handsome ; an abundance of rich and beautiful flowers during the Summer. Blue and white mixed.

Cacalia, (Tassel Flower)—Pretty, half hardy annuals, with small, tassel-like flowers, often called Flora's Paint Brush. Scarlet and yellow.

Calandrinia—Fine dwarf growing plants ; natives of South America. Purple and white, mixed.

Calliopsis—These plants are usually

two or three feet in height, of slender habit and vigorous growth. The flowers are of every shade of yellow, orange and rich, reddish brown. Makes a fine show.

Candytuft—All varieties of Candytuft

COCKSCOMB.

are hardy and easy to cultivate. Very pretty for beds and for cutting; mixed colors.

Celosia, (Coxcomb,)—Half hardy annuals; magnificent for conservatory decoration, producing elegant plume-shaped

spikes of flowers. Every shade of scarlet and crimson.

Clarkia—Annuals ; universally grown and admired ; of easy culture and profuse bloomers.

Collinsia—A very pretty, free-blooming, hardy annual. The marbled or many-colored flowers are in whorls of five to six blossoms.

Convolvulus Minor—A beautiful plant of trailing habits, with handsome large flowers, two-thirds the size of the Morning Glory. The flowers close in the afternoon. Mixed colors.

Crepis—A pretty hardy annual, with flowers yellow, pink, purple and white. Plants about one foot in height.

Datura—Half hardy perennial ; remarkable for the extraordinary size of its trumpet-shaped flowers ; generally white, sometimes tinted with delicate blue. Roots can be preserved in the cellar the same as Dahlias.

Daisy Double--A well known flower blooming most of the season ; prefers a cool, sheltered place ; needs some protection in Winter. Flowers, white, red or variegated.

Eschscholtzia—One of the most splendid flowers known. Leaves, finely cut.

Blossoms two inches in diameter ; a deep yellow. Hardy perennials, blooming first year if sown early.

Eutoca—A showy, free blooming plant; flowers intensely blue. A branch placed in water will bloom many days.

Evening Primrose—Very useful free flowering plants for beds or borders.

Gaillardia—Showy, and universally admired among the gayest ornaments of Summer flower beds ; flowers, creamy yellow and orange.

Gilia—Delicate in leaf and flower ; free-flowering hardy annuals, from six to ten inches in height ; mixed colors.

Godetia — Beautiful, hardy annuals ; easily cultivated ; should be treated like *Calliopsis*.

Gypsophila—A free flowering plant adapted to baskets. Hardy annual; flowers pink and white ; very small and delicate.

Hibiscus — A hardy annual ; large ; flowers, cream color with rich brown center.

Larkspur—Very handsome ; in large gardens indispensable. The brilliancy of some of the colors is unsurpassed.

Ice Plant—The flowers are small and white ; leaves, thick and fleshy, covered

with ice crystals. Suitable for hanging baskets.

Linum, (Scarlet Flax)—A fine, half hardy annual with crimson flowers. Plants of a slender and delicate growth.

Lobelia—Annual, of a trailing habit, bearing numbers of small flowers. Fine for baskets and rockeries.

Marigold—This plant is almost indis-

MIGNONETTE.

pensable where a rich display of bloom is desired. Flowers, double, yellow, orange and brown.

Mignonette—A well-known fragrant, hardy annual, with blossoms of a light, delicate brown. Very desirable for bouquets. Blooms the entire season ; of exquisite fragrance.

Mirabilis, (Four O'clock)—Fragrant flowers and desirable colors. Grows two feet in height. . .

Mimosa, (Sensitive Plant)—A singu-

lar annual plant. The leaves close up and droop in damp weather or when touched. The foliage is its greatest beauty.

Nasturtium—An annual of dwarf habit. Varieties of compact habit are becoming very popular.

NEMOPHILA.

Nemophila—A very pretty, delicate, hardy annual. The flowers are mainly blue and white. Do finely all Summer.

Nigella, (Love in a Mist)—Hardy annuals, with finely cut leaves, and flowers inclosed in a feathery involuere.

Petunia, (Blotched and Striped)—This hardy annual is a very showy plant, and will bloom from June to Autumn.

Pink—This beautiful, hardy flower is admired for the richness of its coloring, and its delicate fragrance.

Phlox—This half-hardy annual has no equal for a brilliant mass of colors and a constant display of blossoms. The colors range from the purest white to the deepest purple or crimson, with a great variety of markings.

Pansy—This well-known hardy plant is deservedly a general favorite. The

flowers range in colors from black to pure white. Have, during the past year, had

PETUNIA.

it in bloom in the open ground for ten months.

Portulaca—A bed of this flower is one

PHILOX DRUMMONDII.

mass of brilliant color during the morning hours, and when the blossoms have closed the foliage is very pretty. Hardy annual; mixed colors of every conceivable shade.

Portulaca Double—This flower has all the brilliancy of the single *Portulaca*, and

VERBENA.

is as double as a rose. All colors mixed.

Poppy—This hardy perennial is very brilliant. They have a tap root and are hard to transplant.

Scabiosa, (Mourning Bride)—A hardy plant eighteen inches high; flowers, hemispherical in shape. Mixed colors.

Stock, Ten Weeks—This flower is unsurpassed for brilliancy and diversity of color or for profusion and duration of bloom. Very fragrant. o

Sanitalia—A fine trailing plant suitable for baskets. Hardy annual : yellow ; double.

Verbena—This beautiful plant is half-hardy : very fine for masses, the bright colors contrast finely with the green leaves. Mixed colors. The seedlings are more vigorous and much better bloomers than plants grown from cuttings.

Verbena Montana—This is a hardy

PANSEY

WHITLAVIA.

variety from the Rocky Mountains, lives out-doors through the winter. Lilac blossoms. A very profuse bloomer.

Whitlavia—Hardy annual, with delicate foliage and small bell-shaped flowers. Does best in a cold situation. Colors, violet, blue and white.

Zinnia Double—These plants grow about two feet high, and have blossoms as double as the Dahlia. The colors run through all shades of carmine, scarlet,

crimson and lilac, to the orange and pure white.

EVERLASTINGS.

Acroclinium—Very pretty, half-hardy annuals, with rose and white, daisy-like flowers. They should be gathered for drying when partially open.

Globe Amaranth—This is valued for its handsome globular flowers, which will retain their beauty for years, if cut when well matured. Mixed white and crimson.

Helichrysums—One of the best Everlasting flowers; white, yellow, red and of many brownish shades.

Rodanthe—An elegant Everlasting ; its glossy flowers form a beautiful contrast to its lustrous, heart-shaped leaves. Flowers rosy purple and pure white.

FOLIAGE PLANTS.

Amaranthus, tricolor, (Joseph's Coat,) —Red, yellow and green foliage. Grows two feet high.

Amaranthus, melancholicus ruber—Striking blood-red foliage; half-hardy annual from Japan.

Amaranthus, salicifolius —Pyramidal in form ; leaves, long, narrow and wavy, varying from green to bronze.

Canna, (Corn Geranium,)—This plant has broad, green, highly ornamental leaves. Half-hardy perennial.

CANNA.

Euphorbia—A beautiful plant for groups, with variegated leaves. Sometimes called Snow on the Mountain. Two and a half to three feet.

Honesty — Easy, free flowering plant ; pretty silver-like seed pods when watered. Valuable for winter bouquets.

Ricinus, (Castor Bean)—This has very ornamental foliage. Grows from five to ten feet high.

Zea Maise, (Striped Leafed Corn,)—An ornamental foliage plant of much beauty. Leaves striped with white and green. Five feet.

CLIMBERS.

Adlumia, (Climbing Fern)—One of the most delicate and graceful climbers. Fifteen feet high.

Balloon Vine—A very beautiful, pale green climber ; delicate foliage. The seed is enclosed in a minature balloon.

Morning Glory—This well-known plant

is the most popular of climbers ; all colors mixed.

Gourd, Mixed—These vines bear gourds egg-shaped, pear-shaped, round, etc. Very fine for covering old fences, stumps, etc.

Gourd, Egg—These gourds are white and shaped like an egg ; one is often taken for the other at first sight.

Cypress—A beautiful climber ; delicate

THUNBERGIA.

foliage, and small but striking flowers. Mixed colors. Do not sow till warm, settled weather.

Sweet Peas—One of the most beautiful and fragrant of flowers, and deservedly popular. Should be planted very early, in the open ground.

Thunbergia — A very ornamental climber. Flowers, white and orange. Fine for baskets.

BLOOMING SECOND SEASON.

Canterbury Bell—A well-known, popular, large, blue, bell-shaped flower.

Carnation Pink—No plant can surpass in delicacy of marking, form or fragrance this richly hued flower.

Digitalis—The tall spikes crowned with thimble-shaped purple and white flowers make a fine contrast to the foliage of the plant. Three feet high.

Hollyhock. (Double,) — In situations suitable for tall flowers, we know of nothing better than the Hollyhock.

LYCHNIS.

Lychnis—Handsome and ornamental; very effective in mixed beds; hardy.

Sweet William—A beautiful flower; colors ranging from white to scarlet, and variously edged, eyed and spotted.

Wall Flower—If grown in pots sunk to the rim in earth, fine plants can be secured. For Winter blooming, keep in a cool room, and water freely. Rich orange flowers of delightful fragrance.

FLOWERING SHRUBS.

In closing, we give our readers some excellent illustrations of some [handsome flowering shrubs. The first one, the common Snowball, is too well known to need description. With but little care and

VIBURNUM OPULUS STERILUS--snow-ball.)

reasonable treatment, it can be grown in almost any portion of our country, and

DIERVILLA ROSEA—(rose-colored weigela)

few ornamental shrubs contribute more to

the beauty of a home and its surroundings than this. All the varieties of the *Viburnum* form handsome shrubs for lawns or ornamental grounds.

The *Weigelas* form another valuable

HYDRANGEA—(otaska.)

genus, introduced from Japan as late as 1843. The shrubs are of erect growth while young, but gradually become spreading and drooping as they acquire age. The flowers are large and trumpet-

shaped, and of every shade from white to red. In borders and groups of trees they are very effective.

The variety illustrated (*Rosea*,) is quite hardy, of robust growth, producing in May an abundance of fine rose-colored blossoms.

The *Hydrangea* is another valuable genus. Many of them are perfectly hardy, but others, among which is the *Otaska*, shown in our illustration, require to be grown in pots or boxes, and wintered in the cellar. In Summer they may be placed along walks under the shade of trees. The *Otaska* is specially adapted for this purpose, being a very free bloomer, and producing immense trusses of rose-colored flowers. The foliage is of a deep green color.

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