HOOL GARDEN SERIES

THE CHILD'S FOOD GARDEN

KILPATRICK

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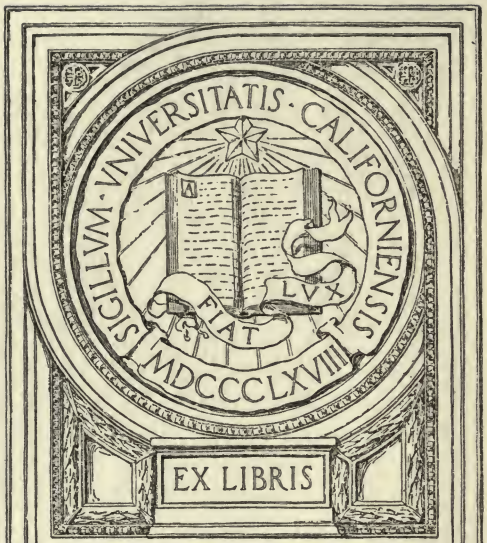

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SCHOOL GARDEN SERIES

Edited by

John W. Ritchie

The Child's Food Garden

WITH A FEW SUGGESTIONS FOR FLOWER CULTURE

by

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of America

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THE HOUSE OF APPLIED KNOWLEDGE

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The purpose of this house is to assist in applying the world's knowledge to the solution of the world's problems by the publication of school texts that will meet existing needs. At this time, when food production and conservation are of such vital importance, editor and publisher have a particular pleasure in offering for use in the elementary schools *The Child's Food Garden*, and in announcing that other volumes to complete a School Garden Series will follow

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Preface

Every boy and every girl who has a garden at home, or who is given a plot in a school garden, ought to learn to do the work successfully. Yet, as the author has found, children, especially those who live in cities and towns, know little or nothing about producing anything from the soil, and since the teacher cannot always be present to direct the work, there is danger that discouraging mistakes will be made. For these reasons it seems that a simple printed guide to make clear the first steps may be of the greatest help, especially when the work is done at home.

The author has therefore tried to tell the garden story in a very simple manner, knowing that when once started in the right way the young gardener will go on with ever increasing interest and success. The attempt has been made to write a true beginner's book, with directions so clear and definite that any child who can read can understand them. Numerous illustrations have been provided, because these add interest to the work and help to make plain how it is to be done.

The importance of encouraging our children in outdoor work with living plants is now recognized. It benefits the health, broadens the education, and gives a valuable training in industry and thrift. The great garden movement is sweeping over all America, and our present problem is to direct it and make it most profitable to the children in our schools and homes. It is hoped that this book will prove useful to children who have gardens of their own, to schools that are engaged in garden work, and to mothers' clubs and other organizations that have become interested in garden work.

Acknowledgments

For helpful suggestions in the preparation of this little text the author is under obligation to Dr. C. P. Close and Professor W. J. Spillman of the United States Department of Agriculture, and to various friends who are interested in the school garden work.

Contents

I. THE GARDEN

II. VEGETABLES

III. FLOWERS

IV. THE SEASONS

V. PRESERVING VEGETABLES AND FRUITS

VI. PLANT ENEMIES AND FRIENDS

APPENDIX

I. The Garden

MAKING READY

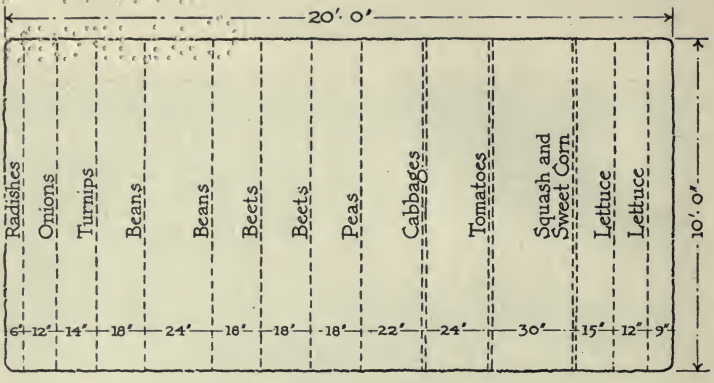
When the spring sunshine falls warm on the earth and we hear the robins singing in the trees, the time for gardening has come.

Select for your garden a place that will receive as much sunshine as possible. It is not worth while to try to make a garden where the sun does not shine for at least three hours each day, and few vegetables can be grown successfully without five or six hours of sunshine daily.

The soil should be rich and well drained. A spot where water stands on the ground is not suitable for a garden.

For the first season your garden should not be too large. 200 square feet is enough. 10 by 20 feet will make you a good garden plot.

Now clean up all the rubbish that may lie upon your patch. Burn dry leaves, weeds, and grass on the garden. The ashes will enrich the soil.



MAKING THE GARDEN PLAN

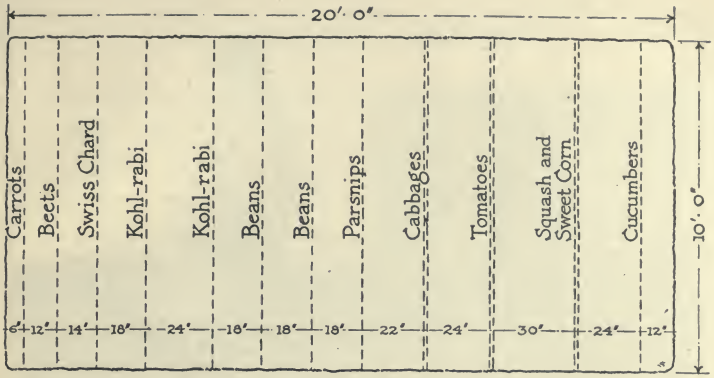
Get a piece of drawing paper 8 by 12 inches, a lead pencil, and a foot rule.

Let every half inch on your rule stand for a foot in your garden. Your garden is 20 feet by 10 feet; so draw your plan 20 half inches by 10 half inches.

If your garden is level, run the rows north and south so that the morning and the afternoon sun will shine on opposite sides of the rows. If your garden has a decided slope, run the rows across the slope to prevent washing of the soil by rains.

Everything should be planted in straight rows to make cultivation easy. Draw a straight line across your plan for each row of vegetables, and write the name of the vegetable on or beside the line. Use a double line for crops that will occupy the ground the entire season.

If the rows run east and west, place the taller plants at the north side of the garden, so that the low-growing vegetables will not be shaded by them. Give your plants plenty of room, but do not waste space.



PLANNING FOR SUCCESSIVE CROPS

Make your plans so that the ground will be occupied during the entire season. Early varieties of vegetables, like lettuce and radishes, may be followed by those which have a short growing season, like beets and beans. Or a quick-growing and a slow-growing crop may be planted close together. Then the quick-growing crop can be removed before it interferes with the long-season crop.

Some gardeners raise only a few vegetables and make "successive plantings" of these, so that they may be harvested during a longer time. Thus radishes, lettuce, beets, peas, beans, or sweet corn may be planted at intervals of ten days or two weeks.

As a general rule, leaf vegetables like lettuce, parsley, and Swiss chard will do better in partial shade than vegetables that are grown for their fruits or seeds. Squashes, cucumbers, and pumpkins may be grown where the sun shines only part of the day.

The plans given show a first and second planting for a garden. Study these and the table on page 62.

TOOLS

The most necessary garden tools are the hoe, rake, spading fork, hand weeder, trowel, line, and watering can. When sod is to be turned under, a spade will be needed in place of the fork.

Be sure to buy strong yet light tools. Toy garden tools will not do, and you cannot handle the heavy tools that are made for men. Get tools that are suited to your size.

Mark on the handle of your hoe a point one yard from the end. Then divide the yard into feet, and the first foot from the end of the handle into inches. This marked hoe handle may then be used as a measure when planting and thinning.

Every tool should be cleaned with a dry rag to prevent rusting, before it is put away. Hang each tool in its own place in a dry part of the house, barn, or other building.

FERTILIZING THE SOIL

As a rule, a garden needs all the fertilizer the owner can secure.

For your garden patch, buy a load of well-rotted horse manure, or horse manure and cow manure mixed. Fresh manure is not so good; it contains weed seeds and causes the soil to dry out. Spread the manure evenly with the spading fork. Cover the garden plot from 2 to 4 inches deep.

Throw all kinds of plant materials, as sods, grass, weeds, leaves, and stalks, into a pit or in a pile near the garden. Cover them with earth and allow them to remain till rotted. Material of this kind is called *compost*. Another summer it will help fertilize your garden.

Commercial fertilizers may be used to help out if you cannot get enough good manure. In using these fertilizers, follow the directions that are sent with them.

If the soil is heavy or sour, use 2 pounds of air-slaked lime to every 5 square yards of garden. Spread it over the surface of the soil after the spading is done, and rake it in. Ask an experienced gardener whether he thinks your soil needs lime. Heavy clay soils and poorly drained soils are especially likely to be sour.

SPADING

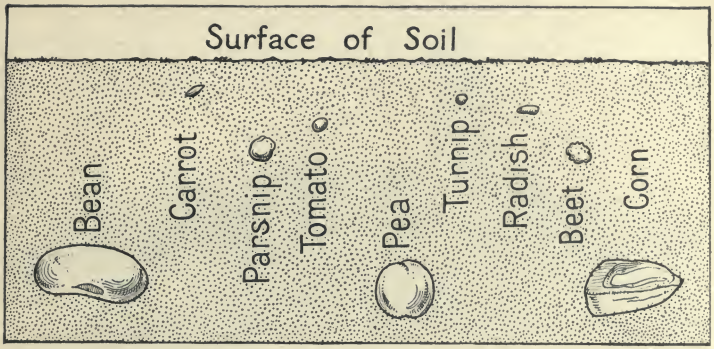
Spading is a man's job, and you will have to get somebody to do it for you. Yet it is so important a part of the work that you ought to know how it is done. Watch while it is being done, and when you are older you will be able to do it yourself.

The trench system of spading is best. Place the soil removed the first time you spade across the garden in a ridge along the end of your garden. This leaves an open ditch into which is placed the soil turned in the next time across.

Hold the spade upright, place your foot on the shoulder of the spade, and throw the weight of your body on it. Let your weight drive the spade into the ground.

When the spade is in the soil, move it forward and backward until the earth is loosened; then lift and turn the spadeful of soil. It is important to turn the earth to the full depth of the spade, so that the roots of the vegetables will be able to strike deep into the soil. Manure turned under must be well covered and not left on the surface to dry.

After spading, rake your entire plot, smoothing the surface. Do this before the soil dries.



SEEDS AND PLANTING DEPTHS

Be sure to buy your seeds from the best seedsman or seed store you can find. Your teacher or your parents can tell you where to get them.

The smallest packets you can buy will give you enough of each of the smaller seeds. For a 20-foot row buy 1 gill of corn or 2 gills of beans or peas.

The depth at which a seed should be planted depends on its size and the heaviness of the soil. A general rule is to plant a seed four times as deep as its thickness; but this rule cannot always be followed strictly. They may be planted deeper in a light than in a heavy soil, and deeper after the soil has become thoroughly warm than in early spring.

Soaking the large seeds over night in water is a good plan if you are sure to plant them next day. It is not necessary to soak seeds, although it hastens sprouting one or two days.

Early varieties of vegetables should be selected by those who are beginning garden work.

Later you will be told about testing your seeds (page 37) and raising your own seedlings (page 38).

PLANTING

This is surely planting day. The sun is warm and the soil is dry enough to work without its sticking together. The garden has been spaded and the surface made smooth.

First get four sticks, each about 1 foot long. Drive one at each corner of the garden. Now, run a cord around the garden, fastening it to the corner posts. Measure off and mark on each side of the garden the ends of the rows, according to your plan. Drive a stick at the end of each row. Small, stout sticks about 6 inches long and 1 inch wide make good markers. On the markers at one end of the rows, write the names of the vegetables.

Stretch the garden line tightly close to the soil to mark off each row. Under it make a furrow with a sharp stick or with the hoe. The depth of this furrow should be about five times the thickness of the seed to be planted in the row.

Water thoroughly in the furrow if the soil is dry, being careful not to let the water wash the soil into the furrow. Take the seeds in the palm of your left hand and with the right hand drop them one by one in the furrow.

With seeds the size of radish seeds, plant about three or four seeds to the inch. Cover them with fine soil to about four times the thickness of the seed.

It is best to use your hands to cover small seeds; the hoe may be used for covering large seeds. After covering the seeds, walk upon every inch of the planted row. The seeds must draw their water from the soil, and the soil must be pressed against them on all sides. After planting, water the garden thoroughly if the soil is dry, and if the soil is clay, rake the surface of the planted rows.

Some plants are best raised from seedlings, and these must be planted even more carefully than the seeds. Buy six good tomato plants, twelve good cabbages, and twenty good lettuce plants of early varieties, and set them out late in the afternoon or on a cloudy day.

Stretch the garden line across the tomato row. Under the stretched line, dig six holes with the trowel, about the depth of the trowel blade and 2 feet apart.

Fill each hole with water. Take the tomato plants one at a time, disturbing the roots as little as possible, and place them in the holes. With the fingers press the earth about them firmly. Then cut off at least one half the leaves.

The rows of cabbage and of lettuce are planted in the same way, except that the lettuce plants are set 9 inches apart in the row and the cabbage 18 inches.

After being set out, plants may need shelter from the sun for a few days. Gardeners often use shingles set so as to shade the plants from the sun.

CULTIVATING

Keep the weeds out of your garden. If let alone they will grow much faster than your vegetables and will rob them of water and of food materials.

As soon as your vegetables are well out of the ground, cultivate them with the rake or hoe. Continue to do this once or twice a week until the plants are full grown. Pull up any large weeds and throw them on the compost pile.

In cultivating, stir the soil between the plants to the depth of about 1 inch. Always break the crust on the surface of the soil after a rain. The loose soil becomes a mulch or dust blanket which keeps the moisture in the ground.

The easiest way to destroy weeds is to rake the soil when they are just starting. The hand weeder may be used in the row.

In cultivating, do not dig deep enough to disturb the roots; and in hoeing near your plants, stir only the surface of the soil.

WATERING

When rains are frequent, there is no need of watering your garden. But if the weather is dry or the plants look thirsty, it is best to give them water. The evening is the best time for watering.

Water the plants until the ground is thoroughly soaked. *Place the spout of the can close to the ground to avoid washing the soil.* It will take from two to five 8-quart cans for each row.

Watering should be done from one to three times a week, according to the weather. Many gardeners say that a thorough soaking once a week is better than frequent watering. If you can run a hose to the garden and attach an automatic sprinkler to it, the watering will be much easier.

Remember that watering the ground between rows is more important than watering the leaves of the plants. When the surface of the soil begins to dry after watering, loosen it with a rake. This will keep the soil from baking.

THINNING

When the young plants are from 2 to 3 inches in height, they must be carefully thinned out where they are crowded. Leave the strongest plants wherever you can, and be careful not to disturb them when pulling up the useless ones.

Waste plants may be thrown on the compost pile. Beets may be left to grow to a height of 6 or 8 inches. Then those removed in thinning may be cooked like spinach.

If there are spaces where the seeds did not come up, transplant to these spaces some of the plants that are crowded.

Be sure that your plants are not too crowded. They will produce nothing at all if they have not sufficient room. They will grow more thickly where the soil is fertile and the light strong than where the soil is poor and the light weak.

Consult the planting table on page 62 and ask an experienced gardener about the proper distances for the different vegetables in your soil.

TRANSPLANTING

Several hours before you wish to lift a plant, water it thoroughly. Dig a hole with the trowel where you wish the plant to grow. Fill the hole with water.

Now push the trowel down into the earth on each side of the plant, cutting out a ball of earth about the roots. Then, with the left hand holding the plant, take it up on the blade. Keep as much soil as possible about the roots.

Place soil and plant in the hole prepared for them, and withdraw the trowel gently, so as not to disturb the roots. Press the soil firmly about the roots and water freely. Then cover the moist earth about the plant with loose soil.

Cut off the largest outside leaves. In transplanting, it is well to remove at least one half the leaves of all plants more than 4 inches high. As a rule, transplanting is done when the plants are from 2 to 4 inches high.

Late afternoon is the best time for transplanting. Shelter the plants from the sun for a day if they wilt.

HARVESTING AND MARKETING

As soon as a vegetable is ready for use, it should be gathered. Pick only those that are ready, and use them at once. Fresh vegetables always taste best. Be very careful, in gathering vegetables, not to harm the plants or the remaining vegetables.

There are several ways of using your vegetables. You may give or sell them to your mother for the home table. Those that are not needed at home may be sold to neighbors who buy their vegetables, or to a grocer.

If you wish to sell vegetables, you must take care to arrange them neatly and attractively in salable lots or packages.

Nearly all root vegetables are tied, with the tops left on, in bunches of from three to seven according to the size of the roots. Tomatoes are sold in small baskets. The best plan is to study the demands and tastes of your customers and the practice of the grocers in your neighborhood.

Date	Garden Account	Received		Paid out	
June 15	1 bunch radishes - mother		.05		
June 18	2 hours' labor at 10 cents				.20
June 20	4 heads lettuce-grocer		.10		
June 21	2 heads lettuce-mother		.05		
June 22	2 bunches radishes-mother		.10		
June 22	1 package turnip seed				.05
June 22	1 hour labor at 10 cents				.10
June 25	1 quart beans-mother		.05		
June 25	4 quarts beans-grocer		.20		

ACCOUNTING

It is an excellent plan to keep a written record of all that you buy and all that you sell.

Begin with a simple notebook. Keep the record so that it will show when, for what, and how much you have spent.

Your accounts should show also how much you have received in money, when it was received, and for what.

It is well to keep a record of your labor in hours and also to note the vegetables used at home. Write down the market value in dollars and cents in both cases. In this way you can tell what the profit or loss on your garden is, and you will be able to determine which vegetables are most profitable for you to raise.

Always keep your records as neatly as possible, using pen and ink. When you have bought or sold anything, enter it on your book at once.

Open an account at the savings bank, and see how much you can save. It will be of little profit to you to earn money unless you learn to keep it.

KEEPING VEGETABLE MATTER IN THE SOIL

Never burn leaves, grass, or the stalks of plants, but find a way of adding these materials to your soil. Plants cannot grow without matter of this kind, and if you burn it up, you will be forced to buy manure to take its place.

A good way to use leaves is to rake them together about bushes or shrubs and throw a layer of soil over them. They act like a quilt to hold the water in the earth, and when they decay they enrich the soil.

When the garden is spaded, weeds and stalks of vegetables may be laid in the bottom of the trench and buried, and vegetable matter can always be added to the compost heap and allowed to rot for fertilizer. This material not only feeds the plants, but it makes the soil lighter and more easily worked.

Another way to add vegetable matter to the soil is to raise crops and spade or plow them into the land. Farmers often grow whole fields of cowpeas, clover, and other crops and plow them under to enrich the soil. When these crops are grown during the winter they are called *cover crops*. You will find a cover crop very valuable in case you cannot secure fertilizer in proper amount.

If, after harvesting your garden crops, you have any land you do not wish to use, spade it up and sow it with rye. The next spring this rye can be turned under, and it will help to fertilize that part of the garden.

Many other plants besides rye are used for cover crops. Where the climate is mild, crimson clover and vetch are grown for this purpose.

Cover crops should be sown early enough to allow them to make considerable growth before winter. Otherwise they will not add much vegetable matter to the soil.

II. Vegetables

RADISHES

The radish will endure frost, and the seeds may be planted out of doors as soon as the ground is dry enough to work. Early Scarlet Turnip and French Breakfast are good varieties.

Plant in rows about ¼ inch deep, with two or three seeds to the inch. The rows may be from 9 to 12 inches apart.

After the plants are about 2 inches high, thin them so that they will be 2 inches apart. In fertile soils they may be allowed to grow without thinning until the larger ones are ready for use. When these are pulled, the others will have room to grow. If the soil is light and the weather good, they will be ready to eat in from four to six weeks.

The radish is one of the most easily grown of all vegetables, and that is why children frequently begin the planting of their gardens with radishes.

LETTUCE

Lettuce may be planted as early in the spring as the soil can be worked, for it will endure much cold. It grows well in the fall, but during the heat of summer it does best in partial shade.

The two leading kinds of lettuce are the head lettuce and leaf lettuce. The leaf lettuce is the easier to grow. Grand Rapids and Hanson are popular varieties.

The seeds should be sown indoors in a box of earth or in a flat (page 38) in February or March. Cover only lightly and press the soil down well.

When the plants are about 2 inches high, transplant them into pots or strawberry boxes. As soon as the frost is out of the ground, set them in the garden, in rows a foot apart and from 9 to 12 inches apart in the row.

For later use, the seed of lettuce may be planted in the open ground. It is better to sow the seeds in a small bed and transplant the seedlings to the row.

BEANS

The dwarf or low-bush varieties of bean are best for a beginner's garden.

Buy the Golden Wax or the Early Valentine string bean. These early varieties will be ready to use in from six to eight weeks. Farmers say that beans will grow anywhere if they have plenty of sunlight. At least, they will grow in different soils and under a variety of conditions.

Plant after danger of frost is over. Place the beans 2 inches apart in the row and cover them to a depth of 1 or 2 inches. The rows should be from 18 to 24 inches apart. Later, thin the row till the plants are about 5 inches apart.

Be careful to cultivate beans only when the leaves are dry, or the plants may rust. Pick the pods each day, but take only those that are ready for use. Do not pick beans when the leaves are wet.

The Golden Wax bean is ready to pick when the pod turns yellow. The green-pod varieties are ready when each bean shows its round form through the pod.

CORN

Corn needs very fertile soil. Plant the kernels about 2 inches deep in rows at least 2 feet apart, placing them about 4 inches apart in the row.

When the plants are about 4 inches high, thin them so that they will stand 10 or 12 inches apart in the row. Wherever possible, leave the strongest plants. Do not cultivate deep between the rows, or you will destroy the fine roots with which the earth is filled.

Corn may be planted in hills with three or four plants growing in each hill. In this case the hills should be about 3 feet apart each way.

Begin with the Golden Bantam or the Country Gentleman variety. The Golden Bantam is probably the best for a small garden.

Sometimes branches called *suckers* come up from the roots. Pull these off as soon as they appear. Do not handle or play with the silk, or the kernels will not form.

BEETS

Beets need bright sunshine and soil that is fertile and loose. Treating the soil with lime often benefits them greatly, as they do not grow well in sour soil. Plant first the early turnip varieties. Be sure to soak the seed over night before planting.

Plant beets soon after your radishes are up, and for successive crops as late as midsummer.

Make the rows at least 12 inches apart, and cover the seed to the depth of ½ inch. When the beets are about 6 inches high, they should be thinned to about 4 inches apart.

The young beet tops that you pull up in thinning are excellent for greens. If you have more of these than you need for one meal, thin only part of the rows on one day.

Cultivate the rows thoroughly and keep a dust mulch on the surface of the soil (page 16).

Beets may be stored in the cellar for winter use. Place them in boxes and cover them with damp sand (page 53).

TOMATOES

The tomato does best in rich, light, sandy, and well-drained soil. Plants may be bought, or the seeds may be started in flats in March, so that the plants will be from 6 to 8 inches high when the weather has become warm and settled. Then the plants should be set out in the garden about 3 feet apart. They should not be set out until two or three weeks after the lettuce has been transplanted.

Soon after you set out a tomato plant in the garden, drive a stake not less than 3 feet in height securely in the ground beside it. As the plant grows taller, tie it loosely to this stake.

Usually the lower branches are pruned away so that only one or two main stems are formed. Sometimes plants are set only 2 feet apart each way and pruned to a single stem.

Tomatoes may easily be canned for winter use (page 49). It is better to choose the dwarf varieties, such as the Stone or Champion.

CABBAGE

For the first year, get an early variety of cabbage, as the Early Wakefield. The second year you can try a late kind. Sow the seeds indoors in flats during February or March.

When the frost is out of the ground and the weather is settled, and the plants are from 4 to 6 inches high, set them out in the garden. Cabbages thrive in cool weather and will do well in newly cultivated soil. But do not plant them in the same place for two successive years. Set them in rows about 2 feet apart and 18 inches apart in the row.

The cabbage seems to have a special attraction for insect enemies. First, the cutworm is likely to bother it. The plants can be protected from this worm by putting a paper collar around the stem of each one.

Then the cabbage butterfly will lay its eggs on the leaves and you will have to destroy the worms. Arsenate of lead will hold them in check (page 54), but it is poisonous and should not be used after the heads begin to form.

CUCUMBERS

In some parts of the country cucumbers are rather difficult for beginners to grow. In midsummer they can be raised where there is shade for a part of the day.

The cucumber is planted in hills 4 or 5 feet apart. Place a pailful of rotted manure in a shallow hole and cover it with 5 or 6 inches of soil, so as to make a hill 3 inches high.

On this hill sprinkle about a dozen cucumber seeds, and press each seed into the ground ½ inch deep and cover it. Thin them to not more than four plants in a hill. If the plants are very vigorous and fail to set fruit, pinch off the ends of the vines. The White Spine is a good variety.

Cucumbers should be picked when from 4 to 6 inches long and while still green. Larger or smaller ones may be pickled.

Squashes and pumpkins are relatives of the cucumber and may be grown in much the same way. If grown close together, these plants will cross and the seed will not be good for planting.

OTHER VEGETABLES

KOHL-RABI

The kohl-rabi is a very valuable quick-growing vegetable of the cabbage family. It needs plenty of moisture, good cultivation, and good soil.

Kohl-rabi endures frost and may be planted early, in rows about 15 inches apart. When the plants are about 2 inches high, thin them 5 to 8 inches apart in the row. Harvest the plants when the knobs, or ball-like swellings of the stems, are from 2 to 3 inches in diameter.

Kohl-rabi is also grown from seedlings. Plants may be bought, or transplanted from the crowded parts of your row.

SWISS CHARD

Chard is really a leaf beet. It is a better vegetable than spinach for a small garden because it takes less room and grows all summer. Sow seeds in early spring, 1 inch deep in rows 2 feet apart, and thin the row so that the plants stand 5 inches apart. Cut off the large outside leaves and allow the inner leaves to grow. The large leaves and leafstalks can be cooked together like spinach, or the leafstalk and midrib can be separated from the blade of the leaf and cooked like asparagus.

PARSLEY

As parsley is very slow to start, it is best to soak the seed a few hours in warm water before planting. A row of parsley 3 to 5 feet long gives plenty for the average family, as it continues to grow after each cutting. It grows best

in the shade, and will live outdoors over winter if properly covered; or it can be potted and kept in a kitchen window. It may be grown as a border plant.

ONIONS

Onions are grown most easily from small bulbs, or "sets." The usual plan is to place the sets 2 inches apart in rows 12 inches apart, pressing them an inch or two into the soil. As the plants become crowded, pull out and use every other one.

Onions may also be grown from seed. Sow the seed in rows 12 inches apart, as early as possible, in finely pulverized soil. Cover them ½ inch deep, press the soil down firmly, and sprinkle loose earth on the row. Thin and use the young plants as soon as they begin to be crowded.

TURNIPS

Sow turnips very early in the spring, in rows 12 to 18 inches apart and ¾ inch deep. Thin the plants to 3 inches apart. For winter use, sow the seed in late summer.

The small white varieties are sweeter for early use; the others mature best in cool weather. They can be stored in the same manner as carrots and beets.

PEAS

Plant peas very early, in rows 2 to 3 feet apart; varieties like the Alaska will stand heavy frosts. Do not fertilize just before planting; if you do, you will have more vines than peas. For early use plant 1 or 2 inches deep. For later use plant in a trench 6 inches deep and cover the seeds not more than 2 inches. After the plants are 4 to 5 inches high, the soil should be gradually worked in around them until the trench is filled.

III. Flowers

SWEET ALYSSUM

Flowers add beauty to a garden, and they are very interesting to grow. Always plant some of them. Sweet alyssum is one of the easiest to grow.

Sweet alyssum should be used as a border plant. In a border about a garden this flower is like lace on a garment. It will bloom during the entire season.

Buy seed of the Gem sweet alyssum. It is a dwarf variety that will not crowd your vegetables.

Sow the seed as early in the spring as possible, in the place where you wish the plants to grow. The seed is small, and needs only a light covering of soil, which should be thoroughly pressed down.

When the plants come up, thin them to about 6 inches apart. In the fall some of the plants may be lifted and taken into the house for winter blooming.

NASTURTIUM

The nasturtium is very easily grown, as it will thrive in poor soil. In a very rich soil the plants are likely to run to leaves instead of blossoming.

The low-growing dwarf variety of nasturtiums will grow in flower pots. It blooms in about ten weeks. The climbing varieties are good, but they need strings or other supports to trail upon.

The plants may be started early in flats and set out when the weather is settled, or the seed may be planted in the open ground after danger of frost is over.

If you plant nasturtiums in a bed, be careful to give each plant plenty of room. Set the plants 15 to 20 inches apart each way. They will bloom for a long time if the flowers are kept picked so that seed is not formed.

Nasturtiums trained over a length of wire netting will make a screen of blossoms for the porch or for a fence. Humming birds are especially fond of these flowers.

MARIGOLD

The Dwarf French marigold is one of the best garden flowers for children. It is hardy and sure to bloom.

It may be used for a border, or it will make a beautiful mass of color in the center of a flower bed.

You may sow the seeds in flats indoors early in March and transplant the young plants; or you may sow the seeds outdoors early in the spring. Cover the seeds to the depth of about ½ inch. The plants should be thinned to about 12 inches apart. The African marigold is also a most attractive flower.

CALIFORNIA POPPY

The California poppy is one of the most beautiful flowers that we have when grown in masses. Plant it in large beds or in wide borders. If the flowers are picked every day, the plants will bloom all summer.

Sow the seeds where the flowers are to be grown. As the seeds are very small, see that the soil is finely pulverized. After the seeds have been sown, press the surface of the bed with the hands or feet and sprinkle it with loose earth.

The California poppy needs plenty of sunshine. It does not flourish in the shade or in wet soils.

COSMOS

Cosmos is one of our most beautiful flowers for late blooming. It will do well in almost any soil.

It is best to start cosmos indoors in flats in February. When the weather permits, set the plants outdoors, about 18 inches apart. The seed may be sown outdoors in the spring, with good results.

Cosmos is particularly good to use as a background for a border, or to screen a backyard fence. It looks best when planted in a bed of some length and 2 or 3 feet wide. It furnishes beautiful cut flowers.

In the northern part of the United States the dwarf early varieties are the best to plant.

PANSIES

The pansy does best in cool weather. In cold climates it will bloom all summer.

Usually the seeds are sown in a hot bed or a cold frame in late summer or early fall and the plants are wintered there. Then they are set out in the spring.

Or you may plant the seeds in July or August in a rich bed, and when frost comes cover the plants with leaves or straw. Take off the covering with the first warm weather in the spring. Soon the plants will be growing, and a little later the flowers will appear.

Pick all the flowers every day if you wish to have plenty of blossoms. If seeds form, the blooming will be checked; the plant has raised its family and is ready to stop.

IV. The Seasons

JANUARY — SEED TESTING

There is something you can do in gardening every month in the year, even when the snow is on the ground.

In January, send for a seed catalog of a reliable dealer. Draw on paper the plan of your next season's garden. Send for the seeds your plan calls for.

When you receive your seeds, test a few of them to see if they are good. Take a dinner plate and put on it a blotter 4 or 5 inches square. On this place ten seeds. Then place over the seeds another blotter. Soak all well in water and cover with a second plate.

Set the plates in a warm place and observe the seeds every day. Keep the blotters moist, but do not let water stand over them. If nine seeds sprout, the seeds are excellent, and if eight sprout, they may be considered good.

In January read books on gardening.

FEBRUARY — FLATS

In February get flats ready to start your seedlings.

To make a flat, get a box from the grocer, and saw the sides and ends off about 4 inches from the bottom. The box should be of such a size that you will be able to carry the flat about when it is filled with earth. Bore a few small holes in the bottom for drainage.

Spread a little excelsior over the bottom of the flat and cover this with rich, loose soil to within ½ inch of the top of the flat. The soil must be very rich and well pulverized.

Sow very small seeds, like lettuce seeds, on top of the soil in rows 2 or 3 inches apart and press them down with the hand. Sprinkle the surface with loose earth if a crust forms on the soil. Plant larger seeds, like nasturtium or beet seeds, in drills, 2 or 3 inches apart, and cover them to about four times the thickness of the seed. Mark with labels the kind of seed planted in each flat or in each part of a flat.

Start your seedlings this month.

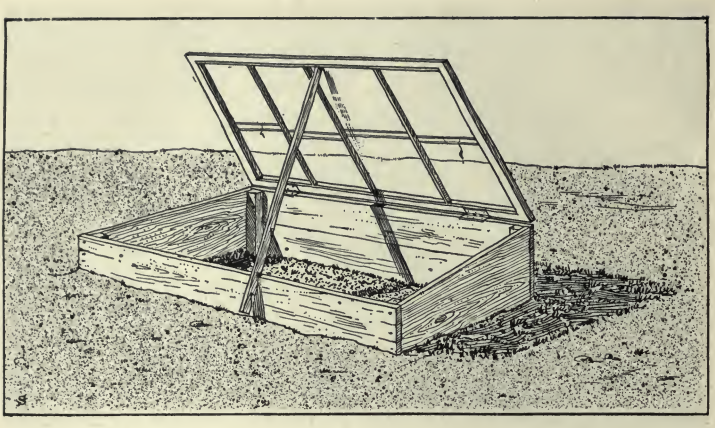
MARCH — HOT BEDS

The hot bed is a little greenhouse that is heated with fresh horse manure. Plants like radishes and lettuce can be grown in it late in the fall and early in the spring, and seedlings can be started in it several weeks before outdoor work can be begun in the spring.

In making a hot bed a pit is dug in the earth, walls are made of boards, brick, or concrete, and a sash with glass in it is fitted over the bed. Fresh horse manure is then placed in the bottom of the pit, and covered with rich soil and sand. The heat of the manure warms the earth, and the plants grow very rapidly.

A little hot bed covered by a single sash can easily be made. Write to the Superintendent of Public Documents, Washington, D.C., for a bulletin on hot beds and cold frames.

In March thin your seedlings. Transplant them to boxes or to small pots.



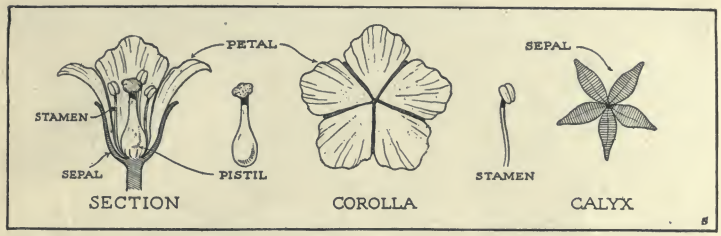
APRIL — COLD FRAMES

A cold frame is like a hot bed, except that it has no pit, or only a very shallow one, and no manure is used in it. Plants can be grown in it before the outdoor garden season begins, but it will not protect the plants from severe cold as a hot bed will.

A very fertile seed bed is needed in a cold frame, because it is desirable to grow as many plants as possible in a small space. Be sure to raise the sash on a bright day.

The garden season may be extended by the use of plant protectors also. A very simple protector may be made of a small box which has no top or bottom. Place the box over a plant, and cover it with cheesecloth at night or on cold days. Window glass may be placed over these boxes, instead of the cheesecloth. In this way young plants may be started in the spring before danger of frost is over, or protected from frost in the fall.

In April plant your early vegetables and transplant hardy seedlings like lettuce and cabbage.



MAY — THE FLOWER

May is the month of flowers, and you will find pleasure in studying the blossoms on your vegetables and flowers.

In the center of the flower is the *pistil*. The lower part of the pistil is the seed pod, or *ovary*. Around the pistil are the *stamens*. They produce a fine yellow powder called *pollen*.

Around the stamens are the *petals*, or colored parts of the flower. All the petals together are called the *corolla*. Near the base of the petals of most flowers are small glands that produce a clear, sugary sirup called *nectar*.

Under the petals are the *sepals*. In many flowers they inclose the bud. All the sepals together make the *calyx*.

Now, why do plants produce flowers? It is to attract the bees and butterflies and other insects. A plant cannot produce seed unless the pollen from the stamens is placed on the top of the pistil to fertilize the young seeds.

So the flowers produce the sweet nectar to attract the insects, and the bright colors and sweet perfumes are advertisements telling the insects where the nectar may be found. In this way the insects are attracted to the flowers, and in their visits they carry the pollen from the stamens to the pistils. Thus the seeds are fertilized and made to grow, and then the wonderful work of the flower is done.

In May plant tender vegetables. Thin your early ones.

JUNE — SUCCESSION AND COMPANION CROPPING

Growing one crop of vegetables after another crop, on the same ground and in the same season, is called *succession cropping*. In this list the first crop may be followed by the second:

Spinach by beans	Peas by kohl-rabi
Radishes by lettuce	Lettuce by beans
Beans by spinach	Radishes by corn
Beets by turnips	Onions by carrots

Companion cropping is raising two vegetables on the soil at the same time. Corn and pumpkins or corn and squash will grow together all summer; but the usual method of companion cropping is with a long-season and a short-season crop (page 9). Onions and radishes may be grown with winter cabbage; beets, kohl-rabi, and lettuce with tomatoes.

Plant succession crops in June. Fight weeds and insect pests.

JULY — PLANT SUPPORTS

You will find that some plants need to be held up. Vine plants and some tall-growing plants are too weak to carry their own weight.

Soon after planting pole beans or tomato plants, set a stake at a distance of 2 or 3 inches from each plant; have the stake from 3 to 5 feet in height. The beans will cling to the supports of themselves, but tomatoes and some other plants must be tied to the poles as they grow.

Garden peas and sweet peas are best supported by a kind of trellis. Wire netting 3 or 4 feet wide, set upright and nailed to posts along the row of vines, will make an excellent support. Strings stretched at different heights from stout stakes placed at the ends of the row may be used for a short row. A piece of wire netting put up endwise makes a good support for morning-glories, climbing nasturtiums, and other tall-growing vines.

In July cultivate often, to keep the moisture in the soil.

AUGUST — STRAWBERRIES

If your soil is rich, you will have little difficulty in raising strawberries. There are many varieties, both early and late. Ask an experienced gardener what kinds are suitable for your neighborhood.

Make the rows about 2 feet apart and set the plants about 10 inches apart in the row. Young plants have soft roots and old plants wiry roots. Be sure to get young plants. Cultivate them carefully and keep them free from runners.

It is well to spread a thin layer of straw around the strawberry plants and between the rows; this keeps the moisture in the ground, prevents the growth of weeds, and keeps the berries clean.

In old beds you will find many vigorous runners growing out from the plants and taking root. In August lift the strongest of these for setting out a new bed. Strawberries will not bear so well after the plants are three years old.

Pansies should be planted this month.

SEPTEMBER — GROWING BULBS IN WATER

The easiest plant to raise in water is the Paper White narcissus. Other bulbs may be grown in the same way, especially the Roman hyacinth and the Chinese lily. Buy bulbs of only the first quality. Plant them any time from September to December; in September for Christmas blooming.

Get a glass bowl 7 or 8 inches across the top and 3 to 4 inches deep. Place pebbles in the bowl to the depth of 1 inch, then set four or five bulbs root end downward on the pebbles and add enough pebbles to cover the bulbs. Fill the bowl with water above the lower ends of the bulbs.

After planting, let the bulbs sleep five or six weeks. Put them in the dark part of the cellar or set them in a cool place and turn a box over them. When the whole bottom of the bowl is full of roots, take the bowl out and set it in a warm place. From this time heat and moisture are very important. Light is beneficial, but sunlight is not necessary.

Do not allow your tomatoes to set any more fruit.

OCTOBER — PLANTING BULBS OUTDOORS

Plant your bulbs in September and October, so that the roots may get a good start underground before winter begins. Try first the narcissus, tulip, hyacinth, and crocus.

Select a place that has good drainage. Remove 4 or 5 inches of top soil and place your bulbs root end downward about 5 inches apart. It is well to place the bulbs on a half inch of sand. Cover them with 4 or 5 inches of soil. Crocus bulbs are planted at only half this depth.

As soon as there is danger of freezing, cover the bed with 6 inches of leaves, and secure the leaves, so that they will not blow away (page 47). Remove the mulch early in the spring.

After their long winter's sleep, the plants from the bulbs will burst out at the first sign of spring and will produce the most beautiful flowers.

Oil your tools or coat them with vaseline before putting them away.

NOVEMBER — MULCHING FOR WINTER

Late in the autumn we mulch berries, bulbs in beds, and other tender plants, in various ways. One of the best ways is to pile leaves 4 to 15 inches high over the beds.

A very good way to protect rose bushes is to run around the bed a chicken-wire fence, and fill this with leaves until the bushes are entirely covered. Another way to protect the bushes is to bind straw about them.

In latitudes north of New York City, it is best to lay down roses and other tender bushes and vines, and cover them with leaves, straw, or coarse manure. In the spring the materials used for the covering may be thrown on the compost pile or placed as a mulch about the plants.

The object of a mulch is not to keep the plants from freezing, but to keep them from thawing out during warm spells in the winter and starting their growth too early in the spring.

Rake up dry leaves, but do not burn them.

DECEMBER — TAKING STOCK

This is a good month to look over your accounts for the year. Add up the expense items and income items, and see what you have gained during the year.

Think over plans for improving your work next season. Look over your yard and see where flowers or shrubs might be planted. If you have space for blackberries, raspberries, gooseberries, currants, or grapes, read up on these fruits. Perhaps you would like to start some of them in the spring. A cherry tree, peach tree, or plum tree can easily be grown if you have room for it.

See that the mulch does not blow off your berries, bulbs, or other plants. Examine your tools and see if they are free from rust.

Fasten a feeding shelf for birds in a tree, and provide the birds with food when the snow is on the ground.

December is a good month for experiments with soils and plants.

V. Preserving Vegetables and Fruits

CANNING

(COLD-PACK METHOD)

You will need a good wash boiler with a false bottom; several large pans, two tablespoons, two teaspoons, two sharp paring knives, two hand towels, wiping cloths, one wire basket or five yards of cheesecloth, and plenty of hot and cold water. You will need also a can of salt and as many quart glass jars with new rubbers as you propose to fill with food.

Pick the vegetables immediately before canning them and use only the perfect ones. Prepare and clean each vegetable whole, as you would for table use.

Can only one kind of food at a time. Follow directions absolutely; you may lose your vegetables if you do not.

To can beets, wash them clean and place them in the wire basket or cheesecloth.

Place the clean glass jars upside down in a pan of water

and bring the water to a boil. The jars will then be hot and ready for use.

Blanch or scald the beets in boiling water for five minutes. Then cold-dip them by letting cold water from the spigot run over them. They may be dipped in a pail of cold water, but do not let them remain in it any time.

Now pare the beets and fill the jars to within $\frac{1}{4}$ inch of the top. If the beets are large, cut them into halves or quarters. Put a level teaspoonful of salt in each jar, and fill the jar with boiling water. Put a new rubber on each jar. Then screw down the screw-top until it just touches the rubber, or clamp the clamp-top at the top of the cover, but do not bring down the lever.

Place each jar in the false-bottom rack in the boiler as it is filled, and see that all jars are covered with hot water to at least 1 inch above the tops of the jars. Spread a towel over the boiler and press the cover on tightly. Note the time of sterilizing, from the time the water in the boiler begins to boil.

The minute the time of boiling ("processing") is up, lift the tray of jars out and securely tighten the cover of each jar. Then invert the jars while they cool. If any jar leaks, it must be tightened. Cover each jar with brown paper and put it away in a dark, dry, cool place until needed.

In canning other vegetables or fruits, refer to the table on page 64 for the time required. A person who has a great deal of canning to do should buy one of the commercial canning outfits and study the instructions that come with it. Send to the Superintendent of Public Documents, Washington, D.C., for Farmers' Bulletin No. 839.

DRYING

Drying food in order to keep it was almost a daily task for our grandmothers. Now it has become nearly a lost art.

Fruit and vegetables that are to be dried must be fresh and in their best condition. The skin should be removed from such vegetables and fruits as carrots, squashes, apples, and pears. Such vegetables as cabbage, corn, or string beans, or fruits like cherries or gooseberries, are prepared as for the table.

It is best to blanch and cold-dip vegetables (page 50) when this can be done, but blanching and dipping before drying are not necessary.

Vegetables and fruits should be cut or sliced into pieces about $\frac{1}{4}$ inch in thickness. The pieces or slices should be of equal size. Drying can be done successfully by the heat of the sun or by the heat of a stove.

A good tray can be made by nailing laths to two end-boards of pine 1 inch by 9 inches by 15 inches, keeping the

laths $\frac{1}{8}$ inch apart for air circulation. It is still better to cover the bottom of the tray with galvanized wire-screen mesh. Several trays can be used at a time.

Spread the prepared fruit or vegetable in a thin layer on the tray, or on a large plate, and set it in the sun, on a hot stove, or in an oven with the door open. In the sun the food will not scorch or bake, but it must be covered with cheesecloth if insects are about and must be brought indoors at sundown or before a rain. On the stove, or in the oven, the food needs constant watching to see that it does not burn or scorch. It should dry at as even a temperature as possible. Begin the drying at a low temperature and gradually increase the heat if possible. This will hasten the drying process. Frequent stirring of all drying foods is necessary, and a thermometer must be used when food is dried by artificial heat.

It takes some practice to tell when the food is just dry enough and not too dry. When fruit is dry enough, it is impossible to squeeze water out of a cut piece. It should not snap or crack when broken. It should be leathery.

Before dried foods are stored they must be "conditioned"; that is, put into open boxes and kept exposed to the air for three or four days. Each day they must be stirred thoroughly or poured from one box to another. Any pieces showing signs of dampness or mold should be put into the drier again. It is very necessary that dried fruits and vegetables receive this conditioning, for without it they will not keep.

If you care to buy a good drier at a store, the food can be dried faster. Follow the printed instructions coming with it. Send to the Superintendent of Public Documents, Washington, D.C., for Farmers' Bulletin No. 841.

STORAGE

As a rule, a storage place for foods must be dry, cool, dark, and well ventilated.

Canned and dried goods should be labeled and stored on shelves. Dried foods should be stored in small containers such as paper bags, pasteboard boxes, and glass jars. See that each container is sealed with paraffin. Melt the paraffin and use a small brush to cover all openings.

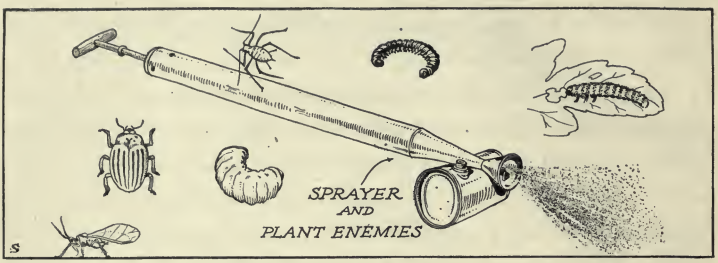
The best place to store most vegetables, such as potatoes, beets, carrots, parsnips, salsify, turnips, cabbage, celery, onions, and sweet potatoes, is in a part of the cellar partitioned off so that it cannot be overheated by the furnace. A small quantity of vegetables may be stored in boxes; for a larger quantity make wooden bins about 6 to 12 inches deep and 30 inches square, and set them on racks built with shelves, one above the other.

The vegetables should be dry when placed in the bins. See that only perfect and unbruised vegetables are stored. The others may be used while fresh, fed to animals, or thrown on the compost pile. Handle stored vegetables and fruits as little as possible.

Sweet potatoes and winter squash will keep best in baskets in the furnace room. Potatoes, beets, carrots, parsnips, and turnips will keep better if covered with sand or earth to prevent their drying. Put a thin layer of earth or sand in a box, and add a layer of vegetables. Then fill the spaces between them with earth or sand, add another layer of vegetables, and continue until the box is full.

Parsnips should be left to winter in the ground, as freezing improves them. Green tomatoes if not injured by frost will ripen in the cellar.

VI. Plant Enemies and Friends



PLANT ENEMIES

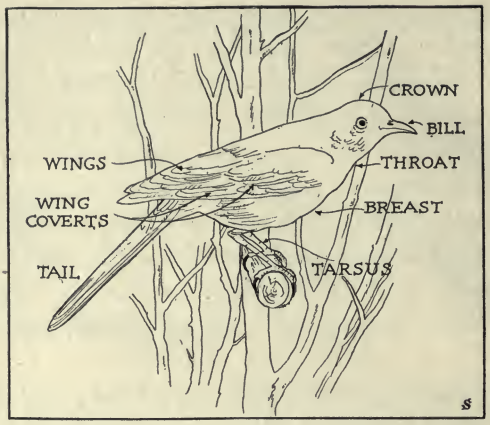
Plants have many insect enemies. These may be divided into two groups: chewing insects, which eat the leaves, and sucking insects, which pierce the leaves or young stems and draw out the juices. Generally speaking, the hard-bodied insect is a chewer and the soft-bodied insect a sucker. Most of these destructive insects work above the ground, but some, like the cutworm, wireworm, and some maggots, work underground.

One of the best protections against insects and plant diseases is to keep the plants in a vigorous growing condition. It is also a good plan to spade your garden deep just before the time of frost, as many insects are destroyed by the cold of winter when this is done.

Most chewing insects, such as caterpillars and beetles, can be poisoned by arsenate of lead mixed in water. Paris green and hellebore are other poisons used. These mixtures may be put on the plants with a whisk broom or, better, with a regular sprayer. Mix 1 tablespoonful of powdered lead arsenate with a gallon of water, 1 teaspoonful of Paris green with 10 quarts of water, or a tablespoonful of hellebore with 3 gallons of water.

Sucking insects like plant lice are not destroyed by poisons applied to the outside of the leaves, but must be killed by something sponged over the insects themselves. Nicotine sulfate, $\frac{1}{4}$ ounce to 1 gallon of water with a little soap, is one of the best remedies. Soap solution, made by dissolving $\frac{1}{4}$ pound of soap in 2 gallons of water, is often used. Carbolic acid emulsion, made by dissolving 1 pound of soap in 1 gallon of boiling water and adding 1 pint of crude carbolic acid, also will destroy insects. The solution must be mixed thoroughly. Strong tobacco water may be used also.

For plant diseases like blight and mildew, buy a prepared remedy called Bordeaux Mixture and spray the plants as soon as you see a diseased part; or powdered sulfur may be dusted over them when the leaves are damp. Burn any plant that has been destroyed by plant disease.



PLANT FRIENDS

Birds are the best friends that plants have, because they feed upon harmful insects. Watch a wren or a robin feed its young. All day long it passes back and forth, bringing insects to their hungry mouths.

The bird policeman is the best of protectors for a garden, and if you attract and protect the birds by making bird houses for them, they will pay their rent by eating destructive insects.

For a bird house, rough or weather beaten boards or branches of trees may be used. Birds do not mind houses of rustic appearance. In France, houses for small birds are made of woven reeds or willows, like baskets. Directly under the entrance to the house place a stick or a shelf as a perch to light upon.

The wren likes a house with considerable space below the entrance hole for its bulky nest. The hole should be an inch in diameter. Sparrows sometimes destroy the young

and eggs of small birds like the wren, but they cannot enter through a hole an inch wide.

The bluebird and the robin are others of our familiar bird friends. Both will nest in houses that are properly prepared for them.

A box for a bluebird is 5 inches square and 8 inches deep, and has a hole $1\frac{1}{2}$ inches in diameter placed at a height of 6 inches above the floor. A nesting box for a robin must be open on all sides. Use a shallow box 6 by 8 inches, build a roof over it, and fasten it in a tree where it will be hidden by the leaves.

There are other plant friends besides the birds.

The common angleworm is a great improver of the soil, as he is continually moving it about and opening holes for drainage.

Never kill a toad. To have one make its home in your garden will be a piece of good fortune for you. Toads injure nothing, and they catch thousands of injurious flies and insects.

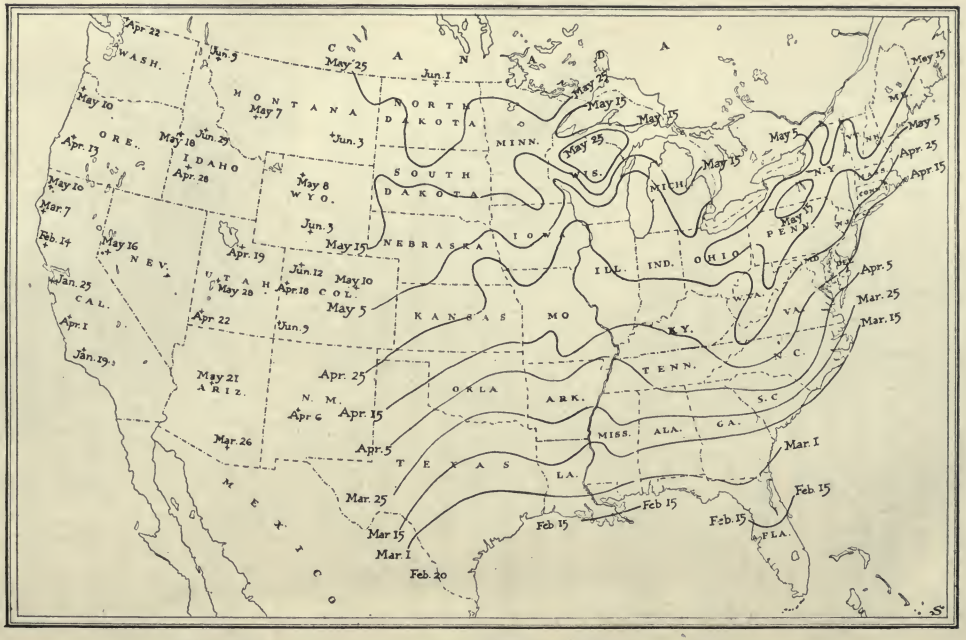
The ladybug also is an enemy of the plant louse, and therefore a plant friend. Every plant has its enemy, and every plant-destroying insect is the food of some other insect, bird, or other animal.

Appendix

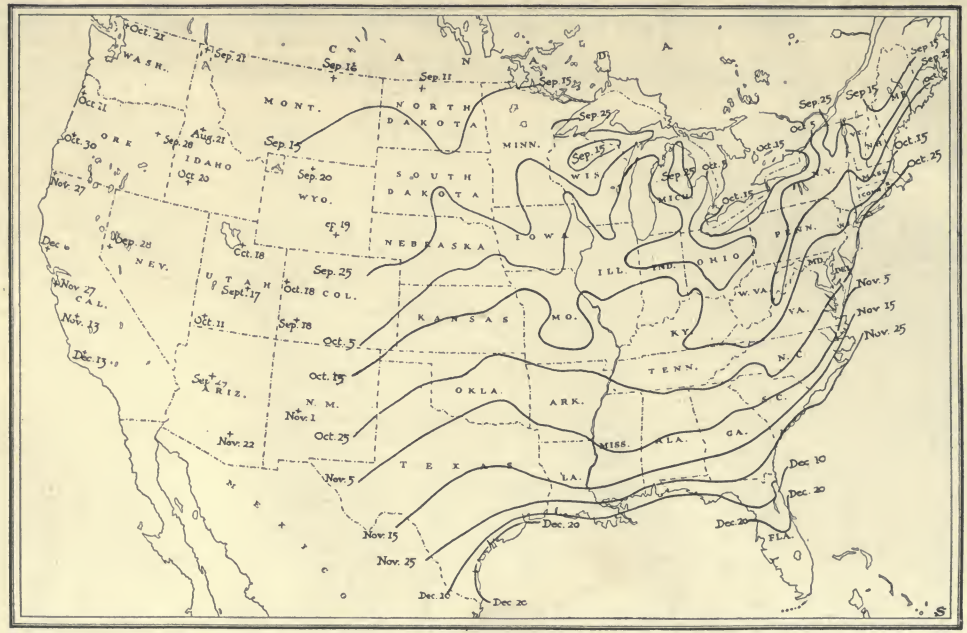
QUESTIONS

1. What kind of a place should be selected for a garden?
2. Why is it best to run the rows east and west?
3. What kinds of crops can be planted close together?
4. Name the most important garden tools.
5. What kind of fertilizer is best for a garden?
6. Why should a garden be spaded deeply?
7. Give a general rule for the depth for planting seeds.
8. Why should the soil be packed about seeds?
9. In what two ways does cultivation help plants?
10. When is the best time of day for watering?
11. How do cover crops benefit the soil?
12. How long do radishes take to grow?
13. What kind of lettuce is easiest to grow?
14. Name the best kinds of beans for beginners.
15. Name the best kinds of corn for beginners.
16. How far apart would you plant corn?
17. In what two ways may beets be used?
18. How far apart should beets be left in the row?
19. How far apart should tomatoes be placed?
20. How should they be pruned and supported?
21. How may the cabbage worm be destroyed?
22. Name some vegetables that will grow where they are shaded part of the time.
23. Why is Swiss chard a good vegetable for a small garden?
24. How deep should peas be planted?
25. Where should sweet alyssum be planted?
26. Why should flowers be kept closely picked?
27. Why is the nasturtium a good flower to plant?
28. Where may marigolds be planted?
29. What does the California poppy need to flourish?

30. How should cosmos plants be started?
31. Tell how pansies may be grown.
32. Describe a seed test.
33. Can you think of another way of testing seeds?
34. Tell how you would make a flat.
35. How could you water a flat without washing the soil?
36. How is a hot bed made and heated?
37. How is a cold frame made?
38. Name the parts of a flower.
39. What is the use of each part?
40. Why does a plant have flowers?
41. How may beans be supported?
42. How may peas be supported?
43. Explain what is meant by succession cropping.
44. Name some crops that may be raised as succession crops.
45. Explain what is meant by companion cropping.
46. Name some crops that may be raised as companion crops.
47. Why is a mulch used on strawberry beds?
48. What plant can be most easily grown in water?
49. Explain how you would raise bulbs in water.
50. Explain how you would plant bulbs outdoors.
51. How may plants be protected through the winter?
52. What is the purpose of the covering?
53. What profit did you receive from your garden last year?
54. What plans have you for improving it next year?
55. Explain the cold-pack method of canning.
56. Explain how fruits and vegetables may be dried.
57. How may sweet potatoes and squashes be stored in winter?
58. How may vegetables like beets and carrots be stored?
59. How can chewing insects be destroyed?
60. How can sucking insects be destroyed?
61. How can plant mildews be destroyed?
62. Why is it desirable to attract birds?
63. Why is a toad useful in a garden?



Map showing the average date of the last killing frost in spring.



Map showing the average date of the first killing frost in autumn.

Planting Table of Common Garden Vegetables

Vegetable	Average Planting Depth in Inches	Average Growing Space in Inches		Average Days to Come Up	Average Time to Mature
		In Rows	Between Rows		
Asparagus	1	3	24	25	3 years
Beans, bush	1	5	24	14	6 weeks
Beans, lima	2	6	30	14	10 weeks
Beets	1	4	15	12	10 weeks
Brussels sprouts	1	18	24	6	20 weeks
Cabbage	$\frac{1}{4}$	18	24	10	20 weeks
Carrots	$\frac{1}{2}$	3	12	14	12 weeks
Cauliflower	$\frac{1}{2}$	18	24	8	20 weeks
Celery	$\frac{1}{4}$	4	24	25	20 weeks
Corn, pop	$1\frac{1}{2}$	8	30	8	30 weeks
Corn, sweet	2	10	24	12	14 weeks
Cucumber	1	24	36	16	10 weeks
Egg plant	$\frac{1}{4}$	24	24	11	17 weeks
Kale	$\frac{1}{2}$	12	24	6	10 weeks
Kohl-rabi	$\frac{1}{4}$	9	12	5	12 weeks
Lettuce	$\frac{1}{4}$	6	12	8	8 weeks
Melon, musk	1	12	30	14	15 weeks
Okra	$\frac{1}{2}$	24	36	20	12 weeks
Onions	$\frac{1}{4}$	3	12	10	20 weeks
Parsley	$\frac{1}{2}$	4	12	15	14 weeks
Parsnips	$\frac{1}{2}$	3	18	14	20 weeks
Peas	2	3	12	10	10 weeks
Peppers	$\frac{1}{2}$	12	14	30	20 weeks
Potatoes	4	12	30	20	15 weeks
Pumpkin	1	10	30	11	20 weeks
Radish	$\frac{1}{4}$	2	12	4	6 weeks
Salsify	1	4	12	8	20 weeks
Spinach	1	6	12	6	7 weeks
Squash	2	10	30	11	12 weeks
Sweet potatoes	2	12	24	20	20 weeks
Swiss chard	1	4	20	12	8 weeks
Tomato	$\frac{1}{4}$	24	30	12	20 weeks
Turnip	$\frac{1}{4}$	3	12	4	10 weeks

Planting Table of Common Flowering Plants

Name of Plant	Average Planting Depth in Inches	Average Distance Apart in Inches	Average Height in Inches	Colors Most Common in Flowers
Ageratum	$\frac{1}{8}$	6	10	Blue and white
Aster	$\frac{1}{4}$	9	20	Blue
Calendula or Pot marigold	$\frac{1}{4}$	12	20	Orange
Candytuft	$\frac{1}{8}$	6	12	White
Carnation	$\frac{1}{4}$	14	12	Red or pink
Castor bean . . .	1	60	76	(Grown for foliage)
Coreopsis	$\frac{1}{8}$	15	18	Yellow and brown
Cornflower	$\frac{1}{8}$	12	12	Blue
Cosmos	$\frac{1}{8}$	24	50	White
Forget-me-not . . .	$\frac{1}{8}$	6	6	Blue
Hollyhocks	$\frac{1}{4}$	15	60	Pink, white, crimson
Larkspur	$\frac{1}{4}$	18	30	Deep blue
Lobelia	$\frac{1}{8}$	4	8	Blue
Marigold	$\frac{1}{4}$	10	24	Yellow
Mignonette	$\frac{1}{8}$	6	12	Red-brown and green
Morning-glory . . .	$\frac{1}{2}$	12	120	Blue, red, and white
Petunia	$\frac{1}{4}$	8	18	Pink, red, white
Phlox	$\frac{1}{4}$	6	15	Red, white, rose
Pink	$\frac{1}{4}$	12	9	Pink and white
Poppy	$\frac{1}{8}$	8	24	Scarlet
Portulaca	$\frac{1}{4}$	4	10	Crimson, white
Salvia	$\frac{1}{4}$	18	30	Scarlet
Snapdragon	$\frac{1}{4}$	18	15	Red, yellow, white
Stocks	$\frac{1}{4}$	10	18	Red or white
Sunflower	$\frac{1}{2}$	25	120	Yellow
Sweet alyssum . . .	$\frac{1}{8}$	5	10	White
Sweet peas	2	5	70	Pink, white, purple
Sweet William . . .	$\frac{1}{4}$	10	60	Crimson, pink, white
Verbena	$\frac{1}{4}$	6	12	Red, pink, white
Zinnia	$\frac{1}{2}$	10	24	Magenta

	BLANCHING TIME (Minutes)	STERILIZING TIME (Minutes)	DRYING TIME (Hours)	TEMPERATURE (Fahrenheit)
Vegetables				
Vegetable greens	15 to 20	120		
Cabbage	15 to 20	120	3 to 4	110° to 145°
Cauliflower	15 to 20	120	3 to 4	110° to 145°
Brussels sprouts	15 to 20	120	3 to 4	110° to 145°
Carrots	5 to 8	90	2 to 3	110° to 150°
Parsnips	5 to 8	90	2 to 3	110° to 150°
Beets	3 to 8	90	2 to 3	110° to 150°
Turnips	5 to 8	90	2 to 3	110° to 150°
Sweet potatoes	5 to 8	90	2 to 3	110° to 150°
Tomatoes	To loosen skin	22	2 to 3	110° to 150°
Corn (on cob or off)	5 to 15	180	3 to 4	110° to 150°
Lima beans	2 to 5	120	3 to 4	110° to 145°
String beans	2 to 5	120	3 to 4	110° to 145°
Peas	2 to 5	120	3 to 4	110° to 145°
Okra	2 to 5	120	2 to 3	110° to 145°
Pumpkin (for pie)	Cook 30 minutes	90	3 to 4	110° to 140°
Squash (for pie)	Cook 30 minutes	90	3 to 4	110° to 140°
Pumpkin or squash cubes	10	90	3 to 4	110° to 140°
Fruits				
Strawberries	None	16	4 to 6	110° to 150°
Blackberries	None	16	4 to 6	110° to 150°
Dewberries	None	16	4 to 6	110° to 150°
Sweet cherries	None	16	4 to 6	110° to 150°
Blueberries	None	16	4 to 6	110° to 150°
Peaches	None	16	4 to 6	110° to 150°
Apricots	None	16	4 to 6	110° to 150°
Currants	None	16	4 to 6	110° to 150°
Gooseberries	None	16	4 to 6	110° to 150°
Cranberries	None	16	4 to 6	110° to 150°
Sour cherries	None	16	4 to 6	110° to 150°
Apples	1½	20	4 to 6	110° to 150°
Pears	1½	20	4 to 6	110° to 150°
Quinces	1½	20	4 to 6	110° to 150°
Oranges (whole)	1½	12	4 to 6	110° to 150°
Oranges (sliced)	None	10	4 to 6	110° to 150°

The above table gives the blanching and sterilizing times for different vegetables and fruits when they are canned by the cold-pack method (page 49), and the average drying times and the right temperatures when they are dried by artificial heat. Fruits are not blanched before drying. Vegetables may be blanched the same length of time for drying as for canning.