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Growing
FOOD
*For Health
& Profit*

ONE SHILLING NET

P L A N

before you sow or plant

Before you sow or plant anything in your garden you must plan ahead. Otherwise, you may find—when it's too late to do anything about it—that you have too much at one time of the year and too little at another.

The Ministry of Agriculture's Plan for a ro-rod garden or allotment printed under this flap shows you a way to set out your ground so that you make sure of green vegetables in winter—when you need them most—and a steady supply throughout the year.

MISCELLANEOUS CROPS

C

COMPOST HEAP • TOOL SEED BED
TOMATOES MARROW RADISH PARSLEY

*** 3" DWARF PEAS 6" ***
*** 3 ROWS 9" ***
*** (2 ft. 6 in. APART) ***

*** 9" DWARF BEANS 11"
*** 2 ROWS ***
*** (2 ft. 6 in. APART) ***

*** 6" ONIONS 16"
*** 8 ROWS ***
*** (1 ft. APART) ***

*** 6" SHALLOTS 9"
*** 2 ROWS (1 ft. APART) ***
*** BEANS 1 DOUBLE ROW ***

*** 9" LNER BEANS (1 ROW) ***

*** 6" PARSNIPS ***
*** 3 ROWS (1 ft. 3 in. APART) ***

*** 6" CARROT (MAINCROP) ***
*** 5 ROWS ***
*** (1 ft. APART) ***

*** 6" POTATOES (EARLY) ***
*** 3 ROWS ***
*** (2 ft. by 1 ft.) ***

*** 13" POTATOES (OTHERS) ***
*** 6 ROWS ***
*** (2 ft. by 1 ft. 3 in.) ***

*** 8" SPINACH BEET OR SE. WALK BEET ***
*** 1 ROW ***

*** 2" CABBAGE (WINTER) ***
*** 3 ROWS ***
*** (2 ft. by 2 ft.) ***

*** 2" SAVOYS ***
*** 2 ROWS (2 ft. by 2 ft.) ***

*** 26" BRUSSELS SPROUTS ***
*** 2 ROWS (2 ft. 6 in. x 2 ft. 6 in.) ***

*** 2" SPROUTING BROCCOLI ***
*** 2 ROWS (2 ft. x 2 ft.) ***

*** 2" KALE ***
*** 2 ROWS (2 ft. x 2 ft.) ***

*** 6" PRECEDE BEET WITH EARLY DWARF PEAS (1 ROW) ***

*** 6" ***
*** 3 ROWS (1 ft. 3 in. APART) ***

INTERCROP WITH SPINACH
(2 ROWS) AND FOLLOW
WITH LEEKS 1 ft. APART
(4 ROWS)

FOLLOW WITH SPRING
CABBAGE (4 ROWS
1 ft. 6 in. APART)

FOLLOW WITH
WINTER LETTUCE
INTERCROP WITH
SUMMER LETTUCE

FOLLOW WITH
TURNIPS (1 ft. APART)

POTATOES & ROOT CROPS

A

WINTER & SPRING GREEN CROPS

B

INTERCROP SPACE FOR
SAVOYS AND BRUSSELS
SPROUTS WITH EARLY CARROTS
(2 ROWS) & EARLY BEET (1 ROW)

PRECEDE BEET WITH
EARLY DWARF PEAS (1 ROW)

ROTATION OF CROPS

1ST. YEAR	2ND. YEAR	3RD. YEAR
C	B	A
A	C	B
B	A	C

ALLOTMENT
OR GARDEN

PLOT 90' x 30'

APPROX. 10 SQ. RODS
POLES
OR PERCHES

GROWING FOOD FOR HEALTH AND PROFIT

**A GUIDE FOR ALL WHO DIG FOR PLENTY
in their gardens and allotments**

*Prepared by the Ministry of
Agriculture and Fisheries*



**LONDON
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE
1947**

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GROWING FOOD FOR HEALTH AND PROFIT

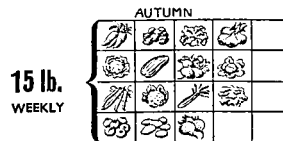
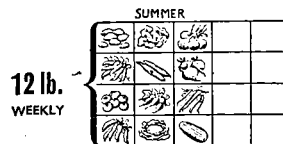
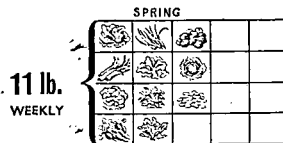
Chapter I. DOES VEGETABLE GROWING PAY?

DURING RECENT YEARS the question has often been raised "Does an allotment pay?" Following Dr. Joad's example, it all depends on what you mean by pay. And whom does it pay? The Ministry of Agriculture has from time to time published the financial returns of demonstration allotments in different parts of the country, which showed that crops to the value of anything from £20 to £30, at retail prices, had been grown on 10 rods (300 sq. yds.). Records of about a hundred 10-rod plots showed in one year an average of nearly 20 lb. edible weight of vegetables weekly in winter, the figures for the other seasons being, spring, 11 lb.; summer, 12 lb.; autumn, 15 lb.

Of course, there is far more to it than mere financial returns, though the thrifty housewife would be the first to acknowledge what a help it is these days to have her "good" produce vegetables in variety cost a good deal to buy in the shops. She knows, too, how important a part vegetables play in maintaining family health.

The "good man" himself may not, perhaps, have thought about the allotment or vegetable garden first from the economic angle. His attitude depends on whether he had a plot before the war, or took it on after the war started. No doubt the pre-war allotment holder felt the

call of the land and the allotment was his pastime. The war-time cultivator would probably say that he wanted to make sure of vegetables for his family; in some cases he may have feared a food shortage or



patriotically desired to help the national food situation. Whatever the motive that prompted the man to take on an allotment, he has benefited himself: he is generally better in health because of the exercise, better in spirit because cultivating his plot took his mind off the burdens of office or workshop; he has benefited his family by providing fresh vegetables that kept them fit—and, incidentally helped his wife in trying to make ends meet and avoid queues; he and his fellow "Victory Diggers" benefited their country by contributing in every year of the war a substantial and indispensable quantity of food to the national larder, without which the nation might well have had to go short, not only of vegetables but of other food which our farmers have been enabled to grow through the "Victory Diggers" efforts. Does an allotment pay? Emphatically it does, provided it is well managed and efficiently cultivated. And the same goes for the private vegetable garden, too.

It is the dream of every gardener that one day he will produce those perfectly shaped, beautifully coloured vegetables pictured in the seedman's catalogue or on the seed packet. For most of us it remains a dream, though the prizewinners at our local horticultural shows seem to get somewhere near the dream come true! As for the rest of us, we plod on year after year, coping with lack of rain or sun, fighting the ever-present pests—blackfly on our broad

beans, caterpillars on our greens—and sometimes wonder whether we shall ever get within striking distance of the pictured perfection. We all know, of course, that there are a few simple rules which, if we followed them, would mean better crops. But saying these simple things on paper is one thing; carrying them out is another. But it is worth while saying them and trying to observe them. What are they?

Good and thorough cultivation is the first step in this "good husbandry" series. Feeding the soil that feeds us is the second. The third is being timely in all our operations, whether it be digging, sowing, weeding, hoeing, thinning or fighting pests. Then if we use reliable seeds and feed the growing plants with the food they need, we may be part way on the road to better vegetables. It is the aim of this booklet to help and guide those of us who recognise the need for improvement along these lines. It is not for the chap who finds no difficulty in producing good vegetables.

The book is arranged in monthly sections and seeks to show what should be done each month. But before we get down to monthly operations, we shall say something about our soil and its needs—a little of the simple science underlying gardening—something about the importance of crop rotation and planned cropping, and also something about the gardener's afflictions—pests and weeds.

Chapter II. THE SOIL AND ITS NEEDS

WE MUST NOT EXPECT to go on producing crops year after year unless we return to the soil what those crops take from it. We must

also keep the soil in "good tilth."

What is "good tilth"? It is the top foot or so of soil got into a "crumbly" condition. The "crumbs" hold a lot of water on their surfaces and let surplus water drain away quickly through the big pore spaces between them. These spaces supply air, which the roots need as well as water. When rain falls, the uppermost "crumbs" soak it up till they are saturated—like blotting paper dipped in water. Then the surplus soaks downward to the "crumbs" immediately below, and so on. Each "crumb" is like a little sponge. If there is more rain than the "crumbs" can hold, the bigger spaces between them allow the extra water to drain quickly downward and the soil does not become waterlogged. The roots of plants in "crumbly" soil can grow easily down the air spaces between the "crumbs." All around them are "crumbs" containing the water the roots need. At the tips of the roots are tiny hairs which absorb water. So you will see how important it is that the tips of the roots should not be damaged when planting out.

Humus helps to maintain a "good tilth" and thus ensures good aeration. But it does more; it helps the soil to remain moist and provides plant foods. What is it? It is a formless material made up of tiny particles produced from the remains of plants and animals when they have decayed.

"Organics"—what they do and are

"Organic" manures help to make clay soils lighter and sandy soils better able to hold water. "Organics" are so called because they are formed from something that was living—plants or animals, or both. What are

they? The best known are farmyard manure and other animal droppings, such as pig and poultry manure. Other "organic" manures include guano, hoof and horn meal, dried blood, meat and bone meal, shoddy and soot. But market gardeners make great use of these "organics" and it may not be easy for the amateur grower to get them. You yourself can make "organic" manures, either in the form of green manure—a green crop, such as mustard, grown specially for digging in—or compost, which you can make from waste garden material. "Organic" manures usually provide essential plant foods, the three most important being Nitrogen, Phosphate and Potash. Plants need a balanced ration of these foods. They take them in, dissolved in soil water, through their roots. Most soils contain a certain amount of them. But if the plants are to get enough, you must keep up the supply by manuring the soil. You can do this most effectively by using both "organic" manures and mineral fertilisers—popularly called "artificial."

Farmyard manure is very scarce and most difficult to get; but you can make compost yourself, though maybe you could not make enough from your garden waste to supply all the needs of your land in one season. So it is a question of using wisely what little manure you can get or the compost you can make. If you manured about one-third of your land with farmyard manure or compost every year and practised crop rotation (as recommended later), you would go some way to keeping your soil in good heart. The one-third of the plot most suitable for this treatment is the part where you are going to grow your onions, leeks, peas and beans.

Compost—How to make it

Here is what you can use to make compost and how to make it—in pictures.

WHAT YOU CAN USE

Leaves, grass cuttings, straw, sods, lawn mowings, haulms of peas, beans and potatoes, vegetable tops, hedge clippings, weeds, and faded flowers. In fact, any plant refuse not needed for stock feeding.

WHAT YOU CAN'T USE

Cinders, paper, coal ashes, thick woody stems, sawdust, and any materials tainted with oil, creosote, tar or with any poisonous chemical. Avoid cabbage roots affected by "club-root" disease.



1. Choose site, in shade if possible, on ground not used for cropping. Width 4-7 ft. Length depends on amount of material available.



2. Cover with layer of vegetable refuse (the more mixed and broken up the better) to 6-9 in. depth. If dry, moisten and tread down well. If green and sappy, lay loosely.



3. (Left) Cover with 2 in. layer of animal manure (horse, cow, pig, poultry, pigeon, rabbit) or sewage sludge.



3. (Right) If animal manure is not available, sprinkle with one of the special proprietary chemicals or with sulphate of ammonia.



5. Sprinkle a little lime, ground limestone or chalk, after every foot or so, or apply layer of chalky soil about 2 in. thick. But if using chemicals, follow maker's directions about lime.



6. When heap has cooled down, turn it over from one end to the other, so that the outside material goes to the middle and that from the middle to the outside.

About those "Artificials"

Now a word about "artificials"—or, what is a better term, "mineral fertilisers." The use of the word "artificials" makes some people think that "artificials" are not as good as "organics." Both supply exactly the same kind of plant foods in different quantities. The "organics" generally rot down slowly and so supply steady though small amounts of plant foods during the whole of the plant's growing period.

The well-known sulphate of ammonia, which comes from gas works and coke ovens, is a good source of nitrogen. Superphosphate, made from rock, is rich in phosphate; basic slag, which we get from iron works, also contains phosphate. Potash is dug out of mines in France and Germany.

To meet the needs of gardeners, the Government arranged for the supply of a good standard fertiliser at a reasonable price. It is called "National Growmore Fertiliser" and contains the three important plant foods—the analysis being 7 per cent. N. (nitrogen), 7 per cent. P_2O_5 (phosphate) and 7 per cent. K_2O (potash).

On most soils, 42 lb. of National Growmore Fertiliser should be enough for a 10-rod plot (300 sq. yds.). A few days before sowing or planting, scatter 1 lb. evenly over every 10 sq. yds. and rake in. To give this general dressing to a 10-rod allotment will take 30 lb. This will leave 12 lb. for giving an extra dressing to potatoes, winter green crops and spring cabbages. 4½ lb. should be reserved for potatoes and should be applied at planting time. 5½ lb. should be kept for applying during August to the autumn and winter

green crops, when they are making active growth. The remaining 2 lb. should be used during March as a top dressing for spring cabbage.

On some allotments or in some gardens it may be necessary to give an additional top dressing of a nitrogenous fertiliser (such as sulphate of ammonia) to any growing crops, applying it at the rate of about 1 lb. per 10 sq. yds.

Lime is important

Much of our land is in need of lime. Every year the soil loses lime steadily and continuously. The rate of loss varies with the circumstances, but in industrial areas there is a special need for lime because of the acid ingredients in smoke and fumes from factories and business plants.

Gradual loss of lime makes the soil become acid and sour—and more so as time goes on. Now lime is an essential plant food; unless the soil contains it in suitable quantity, it is not possible to grow good crops.

Most cultivated crops dislike sour soil, except potatoes, which can stand it unless it is very acid. Turnips and swedes, for instance, are both unreliable on such soils and are less capable of withstanding drought and pest attacks. "Finger-and-Toe" or "Club-Root" also indicate the need for lime, as does a heavy soil that shows an excessive stickiness, a tendency to set hard and a difficulty in getting a good tilth. But light, sandy soils lose their lime very quickly, and it is on such soils that troubles from sourness are most common and acute. The presence of certain weeds, such as spurrey, sheep's sorrel and corn marigold, is one of the best indications of a lack of lime.

Some allotment holders and gardeners have perhaps found it difficult to get the kind of lime they need for their land. Probably they ordered hydrated lime and would not be satisfied with anything else. So they went without—and their crops suffered. That was a mistake, for other kinds of lime are just as beneficial as hydrated lime, if applied at the proper rate.

Some readers, remembering the science of their schooldays, may like to know a bit more about "lime." The word is commonly used to mean not only calcium oxide (quicklime), but also calcium hydroxide (slaked or hydrated lime) and calcium carbonate (limestone and chalk). Though quicklime used to be by far the most common form of lime bought by farmers, carbonate of lime is gaining considerable popularity and is now as much sought after as quicklime and its derivatives—ground and hydrated lime. Quicklime is obtained from either chalk or limestone burnt in a lime kiln. This is generally in lumps, or it may be further processed by crushing to form ground burnt lime, or still further by the addition of a controlled amount of water to form calcium hydroxide (slaked or hydrated lime). The last is always in a fine state of division, easily stored, and probably for that reason has been much in demand by gardeners. The other form of lime that is more suitable for storage is carbonate of lime, which may be limestone or chalk (really a soft limestone) both ground to a fine powder. Quality depends to a great extent on the pureness of the rock from which lime is derived.

The demands for hydrated lime are much greater than the supply.

This shortage affects farmers as well as allotment holders and gardeners, and is due to the fact that other vital industries—especially the building trade—need most of the hydrated lime produced to-day. What can the gardener or allotment holder do if he cannot get his little bit of "hydrated"? The answer to that is try finely ground limestone or chalk. Both are equally as effective as hydrated when applied in the appropriate quantities necessary to correct the sourness of the soil. Hydrated costs nearly twice as much as ground limestone; on the other hand it is necessary to put on one and a half times as much ground limestone as hydrated. Both ground limestone and chalk are fairly readily obtainable compared with hydrated lime.

It does not follow from what has already been said that all gardens and allotments need lime. The only sure way of finding out what is lacking in the soil is to have it tested. The local Parks Superintendent, the secretary of the district allotments or horticultural society or some knowledgeable neighbour would advise how this can be done. To sum up: do not neglect to lime your land if it needs it; but do not overdo it. As a general rule, the vegetable garden benefits from a dressing of lime every third or fourth year. Lime is particularly good for crops of the cabbage family and helps to control "club root." So lime the part of the plot on which these crops are to be grown. In fact, it is a good plan to lime a third of the plot each year, so that the whole plot will be limed once in three years. Apply the lime after you have finished digging. Do not apply it at the same time as farmyard manure. Fork it in lightly or let it lie on the surface to be washed in by rain.

The Part the Hoe Plays

The gardener may be forgiven if he is sometimes confused by the number of "secrets of success" imparted to him by one old hand after another; and if he refuses at first to believe that merely scratching over the ground can be an operation of much importance, he will not be the first who has failed to appreciate the value of the hoe. Too often the beginner only brings out his hoe to destroy a colony of weeds that has established a firm hold on the ground, instead of using it as a matter of routine. Just because no seedling weeds are to be seen it does not necessarily mean that no hoeing is needed. Loosening the top inch or two of soil regularly has the effect of destroying seedling weeds at an early stage, before they have begun to rob the soil of the plant foods you have been at such pains to provide. And the birds can more easily get at the pests in a loose soil. Disturbing the soil brings fresh particles into contact with the sun and rain, tending towards freshness and the release of more chemical plant foods. Besides these advantages, the top layer of loose soil acts as a "mulch" during the summer. The soil moisture is prevented by this layer of loose soil from evaporating rapidly; and the early morning dews are caught more successfully than on a hard crust, from which the moisture will evaporate as soon as the sun's rays fall on it. There is certainly more in hoeing than meets the eye.

For generations the advice "Keep the hoe going" has been given and accepted without question. But the results of twelve years' experiments at Rothamsted Experimental Station, however, show that this advice needs a little qualification.

In simple terms these experiments have shown that repeated hoeings do not always result in heavier crops. They have shown, however, that hoeing when seedlings or plants are small and just beginning to take a firm grip of the soil is very beneficial. One hoeing then appears to be worth several later on. In addition, the hoe should always be used after rain or watering has hardened the surface soil. This is specially needful on loamy or clay soils, as the surface is likely to crack, so damaging tender roots and allowing soil moisture to evaporate.

So, hoe between your crops at an early stage in their growth and keep down weeds by disturbing them as soon as they have germinated. Hoe after rain or after watering, and your crops should benefit from your labours.

A word of warning though to beginners. Move warily at first: try your hoe out on a spare piece of ground so that you have complete control over it. A hoe can be a dangerous weapon to young plants unless it is carefully used. If you use a Dutch hoe you walk backwards, leaving the ground free of footmarks. If you prefer a draw hoe—a swan-neck pattern—you either have to walk at the side of the row you are hoeing, or trample on the part you have already hoed, since you do not work backwards with this type of hoe. And with both a Dutch or a draw hoe, remember that it is the hand half-way down the handle that controls it. Grip the handle mid-way with the left hand (if you are right-handed) and keep your knuckles on top. By pressing the weight of your hand downwards in this way, you will be able, after a little practice, to steer your hoe round your plants without scratching them.

Chapter III. THE IMPORTANCE OF CROP ROTATION

SOME GARDENING BEGINNERS have no doubt been puzzled by the term "crop rotation." It sounds a bit mysterious, but it is really quite simple. And it is the only sound basis for vegetable growing. To be a successful gardener you must be methodical. What does "crop rotation" mean? Simply arranging your cropping in such a way as to avoid growing the same kinds of crops on any section of your plot one year after another. To grow the same crop on the same ground year after year is bad gardening for several reasons. There is also the risk that diseases and pests will be increased in the soil to attack again the following year.

Rotation of vegetable crops affects the condition of your land in four important ways. It ensures that every part of your plot carries, at regular intervals, crops that require thorough soil cultivation. It helps to maintain the content of plant food and humus in all parts of the plot. Some crops will repay for heavier dressings of fertilisers than others, and some will get what farmyard manure or compost is available. It helps to control weeds, for different crops need different cultivations at different seasons; though weeds may withstand the appropriate cultivations for one crop, they may be kept down by the cultivations for another crop. Finally, it helps to control pests and diseases.

The Ministry of Agriculture recommends a three-year "crop rotation" for a 300 sq. yd. plot, and its official cropping plan is reproduced

inside front cover. It is not intended that gardeners should follow it slavishly, for what suits one part of the country does not suit another. And people have different tastes in vegetables. The Ministry's plan aims at two important things—crop rotation and a sufficiency of vegetables throughout the year, especially in winter when so many gardens still show the scarcity of crops that results from poor planning.

The right approach for the gardener is, first to find out what vegetables grow satisfactorily in his neighbourhood, and then decide which of them he will grow, bearing in mind his family's likes and dislikes. He should then divide his plot into three equal parts. For simplicity we will call them A, B and C. On section A he will grow the first year potatoes and other roots—parsnips (if his family like them), carrots, beet and so on. On section B he will grow green vegetables—all the cabbage family; and on section C he will grow peas, beans, onions and leeks.

If farmyard manure is difficult to get (it is in most districts) and the gardener has to eke out the compost we hope he'll make, he should manure each year only the section that is to grow peas, beans, onions and leeks. So in three years the whole plot will be manured.

Now what happens to the plan the second year? He should just move his three groups round. On section A, go the peas and beans, onions, etc.; on section B, the potatoes and root crops and on section C, the green vegetables.

TABLE OF PLANTING AND PERIOD OF USE

Crops for a 10-Rod Plot

CROP	TIME OF SOWING	DISTANCE APART		PERIOD OF USE
		Rows	Plants	
BEANS (Broad)	Feb.-March	1 double row	6 in. by 9 in.	July
BEANS (Dwarf)	Late April-Early May	2½ ft.	9 in.	July-Aug.
BEANS (Dry Haricot)	Late April-Early May	2½ ft.	9 in.	Winter
BEANS (Runner)	Mid-May		9 in.	July-Oct.
BEET	(1) April	15 in.	6 in. (thin)	July-April
	(2) June			
BROCCOLI (Sprouting)	Mid-May	2 ft.	2 ft.	April-May
	Plant Mid-July			
BRUSSELS SPROUTS	March	2½ ft.	2½ ft.	Nov.-Mar.
	Plant May-June			
CABBAGE (Spring)	July-August	1½ ft.	1½ ft.	April-Jan.
	Plant Sept.-Early Oct.			
CABBAGE (Winter)	Mid-May	2 ft.	2 ft.	
	Plant Mid-July			
CABBAGE (Cold Districts)	April	1½ ft.	1½ ft.	Autumn
CARROTS (Early)	April	1 ft.	6 in. (thin)	June-Sept.
CARROTS (Maincrop)	June-Early July	1 ft.	6 in. (thin)	Oct.-May
KALE	May	2 ft.	2 ft.	Jan.-April
	Plant Mid-July			
LEEKS	March	1 ft.	6 in.	Mar.-May
	Plant July			
LETTUCE (Summer)	March and every 14 days	Between other crops	9 in.	May-Oct.
LETTUCE (Winter Hardy)	Sept.	1 ft.	9 in.	Spring
MARROW	May		3-4 ft.	July-Feb.
ONIONS	Mid-Feb.	1 ft.	6 in. (thin)	July-June
PARSNIPS	Mid-Feb.-Mid-March	15 in.	6 in. (thin)	Nov.-Mar.
PEAS (Early)	March and April	2½ ft.	3 in.	June-July
PEAS (Others)				
POTATOES (Early)	March	2 ft.	1 ft.	July-Aug.
POTATOES (Others)	April	2 ft.	1 ft. 3 in.	Sept.-Mar.
RADISHES	March onwards	1 ft.		May-June
SAVOY	Late May	2 ft.	2 ft.	Jan.-Mar.
	Plant July-Aug.			
SHALLOTS	February	1 ft.	6 in.	Jan.-Dec.
SPINACH (Summer)	Mid-April	1 ft.	6 in. (thin)	Summer
SPINACH (Winter)	Sept.	1 ft.	6 in. (thin)	Spring
SPINACH BEET	April	8 in.	8 in.	July-Oct.
or				
SEAKALE BEET			(groups)	Jan.-June
SWEDES	End June	15 in.	6 in. (thin)	Dec.-Mar.
TOMATOES	Plant end May		15 in.	Aug.-Oct.
TURNIP (Roots)	July	1 ft.	6 in. (thin)	Oct.-Mar.
TURNIP (Tops)	End August	1 ft.	Sow thinly	April

In the third year he should move them round again—on section A, the green vegetables; on section B, the peas, beans, onions and leeks; and on section C, the potatoes and root crops. Then, in the fourth year, he will begin the rotation all over again.

By this simple system you not only ensure that the ground is kept in reasonably fertile condition all over, but it helps you to gauge how much ground you should devote to the various kinds of crops. The rotation can be worked equally well in

the garden as on an allotment, but in each case space must be left somewhere at one end (say, 6 ft. wide) for the seedbed, marrow bed, compost heap and so on.

It is much easier, to arrange a proper rotation when starting from scratch; but even a garden that was worked last year could be brought into line by remembering where your crops were last season and trying to plant the appropriate vegetables this year to follow them up.

Chapter IV. ABOUT THOSE PESTS—AND WEEDS

GARDENERS WHO MAY have suffered badly from the ravages of pests may well have thought that gardening is just one long discouraging fight. But the "old hands" know that is not so; they know, too, that by keeping their plots as clean as they can, and by taking early measures to cope with any marauders that may appear, they can do much to reduce their losses and keep the pests in check.

First, a few wise words about what you can do to prevent pest damage before you start to use insecticides. Strong plants are less likely to be destroyed—and you only get strong plants by good cultivation and manuring. You must not expect insecticides to make up for deficient cultivation and manuring. Another important step is to get rid of the things that harbour pests: weeds, surplus seedbed plants, old brassica stumps and infested leaves. Growing the same crop on the same bed year after year also encourages pests, so that is another important reason for crop rotation. And then don't be

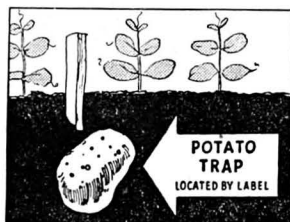
finicky about hand-picking caterpillars when you do find them.

Some gardeners regard all creeping and flying things as foes. That is a mistake, for they include friends as well. Let us for a moment consider some of the insects you may find under and above ground. Of the "underground" enemies, there is first the wireworm: the commonest garden foe that particularly fancies potatoes, tomatoes and carrots. It is $\frac{1}{2}$ in. long and has six legs. When you find it, break it in half or squash it. Later on in life it turns into a "Click" beetle or "Skipjack"; it is called a "Click" because if you put it on its back it jumps to it with a click. If you suffer badly from wireworm, it is worth trying to trap them. An old potato makes a good trap, or 3 in. of old kale or Brussels stalk split down the middle. Put these traps a few inches below ground in spring, marking the spots with sticks. You can do a great deal to rid yourself of wireworm if you set traps regularly.

But don't mistake the centipede for a wireworm. You can tell the centipede by the number of its legs—



WIREWORM TWICE ACTUAL SIZE



a pair to every section of its body. Don't kill the centipede, for it goes for your enemies—small slugs, worms and insects. The friendly centipede moves very quickly, while the millepede—a nasty sort of chap—moves slowly, though he has got two pairs of legs to every section, as against the centipede's one. You cannot go far wrong if you kill the slow-movers, and let the fast movers live. Anyhow, it's death to the millepede that attacks the roots of most of your plants!

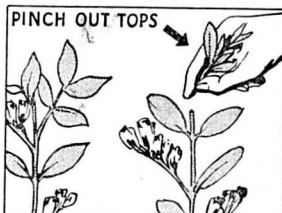
When you are getting the ground ready for planting in spring, look out for another enemy that works underground and attacks most crops—the leather jacket, the grub of the fly you call "Daddy Long Legs." One leather jacket can do much harm to many plants like lettuce and spinach, so you must kill him wherever you find him.

When the young plants begin to grow up, they meet new enemies—the chaps that do their work above ground. Most readers may have



LEATHER JACKET

suffered from black fly, especially if they have grown broad beans. These black flies harm the plant by sucking the sap and injuring the tissues; if they are allowed to go on, they will spread from the shoot to the cluster of young bean pods and spoil the whole crop. Now the black fly's bitterest foe is the lady-bird, but although she makes all her meals off black or green flies, she cannot cope with all of them. The black fly usually attacks the top of the plant first, just when it is beginning to flower, so pinch off the top to check it. The lady-bird won't mind. But if the black fly spreads despite your



efforts—and the lady-bird's—act as advised at the end of this note, where hints are given for dealing also with slugs, caterpillars, flea beetles and the cabbage root fly. But first a word or two about these other pests that may come your way.

One of the dangers of leaving a lot of rubbish lying about the garden is that it harbours slugs that will attack your lettuce, so that is an argument in favour of a clean garden, with suitable rubbish put in its proper

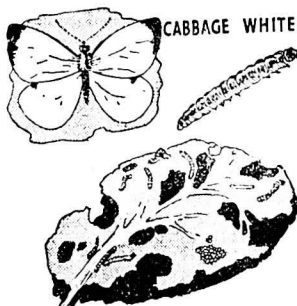
place—the compost heap—and unsuitable stuff burned.



SLUGS

Cabbage White butterflies are pests of the first order. It is bad enough to have to cope with our own native butterflies, but we also have to deal with the lot that fly over from the Continent every year. They come first in the spring and early summer, and leave us their eggs before they die. The eggs are laid on all kinds of cabbage crops, sometimes on stocks, nasturtiums and other plants. They are yellow, oval and pointed at one end. You will find the eggs in batches of 20 to 100; in about a fortnight they hatch out into young caterpillars that swarm together. You can tell them by their colour—bluish or greenish black, with a yellow line down the back and yellow sides. Their hairs are rather straggly. In about a month they are fed up—with your cabbages—and creep away to turn into chrysalides. About three weeks later, at the end of July or beginning of August, out come the butterflies which lay their eggs, and you get the second and more dangerous lot of caterpillars that do harm in August and September.

The Cabbage White butterfly has a pal—the small white butterfly that is responsible for the velvety green caterpillars. This butterfly lays her eggs one at a time and not in groups like the “Cabbage White.” Pick off and squash any caterpillars that you



CABBAGE WHITE

find. And squash any eggs you can find as well. It is a messy business, but it is worth it. And dust or spray the plants with Derris.

Another wretched pest is the cabbage aphid—the nasty greyish powder patches of insects that you may find on your plants. And then you may find holes in your young turnip leaves or in your young cabbages. They are the work of the flea beetle, which hops about so quickly that it is difficult to catch sight of. It eats the plant before it pops its head above the ground and keeps on with the foul work after the rough leaf appears.



FLEA BEETLE

Now here are the measures you are recommended to take for dealing with the most important pests that may come your way, though it is to

be hoped they won't. And remember that early action may save you a lot of bother later on.

SLUG. Destroy with well-mixed bait of "Metaldehyde"; $\frac{1}{4}$ oz. with $\frac{1}{2}$ lb. slightly wet bran broadcast very thinly on soil—3 oz. per square rod—or dot small heaps over affected area. If you can't get bran, use tea-leaves or sawdust.

CABBAGE CATERPILLAR. Dust plants at first sign of damage with Derris dust or spray with Derris insecticide. Repeat immediately more young caterpillars appear.

FLEA BEETLE. Dust seedlings with Derris, Nicotine or Naphthalene dust. Repeat two or three times at intervals of four days.

CABBAGE ROOT FLY. Prevent attack by putting $\frac{1}{2}$ teaspoonful of 4 per cent. Calomel dust on soil close up to the base of each plant, as soon as set out. Repeat a fortnight later.

BLACK FLY, GREEN FLY, CABBAGE APHIS. Spray with Derris or Nicotine wash. If sunny and warm, dust with Nicotine dust. Destroy all old cabbage stumps before mid-May.

Facts about Weeds

Gardeners may argue whether weeds or pests are their chief headache. When we are doing a bit of digging we can dig in the annual weeds, but we must be careful to dig up and burn such perennials as dandelions, bindweed, thistles, docks and couch. Most gardeners know the serious objections to weeds, but for those who don't, here they are. Weeds absorb from the soil moisture and plant food that would otherwise nourish and increase the vegetable or fruit crop. They crowd the crop and keep from it the sun-

light so essential for healthy growth; they prevent the air circulating freely among the plants, and they harbour and favour insect pests and fungus diseases.

But as a writer in *The Times* said nearly forty years ago, "Many a casual gardener owes what success he has largely to the accident of weeds. They demand the use of the hoe; and the more soils and plants are studied, the more manifest does it become that a friable, well-worked surface is the prime secret of cultivation, even in the case of things that grow deep."

The most obvious way to suppress weeds is to stop them seeding. And what trouble we should save ourselves if we did—and if all our neighbours did likewise! For many weed plants produce several thousand seeds. And the seeds of many weeds do not all germinate at the same time and may lie dormant in the soil and come up after many years. A single dandelion flower turns to about 170 seeds, but an established three-year-old plant produces nearly 5,000 seeds. But the groundsel beats that figure by 1,000. The pretty little blue-flowered Eye-bright can score 5,000, though the common dock easily beats that, for a fair specimen can easily carry 13,000 seeds. Hence the everlasting fight against weeds with hand and hoe and weed-killer.

On the other hand, on light soils, from which plant food is washed away by autumn and winter rains, it is a good plan to let annual weeds grow on patches from which crops have been lifted and are remaining bare for some time. The weeds take up the plant food and store it; and when they are dug in they give it up again by rotting away.

Chapter V. JANUARY

JANUARY IS GENERALLY a fairly quiet time in the garden. But you need to push on with your digging and manuring whenever the weather and the state of the land permit. You should also prune and begin to spray your fruit trees, if you have not already done these jobs (see Chapters XV and XVI). But January is a time when you should be thinking and planning, ordering your seed potatoes, vegetable seeds, fertilisers and so on—if you haven't done so, and making sure that your tools are in good order and that you are ready to begin gardening in real earnest next month, or as soon as local conditions will let you.

Seed Potatoes

You can work-out the quantity you will need fairly easily if you remember that seed potatoes usually average 5 or 6 tubers to the pound, and that a convenient distance to plant early varieties is a foot apart; other varieties, 15 in. apart.

Yields from allotments and gardens are usually less than from an equal area of potatoes on the farm. One important cause is unsatisfactory seed. No amount of manure or good cultivation will make up for the initial disadvantage of poor seed. It is unwise to save for seed potatoes grown in allotments or gardens. So get good seed carrying a "Health"

certificate issued by one of the Agricultural Departments. That is your safeguard. Consult some knowledgeable local grower about this and about the varieties best suited to your district. Here are some selected varieties for your guidance :—

EARLIES

Epicure, Arran Pilot, Sharpe's Express, May Queen, Ninety-Fold.

SECOND EARLIES

Dunbar Rover, Great Scot.

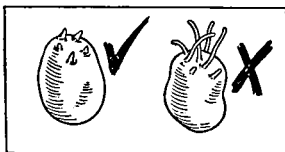
MAINCROPS

Majestic, King Edward VII, Arran Banner, Gladstone, Kerr's Pink, Redskin, Up-to-Date, Arran Victory, Arran Peak, Dunbar Standard.

As soon as you get your seed potatoes, place them in shallow boxes with the crown or rose end upwards, and keep in a cool, dry place with plenty of light, but frost-proof. Make quite sure by covering in severe weather. Sprouting potatoes makes for earliness and high yields.

Vegetable Seeds

Seedsmen, like most traders, are still working under difficulties due to the war. Before the war many of our seeds came from countries that were later overrun by the enemy, and while we can still get most kinds, certain varieties—perhaps your favourites—may be short. If you cannot get just the variety you like, trust your seedsman to supply the nearest to it. If you deal with a reliable firm, you will be safe to leave matters in their hands. But order well in advance of sowing time and give



the seedsman every chance to do his best for you. If you are in any doubt about varieties that do well in your district, your seedsman will be able to advise you—or you can consult an experienced neighbour. Estimating your seed requirements is fairly easy, once you have sketched out a rough plan of your plot and worked out the number and length of the rows of each vegetable you intend to have.

One pound of shallots contains about 25 bulbs, and 2 lb. should be about enough for an ordinary allotment row of 30 ft. Half an ounce of turnips or swedes will sow 100 ft. A $\frac{1}{4}$ oz. of leek will give enough plants for six or eight rows 30 ft. long.

One pint of Longpod broad beans will sow a double row 50 ft. long. One pint of Windsor broad beans will sow 40 ft. of a double row. Half a pint of French or Haricot beans is sufficient for 150 ft. This enables you to sow 2 seeds every 9 in. to allow for failures.

Half a pint of runner beans will

sow one row 50 ft. long. One ounce of beet will sow 90 ft. of row. Half an ounce of carrot is enough for 100 ft. A small packet or $\frac{1}{4}$ oz. of each variety of lettuce should be enough for successive sowings to give summer and winter supplies. One ounce of onion seed will sow 150 ft.—by sowing very thinly you can make it go still further.

Half an ounce of parsnip is enough for 100 ft. One pint of peas will sow 90 ft. of row—if you sow very thinly; for very early sowings you should allow a little more seed, as some may rot if the soil is cold and wet. One ounce of radish will give you all you need.

Look at Stored Crops

Inspect all crops you have in store. Potatoes, onions, shallots, carrots, beet and turnips should be looked at every few weeks, just to make certain that they are safe from frost, wet, rats and other enemies, removing any that show the first signs of decay.

Chapter VI. FEBRUARY

IF THE WEATHER be fine in February, we shall be anxious to get on to the vegetable plot; if it is not, then we can do a bit of thinking and planning indoors. We can profitably take stock of where we stand and make sure that we are ready to start operations as soon as the weather is right and the ground fit. Never work the soil when it is too wet and sticky and clings in lumps to your boots. You do more harm than good by walking on it and working it when it is like that. And that applies also to sowing seeds, for seeds sown in cold, wet

soil will rot instead of germinating, or they will make but poor growth.

If you can settle down to do a bit of thinking and planning—and plotting things out on paper—it will be worth your while to read carefully what is said earlier about the importance of crop rotation. It may save you a headache in the months ahead if you plan the lay-out of your vegetable plot. And when you do, bear in mind what you have got growing now in the way of vegetables. If you have an abundance and a good selection—and your family eats what you

grow—then you won't go far wrong if you stick to last year's plan (rotating your crops, of course). But if your wife, or whoever runs the kitchen department, complains that there is little or nothing in the garden and that shop prices are high, it would pay you to plan so that you grow your own winter vegetables—especially greens. But before you get down to planning, have you yet got or ordered what you will need when you can start outdoor operations? These are the items: seeds, seed potatoes, fertilisers.

Finally, see that your tools are in good condition for use. When you start outdoors you will need a line for straightness and pegs to mark the rows. And you would find a 6-ft. rod, marked off in 6-in. and 3-in. sections, very useful.

And continue to have a look at your stored crops to see that there is no damage or decay. Rub off any potato sprouts on your eating crop in store. Lift any outdoor parsnips to check growth, storing them under protection at the north side of a fence or wall, if you can.

Perhaps, if the weather is suitable, you will be sowing broad beans (unless black fly has broken your heart!) and spinach in February—and planting shallots and Jerusalem artichokes (if you like them). Have you got these items or ordered them? If not, get busy. And if you have planned all you are going to grow this season, order all your requirements right away from your seedsman or nurseryman.

If you still haven't ordered your seed potatoes, do so at once. And don't forget to "sprout" them, as advised in the last chapter.

Onions "

There are three ways of growing onions for storage :—

- (1) by sowing seed under glass or in warm frames in January and February, and transplanting in April;
- (2) by sowing seed in the open in February or March ;
- (3) by sowing in early autumn and transplanting in March.

By sowing in boxes, seed can be made to yield the maximum number of plants. The second method is popular and can be freely practised almost anywhere; but where soils are difficult to work or onion fly is troublesome, the other methods are recommended.

The onion bed must always be carefully prepared whatever method you use. Soil should have been dug early (before Christmas) and manured liberally. Firmness of soil is essential.

Early sowing is also important, and the bed should be prepared as soon as soil is dry enough to work in February or March, that is, when it does not stick to the boots. Tread it both ways and rake level, removing all large stones. The seed drills should be drawn 9 to 12 in. apart and about 1 in. deep. Sow seed fairly thinly and evenly and cover it with earth with the feet or back of rake. The soil requires to be gently consolidated by another light treading or by using a light roller.

Onion seed is rather fickle; it may germinate well or badly, and quickly or slowly according to weather conditions; but 1 oz. of seed should be sufficient for at least 100 ft. As a rule, it takes about three weeks to come up. It is a good plan to mix with it a little radish seed; this will germinate

quickly and mark the rows, making it possible to cultivate and weed between them before the slower germinating onions come through, when the radishes can be pulled for salad.

Shallots

Shallots are easier to grow than onions and some gardeners prefer them for that reason; in fact, shallots are a sort of hardy perennial onion grown annually from small bulbs or "sets." You can also grow shallots from seed, but these bulbs are really small onions and are useless for replanting and should be used up each year.

For a 300 sq. yd. plot two rows of shallots are suggested and should be planted in February. Sets of medium size (20 to 25 to the lb.) should be used and each set should produce five or six large bulbs. Two lb. of bulbs should be about enough for one row of 30 ft.

Plant in rows 1 ft. apart and 6 or 9 in. between the bulbs, leaving the top of each bulb just showing above soil level. Crops are usually mature by early July and should be taken up, carefully dried and stored.

Save, for replanting, sufficient *medium-sized* bulbs from strong, healthy plants (mark them with a stick during the growing season). Avoid using bulbs from plants that have made but poor growth and may show yellow and green mottled leaves, which suggest virus disease.

Broad Beans

The earliest and often most successful crops of broad beans are obtained by sowing in autumn (but not in the North, unless protected by

frames or cloches); but a second sowing can be made during February. The broad bean does best on land manured for a previous crop, such as potatoes.

It is best to sow two lines of seed to each row, with 6 in. between the seeds and 2 ft. 6 in. between the rows. But if only one line of seeds is sown, 2 ft. between rows will be sufficient.

Sow 2 in. deep in holes made with a dibber, dropping one good seed in each hole. Or make a flat-bottomed drill 2 in. deep. Space the seed out 6 in. apart.

Summer Spinach

If you wish, you can make successional sowings from February to May in drills 1 in. deep and 12 in. apart. Thin out the plants as soon as they are large enough to handle, first to 3 in. apart, removing alternate plants about a fortnight later. You can cook these thinnings. On light soils spinach runs to seed fairly quickly in hot weather, so hoe regularly and water freely at such times, if you can. Spinach likes well-manured ground.

Jerusalem Artichokes

Your family may like artichokes. And if you keep poultry or rabbits, they will like them, too. Another good point is that you can grow artichokes in any odd corner, and they can be useful to screen a shed or the manure or compost heap. Though they can put up with rougher conditions than most vegetables, they will repay for good cultivation.

You can plant artichoke tubers in February or March in drills 6 in.

deep. Set the tubers 12 in. to 15 in. apart, leaving 2 ft. 6 in. between rows. When the plants appear, hoe between them and draw the soil towards them. You cut the tall stalks down in early winter, leaving the tubers in the ground and lifting as you need them. Keep a number of tubers for replanting to provide a supply for the following year. Though artichokes are perennial and can be left in the ground several years, it is well to lift and replant a section every year so that the land doesn't get weedy or overcrowded.

Rhubarb

If you grow rhubarb, February or March, when growth is starting, is the time to divide old roots, using a sharp spade or knife, and cutting so that each piece contains at least one or two good buds. Rhubarb likes deeply - dug and well - manured ground (use compost if you cannot get manure), for the plants usually have to stay put for several years.

Plant in a sunny spot about 2 ft. apart, and do not pull any of the stalks from plants divided this year.

Chapter VII. MARCH

MARCH IS THE MONTH when gardeners really begin to get busy putting their plans into effect and starting work to produce of their abundance. Now, abundance in summer is easy, *but sufficiency in winter—especially late winter and early spring*—is another kettle of fish. Too many gardeners still fall down on winter production, due to lack of planning. Your local Parks Superintendent or your local allotment or horticultural society may have produced a plan that suits local conditions and makes adequate provision for winter vegetables. Or you can adopt the Ministry's cropping plan (see inside covers), not blindly, but as a guide that you can adapt to meet your family's likes and dislikes and modify in the light of your knowledge of the kinds of vegetables that can be grown satisfactorily in your neighbourhood. And it may be worth your while re-reading what is said earlier about the importance of crop rotation.

Any week now, when weather and soil are right, you will want to start

sowing and planting. Wait for a fine spell, and when the soil is workable, you will perhaps be making successional sowings of broad beans and spinach as described in the February chapter. You will also be sowing seeds of Brussels sprouts and leeks—both in a special seedbed; parsnips, peas, onions, lettuces, radishes and parsley—where they are to grow on. And you may also be planting out autumn-sown onions.

But before getting down to detailed advice on sowing and planting, here are a few brief *reminders* that may not come amiss.

Uproot those Stumps

Clear away those old stumps of Brussels, cabbage and so on and get the land prepared for another crop.

Seeds

You have no doubt already got the seeds of the vegetables just mentioned—also your seed potatoes, which should have been “sprouted”;

but during April and May you may be sowing beet, carrots and turnips, as well as runner beans (perhaps French and Haricots too), kales, savoy, cabbages and spinach beet. Marrows must not be overlooked either, if your family likes them. Make sure you get all the seeds in time.

Fertiliser

You have probably got a supply of a suitable fertiliser containing the three necessary plant foods—nitrogen, potash, phosphorus—with which to dress your land before sowing and planting. If you haven't, "National Growmore Fertiliser"—a Government recommended product—would suit your needs (see p. 5).

Sticks and Stakes

In April you will be sticking your peas, in June your runners. If you intend to grow tomatoes, you will need stakes for them at the end of May when you plant out. Have you got your sticks and stakes or ordered them?

Feed Spring Cabbage

In Chapter II we recommended that out of the 42 lb. of "National Growmore Fertiliser" that you might buy, you should set aside 2 lb. as a top dressing for spring cabbage. Or you can use sulphate of ammonia, applying it at the rate of 1 oz. per yard run. Lettuces and spinach would also benefit by a similar application. But keep the fertiliser off the leaves.

Lift Leeks

If you grew leeks last season and need the land on which they stand for other crops, lift the remaining

plants and heel them in in a shady spot. In any case, it is not wise to leave leeks too long in their rows.

Getting the "Root" Ground Ready

As soon as it becomes free, dig over the land you intend for your root crops. Leave it rough until you are ready to sow. In April you can break it down and lightly fork in a dressing of 1 lb. of "National Growmore Fertiliser" to every 10 sq. yds.

How to make and use a Seedbed

Some seeds are best sown in a seedbed—for instance, cabbage, kales, sprouts, sprouting broccoli and leeks; others, such as the root crops and lettuces, are usually sown where they are to remain. As you may be sowing Brussels sprouts and leeks during March, let us first say something about the seedbed and its use. Here are the essential points:—

Mark off a patch about 6 ft. by 4 ft. for a 300 sq. yd. allotment or garden. Break down all lumps during a dry spell and remove any stones and all roots of grass or weeds. Make the soil firm by treading it as soon as it is dry enough not to stick to your boots. Don't stamp it down.

Loosen top surface by lightly raking. Place short sticks to mark ends of rows, which should be 4 ft. long across the bed and 6 in. apart. Stretch line between sticks.

Stand on a board so as not to tread ground too hard, and make shallow drill along line with label or stick.

Sow an even single line of seed along bottom of drill. Cover seed lightly with soil. A good way is to shuffle slowly along with a foot on

either side of the drill, and without raising the feet slide the soil back and lightly press it. On heavy soil you may find it easier to scatter fine soil into the drill instead. Rake lightly to finish.

Here are two March items for the seedbed:—

BRUSSELS SPROUTS. A small packet of seed is enough for each of the cabbage family. Seed may be sown in seedbed drills about $1\frac{1}{2}$ in. deep—1 ft. apart—from third week in March to end of April. Sow thinly, allowing $\frac{1}{2}$ in. between each seed. To protect seedlings from birds use black cotton or wire guards and do it immediately after sowing.

LEeks. Sow thinly in mid-March in shallow seedbed drills.

Here are several items for sowing in March on the actual site where the crops will grow.

Parsnips

Seed may be sown from mid-February to mid-March. Soil for parsnips should always be deeply dug and worked to a fine surface tilth before sowing. Sow in drills 15 in. apart and 1 in. deep, dropping the seed in small clusters of three or four, 6 in. apart. Thin seedlings of each cluster so as to leave only one.

Peas

In view of the difficulty of getting pea sticks, dwarf and medium varieties are most suitable for the garden or allotment, since they can be supported by fewer sticks or by string stretched between short sticks inserted at intervals either side of the row. If mice are troublesome, before sowing shake the seed in a tin containing a little red lead or paraffin.

Never sow peas in wet soil. Wait until it is just nicely moist and works freely. Sow in broad, flat drills from 2 to $2\frac{1}{2}$ in. deep, made with either draw-hoe or spade. Don't just scatter the seeds slapdash in the drill: set them out in three rows, allowing about 3 in. each way between seeds. This may sound unnecessarily finicky, but it is worth it and the job takes only a few extra minutes.

Space the rows according to the height of variety, 2 ft. for dwarf, 3 ft. for medium and 5 ft. for tall.

Birds will attack the germinating seeds as they come up, so protect the rows with black cotton stretched on sticks about 6 in. above soil. Or you can use pea guards.

Lettuce (Summer)

Begin in March to sow very thinly in drills, half a row at a time, $\frac{1}{2}$ in. deep, the rows being 1 ft. apart. Continue to sow at fortnightly intervals until July. March-sown lettuces attract slugs, so lime the surface as a deterrent.

Thin the seedlings when the first pairs of true leaves are well formed. The final distance apart should be from 9 to 12 in.

Radishes

If you like radishes, you can make a small sowing in March ($\frac{1}{2}$ in. deep) and follow up with sowings about every three weeks until May, to keep up a continuous supply.

Parsley

Make a sowing of parsley in March ($\frac{1}{2}$ in. deep) and a second sowing in July for succession. Thin seedlings to 3 to 4 in. apart.

Onions

Autumn-sown onions should be transplanted in early March on to the prepared onion bed. Plant in rows 1 ft. apart with about 6 in. between plants (for large onions).

Potatoes

The household grower should not overdo potatoes (as many are apt to do); he should not aim at self-sufficiency in this crop unless he has enough ground to allow him first to grow green crops—salads, summer vegetables and, above all, enough winter greens and root crops for his family. The advice is three 30 ft. rows of "earlies" and six 30 ft. rows of main crops for a 300 sq. yd. plot. On plots half that size or less it would be unwise to use any of the space for main crop potatoes, though two rows of "earlies" might be grown. The limited room in small gardens would be better used for growing green winter vegetables.

PLANTING EARLY POTATOES

If possible; all potato planters—great and small—should "sprout" their seed potatoes before planting, as advised (see "January."). In any year it is a useful thing to do before planting, because it makes for a larger yield and brings the crop to maturity some weeks earlier.

If you have sprouted your seed potatoes, there is no need to be in a hurry about planting them out. Wait for favourable conditions. With unsprouted seed, however, it is important that the first sprouts, which are the most vigorous, should be formed in the soil rather than in the bag, for this will reduce the risk of damage in handling. This means early planting.

A simple way of planting is to take out shallow trenches 2 ft. apart and 4–5 in. deep on heavy soil, and about 6 in. on light land. The distance between the tubers in the row ought to be not less than 12 in. (15 in. for maincrops).

Heavier crops will be secured by using fertilisers. For gardens and allotments "National Growmore" fertiliser is most convenient. The method is to give a dressing of 1 lb. per 10 sq. yds., forked in before planting. Also sow in the drills before planting a light dressing at the rate of 1 lb. per 60 ft. Tubers should not be dusted with artificials, as the eye or sprout may be damaged.

Don't apply lime to cultivated soil in the same season in which it is proposed to crop it with potatoes.

The Fruit Garden

Fruit trees benefit by a spring application of 1 oz. of sulphate of ammonia per square yard, worked into the surface soil in spring. And if you are having garden bonfires in March, don't forget to keep the wood ash in a dry place. Apples and pears need the potash the wood ash contains, so work the ash into the soil in April.

Plum trees, too, benefit from a dressing of 2 oz. of sulphate of ammonia to the square yard in spring.

Apples (except "Beauty of Bath," "Stirling Castle" and "St Cecilia") may be sprayed with lime sulphur while still in the green bud stage, that is, when the green flower buds are visible but have not begun to turn colour. This treatment will protect against "scab," but should be repeated during April.

PRUNING

Unless absolutely necessary, do not prune stone fruits, owing to the tendency to "gum" and the danger of disease. Prune plums and damsons in late spring or early summer, sawing out any diseased, dead, broken or rubbing branches. "Dead" branches should be cut back to healthy wood, that is, wood showing no brown stain.

In removing large branches take off close to the main branch. A few

cuts of the saw are made on the underside of the branch, to prevent damage by the bark being stripped off when the branch falls. To speed the natural healing process, pare the cut surface with a sharp pruning knife, and paint with white lead paint to seal the wound against the entry of disease. This painting is very important with stone fruits and *should be done immediately the wound is made.*

Chapter VIII. APRIL

IF APRIL LIVES UP to her reputation, she will give us alternate sun and shower. But we shall look to her for useful spells of sunny weather throughout this busy gardening month. But first let us sound a word or two of warning. Good Friday is the traditional day for potato planting; but the wise gardener knows that it's risky to stick to traditions: he pays more attention to soil and weather conditions. And although we shall be only too anxious to get on with arrears of clearing up, digging, seed sowing and planting, we shall find that "hasten slowly" is still sound advice when soil conditions are not right. But once weather and soil are right, we should take time by the forelock and get on with the job—not leaving everything to the week-end, if we can help it, but seizing any opportunity of an evening—when it's fine—to put in a little time on essential work on the plot. Little and often will help us along far better than crowding a lot into the week-end that may turn out wet.

In Spring, though, many little jobs come along that need to be done

when the time is right. A few days' delay may spoil things: thinning seedlings, for instance; a wet week-end makes the young seedlings romp away.

April is certainly the time for using the Dutch hoe regularly and often. Hoe freely—just the surface, not deeply—between all growing crops and on vacant ground on every favourable occasion. Try, if you can, to move all ground at least every ten days when growth is active, so as to maintain a loose surface mulch and keep down weeds.

In earlier chapters you were reminded about getting all your seeds in good time—your fertilisers, too, as well as pea and bean sticks. One "seed" item not so far mentioned is *swedes*.

Though you can sow swedes as early as April, we recommend two rows in June. Swedes are often successful in districts where it is not so easy to grow carrots, and the field varieties resist the cold better than turnips. Swedes are usually sown in mid-June in the South, though in the North they may be safely sown

earlier. More will be said later about swedes.

Have a look at your *shallots*. You may have planted them a little too loosely and the weathering may have left them almost bare of soil. Firm them in now.

Now a word or two about *tomatoes*. Of course, you won't think of planting them out until the end of May or the first week in June; but if you have not done so, you would be wise to put in your order for plants with a reliable supplier. Be warned: don't buy plants that you see for sale much earlier than they should be. You will be disappointed if you do.

And what about Brussels sprouts? These need a long period of growth. If you have not sown seeds in the seedbed and you intend growing them, you should order your plants so that you are not caught napping when you want to plant them out in May or June. And now is the time, if you have not already done so, to clear away those old cabbage and other green stumps that may be taking up ground that should be cleared and dug over ready for a following crop. For one thing, these old stumps harbour pests; but, even more important, if you let them stop until they flower, you may well do harm by cross-pollination to the crops of the professional man who is growing them for valuable seed.

* * *

Now for the seed-sowing jobs of the month, remembering that a few days before sowing or planting (except on the seedbed) 1 lb. of a good complete fertiliser—"National Growmore" for instance—should be scattered evenly over every 10 sq. yds. and raked in.

Beans—Dwarf and Haricot

The plants of dwarfs are tender and should not be sown in the open until mid-April in the South and mid-May in the North. Successive batches can be sown until mid-July. Rows should be 2 ft. or 2½ ft. apart, with 9 in. between plants. Use a dibber, or draw a shallow trench with a hoe, about 2 in. deep. If you put two seeds at each interval you can reckon on a regular stand. Pull out the unwanted weaker plant, when sufficiently advanced. A light mulching of the surface with lawn mowings, decayed leaves or compost will help to keep the plants growing.

If you grow haricots for storing, you proceed as for dwarfs, but you don't pick any green pods. How you deal with them is explained on p. 47.

Beet

Globe beet matures quickly and is suitable for general cultivation. It is easier to boil in the usual kitchen pot than the longer varieties—a point that the housewife will appreciate. Sow globe crops in April, longer varieties in May. Drills should be 1½ to 2 in. deep and at least 1 ft. apart. Sow seeds in small clusters 6 in. apart, to avoid waste, and thin the plants to one when three leaves have formed. A few strands of black cotton stretched above the rows will protect the seedlings from troublesome birds.

Cabbages

If you have enough room, and you would like a choice of green vegetables in late summer, sow a row of cabbage now in the seedbed (see "March").

Carrots

The first sowing of carrots—a stump-rooted kind—(to provide roots for summer and autumn) should be made in early April. The storage crop is best sown in May or early June. If sown early, thinnings may be pulled and used as early carrots without harming the rest of the crop; but the ground must be made firm again after thinning out, to reduce the danger of carrot fly attack. A late sowing in mid-July will provide tender young carrots for use the following spring (April-May).

Sow seed thinly in drills drawn 1 ft. apart and 1 in. deep. As carrot seed is small, mix a little dry earth or sand to avoid too thick sowing, which wastes seed and means a good deal of thinning. First thin in the seedling stage and keep the bed free from weeds by frequent use of the hoe. Plants should finally be 6 in. apart.

Lettuce

Continue to sow a short row ($\frac{1}{2}$ in. deep) every fortnight, to make sure of crops in succession.

Peas

In March we dealt with the sowing of peas. This is just to remind you to sow maincrop peas in April. For late crops you can sow such varieties as Little Marvel and Onward as late as June. Unless your soil is in very good heart, a top dressing of superphosphate—2 oz. per square yard—at blossom time helps the pods to swell.

As soon as the peas begin to make their third pair of leaves, they will be ready for sticking. Even dwarf peas do better with a little support—

a few twigs are all that is necessary. Before sticking, hoe the ground beside the rows and remove any weed seedlings showing between the plants, as they will be more difficult to get at when the sticks are in. Don't cross the two rows of sticks at the top, as this usually makes the plants get tangled in a mass; stick them firmly in the ground—upright. Trim the tops and put the twiggy trimmings in at the bottom by the larger sticks, so that the young plants can grasp them first before climbing on to the sticks.

Potatoes

Planting early potatoes was dealt with in March (p. 21). April is the month for planting varieties other than "earlies."

Radishes

Don't forget to sow them little and often, if you like them. Sow very thinly and there will be no need to thin the seedlings. A useful idea is to sow a few radish seeds in the drills along with onions, carrots and beet. Plant one seed every 6 in. or so along the drills; they grow quickly and show you the line of the drill before the other seeds germinate. Hoeing and weeding can then begin earlier.

Spinach

Some gardeners may be a bit confused yet about spinach, spinach beet and seakale beet. Spinach may be sown both in spring (March to May) and late summer (August). Drills should be 1 in. deep and 15 in. apart. In autumn or early winter, spinach beet supplies leaves that take the place of spinach. It is also

known as "Perpetual Spinach" and some people prefer it. The drills should be 18 in. apart. You can sow it in April and again in July.

Seakale beet is also known as "Silver Beet" or "Swiss Chard." It is a dual-purpose vegetable. The leaf stems are large and white, but the leaf is green. You can cook the green part of the leaves as spinach and the white stalks and mid-ribs, stripped of foliage, may be cooked like seakale. You can sow this in April, too—drills 1 in. deep and 18 in. apart. Later on, you thin the seedlings as you would with spinach or spinach beet. With the last two, you thin out to 3 in. apart in the first instance, removing alternate seedlings after about a fortnight. With seakale beet, the first thinning should be to 4 in. apart, finally leaving about 8 in. between plants.

Turnips

If you have space to spare, you can sow turnips in April. But you may have to wait until July, when the early potatoes have been cleared, so we will deal with this crop in that month.

Onions

Now is the time to plant out *onions* raised under glass (see p. 16). Harden the plants off gradually and plant them out in rows 1 ft. apart, leaving 6 in. between each plant. See that each bulb is set just on top of the ground and press the soil firmly around its roots.

The Fruit Garden

Last month you were advised to spray your apples with lime sulphur as a protection against scab. You should repeat this in April when the trees are at the "pink bud" stage, that is, *before* the flower buds begin to open, but after they have begun to show colour.

Early in April you may have to spray your blackcurrants, if they are troubled with "big bud."

• Lime sulphur is the spray for this and you can get it ready made up with full directions for use.

Gooseberries also should be sprayed in April with lime sulphur, to ward off mildew before the flowers appear.

Chapter IX. MAY

MAY IS FICKLE and fitful; sometimes sunny, sometimes stormy—and sometimes more than a bit frosty! That is the trouble with May, those killing frosts that do so much damage to our fruit blossom and young potato plants, and catch the unwise and unwary who put out their tomato plants too early and without protection. The end of May is quite soon enough for outdoor tomato planting. Too often we gardeners cling to tradition and get too far

ahead with our sowing and planting, regardless of how our weather varies and how treacherous it can be.

May is a month for many jobs on the vegetable plot and it's not easy to keep pace with them all. Let's just list them now and deal with them in turn. Here they are :—

Thinning seedlings; earthing up potatoes; mulching peas and beans; top-dressing certain crops; sowing winter greens in the seedbed and planting out Brussels; making succes-

sional sowings of earlier crops; sowing runners and marrows; planting celery; planting out tomatoes; attending to the compost heap and keeping an eye open for pests. We will deal with each in turn.

Thinning

Always try to seize the opportunity, if the ground's fairly moist and the weather cool with a promise of warm showers to come, to thin any crops that need it—lettuce, spinach, parsnips and, later on, spring-sown onions. If these crops need thinning when the soil is too dry and the weather seems set fair, water them thoroughly before thinning and again as soon as you have finished. This will prevent too great a disturbance of the seedlings remaining while their neighbours are being pulled out.

Generally thin seedlings twice; first leaving twice as many plants as you will need; at the second thinning remove every other plant. Always pull out the weakest seedlings, leaving the strongest to grow on. Hoe between the rows, removing any seedling weeds at thinning time, and leaving the plot tidy.

Earthing-up Potatoes

It is important that during the period of active growth your potato plot should be hoed and kept free from weeds. If there is a danger of frost when the young plants appear, cover them lightly with soil. The first earthing up should be done when the plants are some 6 in. high, and further soil should be drawn up to form a ridge about three weeks later. But don't cover up the leaves this time—they need all the light and air that they can get. Earthing-

up helps to keep the haulms upright, and prevents the tubers from being exposed to the light, which would make them go green. Incidentally, a good covering of soil over the tubers protects them in case of an outbreak of blight on the foliage. Blight spores don't work down the stems to the tubers, as some people think; they drop from the haulm directly on to the soil. So when making your ridge, don't leave a very pronounced furrow at the top, into which rain may wash the blight.

Mulching Peas and Beans

Both peas and beans specially need moisture to produce a good crop. In very dry weather, instead of watering, spread grass mowings, decayed leaves or compost to a depth of 1 in. along each side of the rows.

Top-Dressing

Very young plants, such as lettuce and spinach, will appreciate a top-dressing of sulphate of ammonia—about $\frac{1}{4}$ oz. to the yard run.

Greens for the Seedbed

May is the month for sowing in the seedbed seeds of sprouting broccoli (mid-May), winter cabbage (also mid-May), kale and savoy (late May). How to use a seedbed is described on p. 19.

Planting Brussels Sprouts

May to June is the period for planting out your Brussels. Allow 2½ ft. between rows and the same distance between plants. Don't forget that the plants need a long season of growth to develop properly. If your ground is poor, you would do well to fork well into the surface,

before planting, 2 oz. to the square yard of some complete fertiliser such as "National Growmore," which is of special value to crops that have to stand the winter.

Be careful in lifting from the seedbed to see that you get a good ball of soil round the roots. Should the weather be dry, water the seedbed row the night before. Plant with a dibber deep enough to bury the roots and stem up to the first leaves. Press the soil firmly round the plant with the dibber or your heel. If you plant in dry weather give the plants a good watering. Some gardeners practise puddling, placing soil and water in a bucket and plunging the plant's roots in it before planting. If the dry weather continues, water the plants each day, if you can, until they are established and show signs of making new growth. Hoe frequently between rows and plants. To make watering more effective some gardeners plant in a drill about 3 or 4 in. deep.

Sow for Succession

Beet, carrots, lettuce and radishes (see March and April chapters for directions).

Sowing Runners

Runners do best on soil well trenched and given a good dressing of manure or compost, as advised on p. 3. Clay soils are usually too wet and cold for them.

One pint will sow a double row of 50 ft. The plants are very tender and seeds should not be sown in the open until May, though early crops may be secured by sowing in boxes in a frame or a greenhouse and transplanting later. In the open, sow the seed in double rows with 9 in. of

space between the plants. For single rows, the plants should stand 12 in. apart.

If you have double rows, it is an advantage for staking to put the plants opposite each other. It is a mistake to overcrowd runner beans. Seeds are best sown in a trench and should be placed 2 in. deep. Don't forget to sow a few extra at the end of the rows to fill up gaps.

Runner beans produce best when supported by stakes or some other contraption that allows them to climb; they can also be grown as dwarf plants by pinching out the growing shoots as they appear, but the yield will not be so heavy. Stout, straight stakes, 6-8 ft. long, without branches or twigs, are best for runner beans. Stakes are inserted against each plant and slightly inclined so that they cross at the top, allowing for a cross stake to be fixed; this should be firmly tied.

During dry weather, runner beans derive great benefit from watering; in fact, drought is often responsible for the flowers dropping and failing to set. To induce a good set it may be necessary to syringe the flowers with water. Keep the beans closely gathered as they mature, so as to prolong cropping.

Sowing Marrows

Choose a sunny corner for your marrows, digging some well-rotted manure or compost into the bottom of the bed, which should be taken out one spit deep. Sow towards the end of May, placing groups of four or five seeds about 6 in. apart and 1 in. deep. Eventually thin to two plants, 12 to 15 in. apart.

Take care not to let the young plants suffer from lack of water; give

them plenty in dry weather and hoe regularly to keep the bed free from weeds.

Planting Celery

If you want to grow celery (and you have not been able to sow seeds in heat), you should buy the plants ready for planting out in late May or June. Celery likes richly prepared ground. Dig out a trench 18 in. wide and 1 ft. deep, and fork manure or compost into the bottom of it, returning the soil to within 3 in. of the level of the ground. Set the plants carefully in staggered double rows, 1 ft. apart—10 to 12 in. between plants. Water them in and give them plenty of water when the weather is dry. Dust with soot at intervals, as a prevention against leaf maggot. Earthing-up is dealt with in June (p. 32).

Some people like *celeriac*—a turnip-rooted celery—for flavouring stews. You may like to try a row as an experiment. Plant in shallow drills 18 in. apart, 12 in. between plants. Celeriac also needs plenty of water in dry weather. Remove side shoots as they appear and hoe regularly.

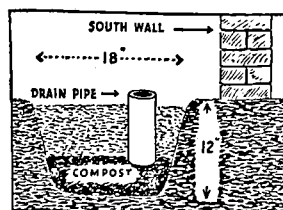
Tomatoes

The tomato seems to be crop no. 1 with gardeners and allotment holders. Unfortunately, despite many warnings, some amateurs have been taken in every year by unscrupulous people who sell them tomato plants far too early for planting outside. It is foolish to hope that the danger of frost is past until at least the end of May. As with so many gardening jobs there is no fixed date for planting; it varies from about May 20 in the South-West to the end

of the second week in June in the North. Little is gained and much may be lost by rushing plants out of doors a week or ten days before the weather has warmed up. The plants do not grow away well, and if the nights are cold they turn a dark, unhealthy colour and are seriously checked.

Always buy your plants from a reliable supplier. A well-grown tomato plant should be sturdy and short-jointed—about 6 or 8 in. high, with the buds of the first flower truss visible in the head of the plant. The distance between the leaves should be small and the leaves should be dark and of a bluish tinge. As a rule, plants produced in pots are best for planting in the open. Avoid “leggy” plants at all costs.

To grow tomatoes successfully in the open you must have a good site. The best spot would be in the shelter of a wall or fence facing South or South-West, because there the temperature won't fall too low at night. The plants will get some sunshine there and be protected from the cold east winds we often get early in June. Get the ground ready well in advance of planting. Take out a trench 9 to 12 in. deep and 15 to 18 in. wide and dig compost or well-rotted manure into the second



spit. For watering during summer get some unglazed drain pipes, if you can, and put them upright into

the trench, 3 ft. apart. Then fill up the trench with the soil you took out. These pipes will let the water get to the subsoil, which it is difficult to wet by surface watering.

When you fill up the trench, sprinkle a suitable fertiliser—"National Growmore," for instance—over the surface: 1 to 2 oz. to every yard of trench, and mix it in with a fork.

The plants should be at least 18 in. apart in the row; if you have more than one row, make the rows 3 ft. apart. Measure and mark out beforehand where the plants should go, putting in a 4-ft. stake at each position.

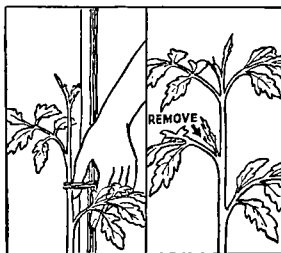
Before planting, make sure that the ball of soil round the roots is really wet. If you have bought plants in pots, stand them in water for about 20 minutes so that the ball is completely covered. Drain away excess water before planting.

Plant with a trowel. When planting from pots, take care not to damage the roots when you take the ball of soil out of the pot. Make the hole about $\frac{1}{2}$ in. to 1 in. deeper than the height of the ball of soil. Then put the ball in the hole and pack the soil tightly round it. Make a saucer-like depression round each plant: it is very useful for watering if you have not sunk drain pipes, and the absence of loose soil round the base of the stem makes it difficult for wireworm to get in.

Immediately after planting, water each plant thoroughly to set the soil round it. Then watch out that the ball of soil does not begin to dry out. If it does, give each plant a good watering.

When you have finished planting, tie the plants to the stakes you put in as markers. Tie loosely; a good

guide is to leave room for your thumb to go between plant and stake. As the plant grows, tie it again to keep it upright, and remove every side shoot that appears in the corners formed by the leaf stalks and the main stem. These side shoots are usually dealt with when they are about 1 to 1½ in. long. Don't let them get too big; if that happens, cut them off close to the stem with a sharp knife.



The Compost Heap

May is the time of the year when further materials such as waste vegetable matter, coarse grass, lawn mowings and annual weeds, become available for the compost heap. While not forgetting the needs of domestic livestock, all the waste material that can be collected should be rotted down on the compost heap.

Look out for Pests

If you are growing broad beans, look out for signs of black fly and tackle this pest early, as advised on page 13. If you are growing early turnips, you may be troubled with the flea beetle (see p. 13).

To prevent the depredations of the onion fly, sprinkle 4 per cent. calomel dust along the rows of

spring onions when the seedlings are about $1\frac{1}{2}$ in. high; repeat about ten days later. Your seedling carrots may suffer from the carrot fly, so apply Naphthalene dust to the rows and repeat at ten-day intervals until the end of June.

Some gardeners put lengths of creosoted string about 2 in. above their carrot rows, and find this

wards off the carrot fly. You will need to dress the string with creosote three times (at fortnightly intervals, beginning mid-May) for early sowings and five times for the maincrop. You can put the creosote on with a brush or take the string up and redip it. You must not allow any of the liquid to splash on to the plants or it will "burn" the leaves.

Chapter X. JUNE

JUNE IS THE GARDENER'S sort of half-way house—a time for taking stock and finding out where he stands. So after patting ourselves on the back, let's survey our plots, assess our progress to date and the extent to which we may be a bit backward, and consider what needs to be done if we are not to be caught napping this coming winter. In earlier chapters we emphasised the need for planning ahead, getting our needs in good time, getting things done in good time. But gardening on paper is too easy—and it's not so easy to put paper advice into practice when the weather or lack of spare time just puts paid to the best laid plans.

What we gardeners have to bear in mind always is that lean period from about February until the end of May. Anyone can grow vegetables in summer—and get gluts of them; but it is those winter vegetables that need more thought and attention. If you have so far been happy-go-lucky in your choice of crops, you still have time in June to do something to put matters right. The crops you want for next winter—assuming your family likes them all—are the green crops—Brussels sprouts, sprouting broccoli, kale, savoy; the roots—parsnips, carrots, turnips and

swedes; onions and leeks; dried peas and beans; potatoes.

It is too late to do anything about potatoes, onions and parsnips, if they are not already growing on your plot. While it is too late to sow seeds of Brussels sprouts, sprouting broccoli, kale and savoy, you can order some plants of the last three from your usual nursery or shop. Kale and sprouting broccoli should be put out about mid-July, savoy later in that month or in early August. Though it is rather late to plant Brussels, there is just the chance that you may get a fair crop if you put in the plants at once.

During July, too, you could sow a row of spinach beet that, given favourable conditions, should give you a crop of excellent green leaves next winter and right on through the spring.

If you like leeks and have not sown seeds in the seedbed, you can get some plants and put them out in July.

As to root crops, main crop carrots can be sown in June to early July, swedes at the end of June, turnips in July.

The experts tell us that we need some of that precious body-building stuff—protein—in our diet. Now

dried peas and beans are a valuable source of protein, and it is worth while saving some of our crops for the purpose, as well as to provide seeds for sowing next year—always assuming that we save our own seeds (see p. 38). Do your saving systematically, however. Don't just leave a few late pods on each plant, but reserve a number of plants at each end of the row.

Having looked ahead and made sure—at least in our minds—that we are not going to be caught napping in the few months from next February, let us come back to the present for a bit and concentrate on essential jobs of the month. First, *thinning*—and no apology is made for returning once more to this important operation.

Thinning

This needs to be done now practically every week. Beet, carrots, parsnips, lettuce and spinach have all to be thinned as they become large enough. Thinning was dealt with in May, and all that it is necessary to add now is that it is a good time to apply a little fertiliser after the plants have been thinned and are beginning to grow strongly. A dressing of $\frac{1}{2}$ oz. of sulphate of ammonia can be hoed in per yard of row.

Tomatoes

In May we dealt with the planting of tomatoes. To get the best results keep each plant to the main stem, pinching out the side-shoots that come in the corners formed by the leaf stalks and the main stem. Keep the plants *well watered* and feed them regularly with a good complete fertiliser. There are a number of

proprietary brands of tomato fertiliser that should be used according to the suppliers' instructions. Or you can use "National Growmore." A good working rule is to apply a teaspoonful per plant as each truss of fruit sets.

When watering, remember that it is useless just to damp the soil surface, for this merely encourages surface rooting. You must water well, giving about half-a-gallon to each plant. Tomato fruits often split when the plants are given a heavy watering after having been dry. That is because the skin gets hard and inelastic and cannot expand when the fruit swells after a good watering, so it splits or cracks. So don't let the plants get dry.

"Blight" is the chief disease likely to affect tomatoes in the open. It may attack only the fruit, but the stem and leaves may be affected as well. Intense brown or black blotches are the signs, and infected fruits often fall off the plant. The discoloured areas are edged with a downy white growth. It's the same blight that attacks potatoes. To control it, spray your plants with a copper spray (see p. 32).

Taking care of your Potatoes

Potatoes are growing strongly now. In most places they have been earthed up. Remember, when earthing, not to draw the soil up to a greater height than about 6 in. and do not leave a flat top or trough to the ridge. Finish it off to as sharp a point as possible. This prevents spores of potato blight from being washed down by rain to infect the tubers. Don't try to earth up when the soil is wet.

To a large extent the danger of blight attack depends on the weather: if dry, only local attacks are likely and will not cause serious damage; given frequent spells of warm, moist weather, the tops may be completely killed by the end of July or in August. The effect on the crop would be serious, if the tops were badly affected. The weight of crop would be greatly reduced; and if the disease spreads to the tubers themselves, they may rot in the ground or after you have stored them.

If you live within 10 or 12 miles of a large industrial centre, where the air is laden with fumes and smoke, do not spray, but seek advice locally: the secretary of your local allotment or horticultural society or the Park Superintendent should be able to help you. Gardeners who are not in areas likely to be affected by fumes from factories should, as a form of insurance against blight, spray their potato foliage with one of the copper-containing sprays recommended for the purpose. Perhaps the simplest course is to buy one of the ready-made Bordeaux powders or pastes and apply it according to the maker's instructions. Usually you have only to mix it with water.

If you have a hand-dusting machine, you could apply one of the powders made for the purpose—copper-lime or Bordeaux dust. Dust needs to be applied more often than sprays, however—four or five applications should be given, allowing a fortnight between each.

WHEN TO SPRAY

The right time for the first dusting or spraying is just before the leaves of the potatoes meet in the rows; this usually happens at the end of June

or early in July. Don't wait until you see blight spots on the leaves—if you do find any, spray at once. If dusts are used, further applications are needed every fortnight; with the spray, a second application after three weeks should be sufficient. But if the blight attack is severe, a third spraying may be needed in August.

Here are some *points to remember*.

Use a pump with a fine spray nozzle.

A misty spray is best, as it wets the foliage easily.

If you have no sprayer, you can use a watering can with a fine rose.

Make certain that *both* sides of the foliage as well as the stems are thoroughly wetted.

Choose a fine day so that the spray has time to dry before the next fall of rain.

It is much easier if you can co-operate with some friends or neighbours and spray several batches of potatoes on the same day.

Earthing-up Celery

Before you earth-up, tie the celery plants loosely just below the leaflets and remove any side growths. When the plants are about 15 in. high, earth-up slightly, but see that the ground is thoroughly moist before you begin. The second and third earthings—at three-weekly intervals—can be more thorough, until finally the soil should cover the plants right up to the leaves and should slope away neatly. Don't let any soil fall into the heart of the plant.

Watch out for those Pests

Any signs of *black fly* yet? Some gardeners think that this pest is encouraged by broad beans, but

there is no foundation for this. You may quite likely find it on your "runners." Wherever you come across it, take the measures recommended on p. 13. And if you are growing broad beans, remove the growing tips when the plants are in full flower. If the winds are high and the plants look like being broken, put in a few stout stakes and run some stout string around the rows.

While Chapter IV deals with some garden pests that may be a nuisance in June (slugs on your lettuce and cabbage root fly), there are others that may trouble you. *Celery fly* for instance. Brown blisters may appear on the leaves. Watch the seedlings carefully for blistered leaves, and destroy them or crush them with your fingers. Dust the plants weekly with soot to prevent egg laying. If the attack is serious, spray the leaves (both sides) with a nicotine and soap wash.

Then *onion fly* may also cause trouble, especially on dry soils. As a precaution dust the soil along each side of the rows with 4 per cent. Calomel when the plants are about an inch high.

Feeding your Crops

Beet, carrots, parsnips and onions benefit by a dressing of sulphate of ammonia after thinning— $\frac{1}{2}$ oz. to the yard run. If your carrots and onions are attacked by the fly, a similar dressing will help them considerably.

Lettuce

Don't forget to sow a short row of seed every fortnight to ensure a succession. And if you transplant the thinnings from earlier rows, see that you give them a good start. Don't put them on lumpy ground

and don't water them late on a cold evening or leave them without water at all. If the plot reserved for lettuce is lumpy and not easy to break down to a fine tilth, sift some fine soil over the surface, see that the seedlings are firmly planted and watered well at the right time until they are firmly established.

Marrows

Although marrows are usually sown in the open towards the end of May, it's not too late to sow in June. In a sunny corner dig in some well-rotted manure or compost and set a few groups of seed—four or five seeds to each group—about 6 in. apart and 1 in. deep. Later, thin each group to two plants, 12 to 15 in. apart. Marrows need a lot of water. Make sure they get it, particularly in dry weather.

Root Crops

The main root crops may be sown in June or early July—beet (early June), maincrop carrots (June or early July) and swedes (mid-June). The sowing of beet and carrots was dealt with in April, so the details will not be repeated here.

Bear in mind, too, that the above times for sowing are merely general reminders, and that gardeners must have regard to local conditions and advice from the experienced. For instance, as to carrots, in the Midlands and the North, mid-June is regarded as the latest date to sow with an assurance of a good crop; while in the South and West, sowings may often be made with safety up to mid-July. Another point is that late-sown carrots are less liable to attacks by the "fly" than those sown earlier in the year.

Swedes

Swedes are a safer crop in some districts than turnips. They can stand the cold better and can be left in the ground until after Christmas. Though there are garden varieties of swedes, the field sorts such as "Best of All" and "Eclipse" are really the best to grow.

Swedes are usually sown in mid-June (earlier in the North) in drills 15 in. apart and 1 in. deep. The seedlings of field sorts should be thinned to 9 in. apart.

Kohl Rabi

For those who like to try out unusual vegetables, *Kohl Rabi* is a useful crop to grow on very light soils where turnips are risky owing to drought or flea beetle attacks. You can still sow it in June in the seedbed, transplanting to rows 15 in. apart with 8 in. between plants. It is better, however, to sow direct in the ordinary way, like swedes and turnips, and thin out. *Kohl Rabi* should not be stored for any length of time, but should be eaten soon after lifting.

A word about Gathering Crops

Before the full spate of summer vegetables begins, a few words about gathering crops may not be out of place. Gather in the morning or evening, when they are fresh and not limp from the sun; handle them carefully, so that they come into the kitchen fresh and tempting. More important, however, is to gather crops before they are past their prime. It is a mistake to leave batches of cabbages, lettuces, peas and other vegetables until the whole crop is ready for use. So often the gardener cannot bring himself to gather his vegetables before they are fully matured, with the result that when they are ready, he is unable to cope with them all at once and many go to waste. Use your vegetables on the young side; they are more tasty, and the scientists tell us they do you more good than when they are old and tending to be tough. On the other hand, of course, don't be extravagant about it. There is no sense in picking them so young that a whole crop is used up in a meal or two.

Chapter XI. JULY

WE MUST NOT make the mistake of thinking that this month the garden can be left to take care of itself. For the weeds grow as well as the vegetables, and pests and diseases can quickly spread, if not checked at the start. So do keep that hoe going, to check the weeds. *And watch out for those pests.*

For instance, the *Cabbage White Butterfly* is now on the wing; too soon its caterpillars may be gorging on

your greenstuff. Your first method of attacking these garden enemies is to destroy the colonies of eggs by crushing them between thumb and forefinger. It's not a pleasant job, but it must be done. Then, if the caterpillars do appear, destroy them by hand-picking, or dust or spray with Derris (see p. 13). Some people complain that they have tried Derris dust with little or no effect. Well, either the dust was too old and had

lost its killing property, or only one dusting was given. As successive broods of caterpillars hatch out, further dustings are necessary; fresh Derris applied *as soon as caterpillars are seen* will help to control them. A dusting machine is a great convenience and the dust should be applied when there is dew on the leaves. Always try to get the dust right into the centre of the plants.

It is infuriating to go, out one evening and find your cabbage plants suddenly wilting one by one. On digging up one of them you will probably find white grubs feeding on the roots. They are the grubs of the *Cabbage Root Fly*; once the plant is attacked the only thing to do is to dig it out and burn it. The right thing to do is to apply a half-teaspoonful of 4 per cent. Calomel dust close up to the base of each young plant of the cabbage family as you plant it out. This will put paid to the trouble.

The *Turnip Flea Beetle* may also be on the warpath, eating holes in your cabbage and turnip plants. It has caused gardeners trouble for centuries and is most troublesome during dry weather. Some old hands believe in the cold water cure, and give the plants a good soaking every night until they are about 6 in. high. But that's not possible on some allotments, so Derris, Nicotine or Napthalene dust should be used, as recommended on p. 13. And dust often till the leaves are well formed.

And don't forget that what you do—or fail to do—this month, will determine how well or badly off your family will be for winter greens in the lean period from next February onwards.

Those Green Crops for next winter

During the summer, when the weather does not always provide those rainy periods at the time we need them most, we gardeners have to be swift to act and seize the right moment to do our various jobs of sowing and planting. When a fall of rain has brought the surface soil into just the right state for planting, all other garden work should be set aside to make the most of an opportunity that may not come again until the seedling plants have passed the best stage for planting out. If nature fails to oblige, then we have to choose between waiting for rain and risking the plants remaining in the seedbeds, or watering the ground thoroughly before planting. With *kale* and *sprouting broccoli*, two very useful vegetables for after Christmas, this is a decision we often have to make. The middle of the month is the time to plant them, in rows 2 ft. apart each way; if there is sufficient room, allow 2 ft. 6 in. each way.

These brassicas should be planted in a shallow drill about 2 in. deep and 3 or 4 in. wide. This not only helps to direct moisture towards the roots of the plants, but it makes it easier to draw soil up to the stems, thus helping to keep the plants from blowing over on gusty days later in the season.

Mid-July is the time for planting out *winter cabbage* (2 ft. apart each way) in the shallow drills already described. If you have grown your own plants in a seedbed, lift them carefully with a fork, aiming at getting them out with as much soil as possible adhering to the roots. Should the weather be dry, give the seedbed a good soaking the night

before you lift. This applies to all your brassicas.

If you have to plant in dry ground, water each hole before planting, cover in with soil and again water. Half-a-pint of water should be sufficient for each plant.

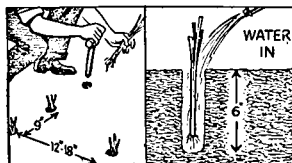
Always make sure that your cabbage plants are firmly planted by testing one or two here and there as you go along the rows. If you pull the plant by the edge of a leaf, the part between your finger and thumb should tear away. But if you pull the plant up, you are not planting firmly enough.

Early-sown *savoy*s will be reaching the stage when they should be transplanted. But it is not wise to have this crop in bearing too early in the winter, and if the larger plants are put out 2 ft. apart this month, the smaller seedlings could be transplanted 6 in. apart in an odd corner and allowed to grow on for a time before you finally put them in their permanent quarters, perhaps as late as the end of July or early in August.

Planting out Leeks

You can plant leeks from mid-June to mid-August, but July is the time recommended. Many gardeners plant them on ground cleared of peas. If you have sown leeks in your seedbed, the seedlings should be lifted when about 6 in. high. If the soil is dry, soak the seedbed before lifting. Lift carefully with a fork; it is usual to cut off the tips of the leaves before planting out. Plant in rows 12 to 18 in. apart, 9 in. between plants. Drop each plant into a hole at least 6 in. deep, made with a blunt dibber. Water in to wash soil round the roots, but don't fill the hole with soil. The sketches show how to plant.

Although hardy, the soil should be drawn up to crops in the autumn to give some protection from severe frost and to help in bleaching.



Feeding Onions

Early July is the best time to provide some extra rations for onions that have not had the advantage of heavy manuring before sowing or planting. A good general fertiliser such as "National Growmore" is safe and effective. The ideal time to apply any fertiliser is during showery weather; and if showers are lacking, do not fail to hoe in the fertiliser and water thoroughly. Artificial manures of all sorts are more of a danger than a help when spread on dry ground, but their action is very soon seen when rain descends or when artificial watering has been well done. Not more than two applications of any fertiliser should be given to the onion bed. The ideal to aim at is hard, well-ripened bulbs—not mere size, for the medium bulbs will keep better than the big ones. Late manuring with artificials only prolongs the growing period and makes ripening all the later and more difficult, so give no artificials after mid-July.

Earthing-up Brussels

Draw a little soil up round the stems about a week after planting. Remember, Brussels sprouts like very firm ground.

Getting 'Runners' to set

Syringe the plants, and particularly the flowers, with water during hot weather to encourage the beans to form. And pinch out the growing tips of the main shoots when the plants have reached the tops of the sticks.

Harvesting Shallots

Shallots are ready for harvesting when the foliage has begun to wither. You then lift the little bunches of bulbs and leave them on the surface to dry off. But if the ground is heavy and moist, lay them out along a dry surface, such as a path, for a few days, for they must be well ripened and perfectly dry before storing. Or if you have got a strip of wire netting, you could dry them on this, raising it slightly from the ground to let a current of air pass beneath them. Then tie them into bundles or lay them in trays or boxes, and store in a dry, frost-proof, airy shed. Look them over from time to time and throw out any decaying bulbs.

Spinach or Seakale Beet

If you have not sown a row of spinach beet or seakale beet earlier, try a row now. Either is a valuable vegetable and often survives the winter better than any other green crop. Sow the seeds in drills about 1 in. deep and allow 8 in. between plants. Always use spinach beet when the leaves are young and tender.

Turnips for Storing

Now is the time to sow turnips for storing on ground cleared of early potatoes, which should be in good condition for roots, as it will have

been well worked during the past month or two. The rows should be 1 ft. apart and the seed sown about 1 in. deep.

Spring Cabbage

Of all early vegetables we look forward with most pleasure, perhaps, to our first cutting of spring cabbage. There is a delicacy, texture and flavour about it that no cabbage can aspire to at any other period of the year. At the end of the month sow the seeds. Instead of sowing in a drill, try for once sowing broadcast on a small plot. Some people think you get far better plants that way. The seeds are sometimes sown far too thickly in drills and very poor plants result.

Carrots

If you would like to experiment with carrots, try sowing the seed broadcast in a broad flat drill 1 in. deep, instead of in the usual narrow drill. Late-sown carrots usually escape the attention of the carrot fly.

Sowing Lettuce for succession

Sow lettuce every 10 or 14 days. And while you are about it, don't forget to make another sowing of *parsley*, for the experts tell us we don't eat nearly enough for our health's sake. Drills should be $\frac{1}{2}$ in. deep.

Don't waste that Summer "Waste"

At this time of year garden "waste" is generally fairly plentiful and should not be wasted. Pea stems, potato haulms, outside lettuce leaves, the last of the rough leaves from

spring cabbage, grass cuttings and the like should be made into compost, which, later on, you will dig back into your soil to maintain its fertility. How to make a compost heap is described in Chapter II.

Saving your own Seed

Some gardeners like having a shot at something new—seed saving, for example. Those who have not hitherto experimented in this direction might like to try it out. But it is well that they should know that while a few kinds of vegetable seeds can safely be saved by the amateur, others are best left to the experts.

You know that all flowering plants need pollen to fertilise the female part of the plant, so that it can produce seed. Some plants are fertilised by their own pollen, while others have to get it from another plant. Broadly, those that fertilise themselves are "safe"; those that need pollen from another plant should be left to the professional seed grower. Why? Well, you may be growing, say, a cabbage for seed in your garden, while another gardener not far away may be growing a Brussels sprout plant for seed. The wind or the bees may bring pollen from your neighbour's plant to your own—and your plants next year would be an unbelievable mixture, yet would be useless to you. Now, if that were to happen in your garden, how much more serious would it be if you were to allow one of your cabbages to flower and produce seed near a commercial grower's field of Brussels sprouts growing for seed. It might cause immense trouble and ruin the quality of his seed. The only "safe" vegetables for seed-saving purposes are peas, beans of all kinds, onions,

leeks, tomatoes, lettuce, ridge cucumbers and marrows.

Now is the time to mark the plants you intend to save. The best and easiest way is to tie a label on part of your rows of peas and beans and leave *all* the pods on the plants in that section for seed. Don't pick any at all for the kitchen. So often gardeners leave the last few pods on their plants. These are usually small, weakly pods and do not give really good seed. If you remember that one-tenth of your pea and bean crop should give you sufficient seed to sow a similar area again next year, you will be able to judge how many plants to leave. Most allotment rows are 30 ft. long, so of your peas you would need to have 3 ft. at one end of the row. Runner beans are usually a little more prolific, so one-twentieth of each row is usually enough to save for next year's sowing.

One good lettuce plant should give you all the seed you will need. Mark and label the best plant you have. Don't choose one that has "bolted" or run to seed instead of making a good large heart. It may produce offspring that will do the same thing next year and then you would get very few lettuces worth cutting. If the heart is very hard and firm, make a cut with a knife in the shape of a cross on the heart. Don't cut too deeply, but just through the first three or four layers of leaves. This will make it easy for the flower head to push its way up. That is all you need to do for the present.

If you spring planted any of last season's onions and left leeks in the ground for seed, they will be coming into flower now. See that the stems, which are very brittle, are tied securely to stakes, but otherwise there is nothing to do to them until

the end of September, for onions, and/or mid-October, for leeks. Chapter XIII tells you how to harvest the seed.

When your marrows are bearing fruits, pick out one good-sized fruit and scratch the word "seed" on it with a pencil. When your tomatoes are carrying good trusses of fruits, pick out a good, shapely truss, mark it with a piece of raffia (see p. 50).

The plants that you have selected for seed saving should be inspected carefully to see that they do not develop disease in any way. Leave the pods or fruits to ripen as long as

possible. But with lettuces, as soon as you see little tufts of fluff forming on the seed heads, pick them and put them in a shallow cardboard box or a seed-box with a sheet of paper on the bottom. You may have to look at your lettuce plant every day when it is nearing the ripening stage, as a sudden heavy downpour of rain may wash all the seeds on to the ground, if they have reached the fluffy stage. In rainy periods it is best to pull the lettuce plant up when nearing the harvest stage; put it in a newspaper and finish the ripening in a warm room.

Chapter XII. AUGUST

IN ANCIENT DAYS August was Weedmonath—the month of weeds. Nature probably realised that harvest would fully occupy man's attention at this time of the year, and cunningly contrived for most of the wickedest weeds to shed their seeds then. So—first of all keep the hoe going. What feeds a weed will feed a cabbage to feed you.

Even if there were no weeds there would still be plenty to do in the garden, for this is the time of gathering the fruits of labour. And careful harvesting is just as important as careful sowing and careful growing.

Dwarf, French and runner beans require frequent picking or they will grow tough and stringy. If you have more than you and your friends can eat now, remember that they can be easily salted down for winter use. Regular picking of runner beans helps to make a longer fruiting season. But do not pick any beans from the plants you may have selected for seed.

Pull and use early beet. If left in the ground too long the roots will become woody and stringy. Any early-sown carrots that remain should be used up quickly. Summer turnips are ready to use, and marrows and tomatoes should be gathered as they ripen. Onions are important enough to have a section to themselves (see p. 42).

Pick herbs now—just before they flower. Gather shoots of thyme, sage, mint, marjoram, tarragon and parsley. Tie them in bundles, wash them, cover with muslin to keep out dust and hang to dry in an airy shed or near the fire. When thoroughly dry and crisp, crush to a mealy texture and store in lidded jars or bottles away from the light.

Taking Stock—your last chance

Now is the time to make sure of winter's greenstuff—to make good losses caused by pests or diseases—to check your planning. Now is your

opportunity to sit down after that back-aching weeding—just sit and think—sit and make sure—it's your last chance.

If you have not yet sown spring cabbage, do so at once or it will soon be too late. Do not sow in that part of the seedbed where spring sowings of cabbage were made this year. The soil may contain Cabbage Root Fly or the spores of Club Root. Sow seed thinly 1 in. deep in drills made 6 in. apart; sow enough to plant four rows of spring cabbage on the ground which will be left free after the onions are harvested. Do not sow too many, but allow a small reserve for making good any losses after planting out in September. If possible, sow after rain; or if the soil is very dry, water the seedbed a few hours before sowing. Where space is confined, sow "Harbinger," which is compact and hearty. Where more room is available "Early Offenham" and "Durham Early" are good varieties.

Sow late kale now where it is to mature, and thin as required during growth—it will give you a late green crop in March and April. Sow winter radish—they can be lifted and stored. Smooth-leaved Batavian endive, sown now and treated as lettuce, will last well into the winter, if it is blanched by tying up loosely with raffia and protected by a pot or box.

The main thing is to make sure of winter greens. Sow *now* for the lean months. If you have any gaps or corners to spare, fill them with winter greens.

Preparing for Autumn Sowings

Ground for winter lettuce and turnips should be prepared a week or two in advance. Avoid ground

likely to become damp in the winter; lettuces can stand up to cold much better than to wet conditions.

Dig the ground over one spade's depth and leave it for a week or more to settle. If the soil is poor, rake in a dressing of 1-1½ oz. per square yard of "National Growmore" fertiliser. If the ground was not limed in the spring, dress with lime and fork in lightly immediately after digging, but do not apply at the same time as the fertiliser. Leave the ground alone until the lime is well washed in and then—just before sowing—apply the fertiliser and fork it in lightly.

For lettuce, tread the ground firmly and evenly and rake it down finely. Choose a variety suitable for winter and sow seed thinly in drills ½ in. deep and 1 ft. apart. When seedlings are large enough to be handled in late September and early October, they will be thinned out to 9 in. apart.

Helping on the Greens

Give late autumn and winter greens a light dressing of "National Growmore" fertiliser round each plant, raked or hoed in. Apply this now—feeding after this month will make soft growth that will not stand severe winter weather. Keep the ground firm round winter greens or they may fail to heart-up properly.

Looking after the Seedlings

Give seedlings of the cabbage family and turnips a light dressing of Derris dust or Naphthalene dust as soon as they show through. This early treatment works better against flea beetle attack than later applications. Continue to dust with Derris during growth in seedbed.

Soot for Celery

This is a vital moment in the life of celery. Earthing-up (see p. 32) should keep up with growth. The other main needs are soot and water. Soot is the best fertiliser for the crop. The older it is, the better. It can be used on the leaves or well watered into the soil as a manure. Do not try to produce luxuriant growth—it will probably be coarse. Aim to grow short, firm, stocky plants. Never let them get dry—water must be abundant during growth.

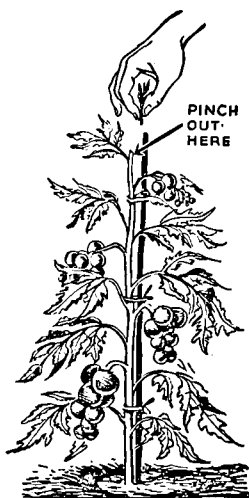
Sowing Spinach

Clever cooks, it is said, can make any vegetable into spinach. But, as with so much that cooks "make," the concoction cannot provide the health-giving benefits of the real thing. And more important, the real thing tastes better.

For winter use, sow the prickly or rough-seeded variety thinly in drills 1 in. deep and 1 ft. apart. If possible, avoid full sun. Thin to 3 in., then to 6 in. apart as plants develop. The best flavoured plants are fairly big, with broad, crisp leaves about the size of a saucer—this means proper attention to thinning.

"Stopping" Tomatoes

Strong growth and many flowers can be misleading. It is rare—even in the best of summers—that we get the long spells of sunshine necessary to ripen more than four trusses of fruit. So "stop" the plants by pinching out the main growing shoot. Nip it off just above the fourth truss. Even if four trusses have not set, the stopping should be done by the third week of the month. There is nothing to be gained by leaving the plants to grow on.



Keep the roots moist. Allowing the soil to dry out and then trying to correct matters by soaking, only leads to split fruit. Apply a generous mulch of manure, compost or lawn mowings and do not let the soil surface cake hard. Keep feeding the plants, but do not overdo it; especially, at this stage, avoid too much nitrogen—sulphate of ammonia or nitrate of soda—which will only promote rank growth and fruit that lacks flavour. It also makes the plants less resistant to disease.

Let the sun get at the fruit. This does not mean recklessly cutting out every leaf that is in the way. Remember that leaves play an important part in the nutrition of the plant. Remove any dead or withered leaves from the base, of course, and then carefully thin out here and there, to uncover developing trusses.

Keep a sharp lookout for any side shoots that you may have missed. Watch out also for blight and give another spraying or dusting as a precaution (see p. 32).

Now is the time when quality tells. If yours are not all they should be, make a resolution to start with better stock next year. There are still too many over-forced weakly plants bought by the unwary.

Harvesting Onions

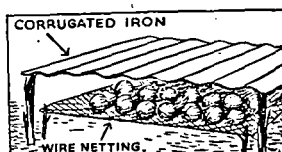
Now is the critical time in the life of the spring-sown onion. On the care taken in lifting and ripening depends its ability to keep well in store.

First step is to bend the tops over and then leave for about a fortnight while they shrivel. If you have some "bull-necks" that refuse to be bent, use them up in the kitchen in the next few weeks.

To lift, loosen the bulbs by pushing a fork into the soil well under them, and lever them up. Then lay the bulbs on their side with the under-surface and roots so placed as to catch the full sun. Now they must be thoroughly dried before you take them into the dry shed, spare bedroom or wherever you are going to store them.

If the month is a "baker," the process should not take long—just lay the bulbs on firm ground or on a path until the skins are really dry. If the weather alternates between dry and wet, the onions must be lifted off the soil and the most made of the sunny spells by sheltering your onions on a home-made drying frame. Prop a piece of wire netting on four corner pegs, spread the bulbs on it, then above them—about 3 in. higher—prop a sheet of corrugated

iron on four more pegs. The sun, when it comes, beats on the iron and warms the onions beneath; the air circulates freely, and the crop ripens quickly and well.



Sowing Autumn Onions

See that the soil is firm, and sow fairly thickly. Use varieties of the White Spanish type or those specially recommended for autumn sowing. In the North, the first week in the month is the time; the third week is early enough down South.

Some growers divide their sowings, saving some of the seed till late December. They find that the December sowing produces fewer plants that run to seed. But whenever you sow, keep weeds firmly in check.

Those Potato Haulms

Every year, when early potatoes have been lifted, the question is asked "What shall I do with my potato tops?" The problem is whether to put them on the compost heap or not. The answer depends on two things, namely, how good is your compost heap and how free from disease are your potato tops?

If you have had an attack of blight, or any other disease that has affected the potato tops, the answer is simple—gather them up, all of them, and burn them. If your crop has been clean and you have the sort of efficient compost heap that heats up

well, there is nothing against chopping up the haulms, with a sharp spade, while they are soft and green, and treating them as any other waste. In a good compost heap they will soon rot down. The main thing about potato haulms is not to leave them lying about.

Holding that moisture

About 300 years ago, a scientist planted a willow shoot weighing 5 lb. in a barrel holding 200 lb. of dry soil. For five years he gave it nothing but pure water. He finished with a fine tree weighing over 169 lb.: and the soil had lost a trifling 2 oz., so he concluded that water was the "principle of vegetation."

Other scientists have since found it isn't quite as simple as that, but none of them has grown a plant without water. In fact, it takes anything up to 1,000 lb. of water to produce a single lb. of plant substance.

Plants are just as thirsty in August as human beings are, though they are unable to trot into the kitchen or to the "local." But they do have roots able to draw on the available moisture in the soil. It's up to us to see that the moisture gets to the roots and not into the warm air. Much can be done by timely hoeing to stop the soil cracking when it has been beaten down by heavy rains or watering. But a better way to keep the roots of peas, runner beans and tomatoes supplied with moisture, is to spread a layer of half-rotted manure with plenty of straw in it, well-rotted compost material, or even decayed lawn-mowings, between the rows and around the plants. This is a mulch, but it is next to useless if you put it on already bone dry soil. Seize the

moment after a fall of rain, or if the rain fails, give the ground a good soaking.

See that the mulch is open in texture: heavy impenetrable stuff keeps the air from the soil and may even tend to sour it. Watch your lawn-mowings specially. Mulching also helps to keep down the weeds.

More about Pests

By this time of the year the patient gardener is prepared—or should be—for anything in the nature of pests. This month's particular unpleasantness may take the form of Cabbage Aphid on the members of the cabbage family. It is easy enough to recognise. Leaves begin to curl or crinkle; part of the leaf turns a paler green, and on the underside of the crinkled leaf is a mass of greyish-blue, powdery-looking insects busily sucking the vitality out of the plants and crippling them.

If these pests find their way into growing hearts of your young kales, sprouts or other green stuff, they may check the plants so badly that the crop will be very poor. You will probably find too that the Aphid has discovered your seedling rows of greenstuff.

The best remedy is to spray with a good nicotine insecticide, preferably one that contains soap or some other substance that acts as a "spreader" and keeps the nicotine on the leaves. Force the spray well into the hearts of the plants. Where there are large colonies, it is worth while squashing the insects with finger and thumb before spraying—if you can "take it." It is a messy business, but half measures are no good. Later sprayings at intervals of a few days will probably be necessary. The

secret of control is to spray early enough and often enough.

WARNING. Nicotine and nicotine preparations are poisonous. Be sure to follow maker's directions. On Summer Cabbage almost ready for cutting, or other vegetables intended for the table within ten days, use a Derris spray instead.

The Fruit Garden

The early varieties of dessert apples will be ready for picking this month—"Beauty of Bath," "Irish Peach" and "Gladstone." These must be picked and used as soon as they are ripe or they lose flavour. Not all the fruit ripens at the same time, so it is worth while going over the trees at intervals of a few days. There is one right way—and many wrong ways—of picking apples. The sign of ripeness is the ease with which the stalk parts company from the twig. Take the base of the apple in the palm of the hand, then raise it until it is horizontal. If it parts easily, it is ripe. If it fails to come away easily, let it gently back to its original place and leave for a few days. The great joy about early apple varieties is that, unlike Cox's Orange Pippin and other late kinds, they do not have to mature after picking, and it is the owner's pleasure to eat them at once.

If on going over your apple trees, you find that some apples have rotted, this is probably due to Brown Rot, a disease that destroys many tons of apples every year, and also affects plums, pears, quinces and cherries. Much of this loss can be prevented. The disease starts as a mere spot, where a slight bruise, cut or insect puncture has been invaded by disease spores, carried by wind,

rain or insects. The spot gradually spreads into a soft brown patch, and at the same time small swellings under the skin break through as yellowish or buff-coloured growths—or pustules—usually in concentric circles. These diseased fruits produce a crop of spores, which are carried to other fruits by flies and wasps. And so it goes on—an endless vicious cycle that can only be checked by strict hygiene on the part of growers.

Collect from apple and plum trees and under the trees, all fruit that shows the slightest sign of the disease. Burn it. Go over the trees, especially the soft-wooded varieties of apple such as "Lord Derby" and "James Grieve," and cut out all dead or dying spurs along with any cankers. Collect and burn. Keep an eye open in the winter for "mummied" fruit left on the trees—gather and burn it.

Special care is necessary when picking apples for storing. Brown Rot is liable to set in wherever there is a wound or bruise, and a favourite place of entry is the slight wound made if the stalk is torn out. So pick with the stalks on. Do not attempt to store any fruit showing signs of the disease. It will spread. And clean up under the trees. It is from mummied fruit on the trees and from rotten apples lying about that the first spore invasion usually starts.

PRUNING FRUIT BUSHES

Summer fruiting raspberries should be pruned as soon as the last fruit has been picked. Cut out all the canes that have borne fruit. Cut them right down at ground level, leaving no snags to become resting and breeding places for pests and diseases. Burn all cut-out canes. If your canes are supported by wires,

tie up the new canes, 5 or 6 in. apart, with raffia or soft string.

The same sort of treatment should be given to blackberries and loganberries. Cut out fruited shoots and thin out weak new growths, and any showing purplish spots (signs of the disease Cane Spot). Keep about 6 or 8 of the strongest shoots and tie them in.

Prune blackcurrants as soon as possible after the fruit has been gathered. As new shoots bear better fruit than the old, cut down to ground level as many of the oldest branches (which may be two or three years old) as the young shoots can replace. If there are not enough young shoots growing from ground level, cut back some of the old branches to a young growth as low down the stem as possible.

Wasps

The only satisfactory way of dealing with wasps causing damage to fruit is to find the nests in the neighbourhood and kill the colonies by poisoning.

There are various materials that can be used to destroy wasps in their nests. Some are 'dangerous' in inexperienced hands, but ground Derris root is safe and is effective and simple to use. Put a dessert-spoonful of the powder as far into the entrance of the nest as possible, and also sprinkle a little round the entrance, so that the wasps will get it on their feet and feelers when entering or leaving the nest.

Some people use tar, creosote or paraffin successfully. The liquid must be poured well into the nest or a soaked rag or piece of sacking pushed in by means of a stick.

The best time for dealing with wasps' nests is at dusk when most of the workers are inside. If desired, the nests may be dug out on the following day and destroyed by burning.

Trapping by means of jam-jars hung among the trees helps to reduce the population but is only a palliative. The jars should be half to three-quarters full of water into which a spoonful of jam has been stirred or a little stale beer added.

Chapter XIII. SEPTEMBER

LIKE THE SQUIRREL, the gardener who has done his job well can indulge in a satisfied smile in September, when he surveys the fruits of his labours and decides on those "O.S." fruits and vegetables that will represent his household at the church or chapel harvest festival, tokens of his appreciation of the world-old partnership between Providence and man. Assuming the weather has not been too unkind and the pests not too troublesome, he can smile at the

abundance that will be his squirrel's store for the late autumn and winter days that lie ahead. So it is natural that this chapter should be concerned mainly with harvesting and storing.

Lifting the "Insurance" Crop

We should take care in harvesting and storing our potatoes so as to avoid any risk of loss. The tops

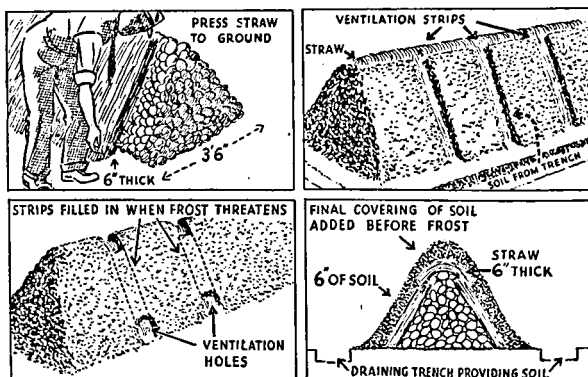
should be cut down and removed about a fortnight before lifting time—burn them if there is the slightest suspicion of blight. Choose a fine day for lifting, and leave the tubers on the ground just long enough to dry—about four or five hours.

Be careful to sort your crop, to make sure that you don't store any diseased tubers. But even with the most careful sorting, a diseased tuber or two may accidentally get mixed with sound ones. So to prevent disease spreading, sprinkle powdered lime, or a mixture of lime and

cover them with old sacking, giving extra covering in severe weather.

Label your varieties and use the poorer keepers first; for instance, Arran Banner should be used before Arran Peak. Be careful about ventilation, particularly in the first months of storage; the door should be kept open, also the window when the weather permits. Look over your stored potatoes fortnightly and remove any diseased tubers.

If you have a large crop and want to store them in a clamp or pie, this diagram may help you in building it.



flowers of sulphur, among the tubers. The sulphur also helps to keep vermin away.

Potatoes are easily damaged by even a few degrees of frost, and are then unfit for human food. If you can, store your crops in boxes or barrels, rather than in sacks—and line the containers with old newspapers as a protection against frost. Put the boxes or barrels in a dry, frost-proof shed for the winter and

Choose the driest bit of your land for your clamp and mark out a strip 3 ft. 6 in. wide and long enough to take your crop.

Don't be niggardly with the straw—provide at least a 6-in. layer. Press the lower ends of the straw close to the ground, for it is along the edge of the clamp that the frost generally creeps in. The straw layer should reach almost to the top of the potatoes. You then put a covering of

straw over the top of the ridge, so that its ends overlap the straw at the sides. This ensures that the rain runs down the outside and not into the clamp. To keep the straw in place, put some soil along the lower edge and a spadeful here and there over the whole of the straw covering.

Allow a few days for "perspiring" and then cover most of the straw (to within 4 in. of the top of the ridge) with 6 in. of soil, leaving 6 in. strips bare every so often. To get this soil, dig a trench 1 ft. away from the base of the clamp, about 6 in. deep. Cut an outlet in the trench to make sure that all water drains away.

When frost threatens fill in the bare strips with soil and also cover the ridge. But make ventilation holes at intervals at ground level and along the top of the ridge. Stuff these holes with straw to prevent them getting blocked with soil.

If your clamp seems to be all right, you may leave it undisturbed until February, if you like. But you should then open it when it is not freezing and inspect the contents, removing any diseased tubers and "sprouts." In remaking the clamp, take care not to bruise the potatoes, or rotting may set in.

Harvesting Haricots

When the pods begin to turn brown, pull up the plants, tie them in bundles by the roots, and hang them in a dry, open shed to ripen thoroughly. When quite dry, shell out the seeds and store them in boxes in a cold, frost-proof shed.

Storing Onions

Last month we dealt with ripening-off the onions. They must be thoroughly dry before storing.

Onions keep best when the air can get at them freely, and the easiest way to make sure of this is to hang them up on ropes. This is a job you can do later on, when you can find the time. First remove all the roots, loose skin and most of the tops. Then hang up a rope about 3 ft. long, with a knot at the end, and tie a single good-sized onion to the end of it to serve as a base. For the rest of the rope, tie on four onions at a time. It is best to grade your onions: large onions on one rope and small onions on another. Arrange them round the rope and hold them with one hand, while with the other you tie the tops to the rope by running the string round twice and finishing with a knot. Cut off the unwanted tops as you go along, but there's no need to cut the binding string. And so on up the rope, each bunch fitting snugly on top of the bunch beneath.

Some varieties of onions will not keep for long, for instance, Giant Rocca, Excelsior and Prizetaker—these should be used first. Ailsa Craig, Up-to-date, Bedfordshire Champion and Southport Yellow Globe will last until Christmas, while varieties such as James's Long Keeping, Giant Zittau, Nuneham Park and Ebenezer will last until late winter and spring.

Harvesting Marrows and Pumpkins

These may be stored for winter use as vegetables and for preserving. Only fully developed and ripened fruits should be set aside for storage, and they should be handled carefully to avoid bruising the skins.

Being very susceptible to low temperatures and easily damaged by frost, these fruits need a warm, dry

atmosphere, such as that of a kitchen, bedroom or attic, to ensure successful storage. Cellars and outside sheds and other damp places where the temperature is likely to fall below 45° F., are unsuitable. From 50 to 65° F. is the most suitable temperature for storage. The fruits may be placed in crates or boxes, or laid out singly on shelves, but they are best hung from the ceiling in nets.

Given this treatment they can usually be relied upon to keep in good condition until January or February.

Storing Tomatoes

Mature tomatoes which are not ripened by the time the autumn frosts are coming on, may be stored separately in such receptacles as trays or box-lids, lined with a few layers of newspaper, which will help to make sure that the fruits remain where placed. Arrange the fruits in a single layer so that they do not touch one another. If there is any risk of touching, separate the rows by strips of newspaper. Do not store any split, bruised or otherwise damaged fruits.

Put the trays or boxes in a room, cupboard or drawer, where the temperature is about 55° F. (not under 50° F. and preferably under 60° F.). A room where the temperature is liable to fall below 50° F. at night should, if possible, be avoided. A temperature above 60° F. may cause the tomatoes to shrivel, but is otherwise less harmful.

Store the tomatoes in the dark; but if you wish to hasten the ripening of some fruits expose them to the light at a temperature of 60-65° F.

Storage in the dark tends to prolong the period of storing, and so the period during which tomatoes are available may be appreciably extended.

Examine the fruits from time to time, and remove any that have ripened or any that begin to show signs of decay.

Storing tomatoes in peat or sawdust is not recommended. Sawdust sometimes imparts an unpleasant flavour, and both peat and sawdust are difficult to maintain at the right degree of dryness. It should be remembered that though very dry conditions may cause shrivelling, appreciable moisture favours the growth of moulds, which will develop quickly under the slight warmth that is otherwise conducive to the keeping of tomatoes. For this reason, storing in the moist warmth of the kitchen is inadvisable.

Green, immature fruits may be used for chutney and pickles.

Spring Cabbages

Thinking about next year brings us to the need for adequate supplies of winter greens. September is the month for planting out spring cabbages, and every available piece of ground should be devoted to this valuable vitamin-giving vegetable. When the onions have been removed and the ground has been lightly hoed, dusted with lime and well raked, spring cabbages may be planted in rows 1 ft. 6 in. to 2 ft. apart, allowing 1 ft. between each plant. This is somewhat closer than is usually recommended for spring cabbages; but as the cabbages grow in the spring each alternate plant may be cut and used as spring greens,

leaving the remaining plants ample room to develop into fine-hearting specimens for cutting in May and early June. Any surplus seedlings remaining in the seedbeds should be thinned out to 2 or 3 in. apart, to form a reserve store that may be planted out on vacant ground next March or April, so providing a succession to those planted out this autumn. These later plants come into bearing when the main crop is finished and provide useful cabbages in early summer.

Turnips for Tops

At this time of the year, it is well worth while to sow a row or two of turnips, not with the idea of producing roots, but to get a supply of green tops for use next spring. The seeds should be sown very thinly in rows 1 ft. apart. When the seedlings appear, thin fairly lightly in the early stages, as the plants have to undergo the winter and bad weather and pests may make inroads on them. Later on they may be thinned again, as the plants require more room to develop. The variety Green Top Stone is very suitable for sowing to produce a supply of tasty, green leaves that will be valuable as an extra green crop in the difficult month of April.

Parsley

You may now find your spring-sown parsley running to seed, some of it in full flower. These flower stems will exhaust the plant. So your best plan is to cut down the plants almost to ground level and give them a little fertiliser and some water. By this means you can have fine parsley all through the winter.

Beet

Look at a sample root or two in your beet rows. You may find that some are getting old and "ringy." If you sowed the seeds early in the year, it is quite possible that the beet are ready for lifting and would be much better lifted now and stored in damp sand or soil in an odd corner outdoors. The main crop should still be growing well at the moment, but some earlier roots may go past their best if left in the ground any longer.

Harvesting your own saved Seed

PEAS AND BEANS

If only a pound or two of seed is being saved, leave the pods until nearly dry. The seed at this stage should be firm and tough; pressure with the finger nail should not easily cut the skin but only dent it.

To finish the drying, pick off the pods and spread them in a thin layer in a dry, airy place. When the seeds are quite hard, shell them from the pods and store in cotton or paper bags.

If your space is limited, the seeds may be shelled from the pods as soon as they are taken from the plant, and dried by spreading them in a thin layer on a tray. Move them each day so that they are all exposed to the air in turn.

ONIONS AND LEEKS

Onion seed is usually fit to harvest by September, leeks in October. The seed should be black and doughy, not watery, before harvesting. If the stem below the head turns yellow, or some of the capsules burst open, the head is then certainly safe to cut. Cut off the heads with 12 in. or more of stem attached, and lay them in a

sunny, airy place to dry. Place the onion heads in a bag since the dry seeds easily fall out.

Leeks take a long time to dry and the capsules remain tough. The easiest way to deal with very small quantities of leeks is to rub the heads on a fine sieve. If the threshed seeds and chaff are placed in water, the good seeds will sink and the chaff and poor seeds will float. Do not let the seeds remain more than a few minutes in water; dry them immediately by spreading in a thin layer on a dish in an airy place.

TOMATOES

At least 10 lb. of tomatoes are required to produce 1 oz. of seed. Remove from the fruit the pulp containing the seeds and put it in a jar to ferment. After two or three days, tip it into a fine sieve and wash it vigorously under the tap; the pulp will wash away from the seeds, which may then be spread on muslin to dry.

LETTUCE

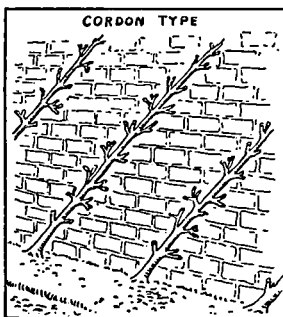
Keep close watch for the moment when the seed heads are ripe, since loss of seed results from shattering and from the ravages of birds. Inspect the plants at frequent intervals and pluck off any heads that show a "downy" formation. This usually appears within about a fortnight of flowering. Finish drying the heads on a tray under cover.

MARROWS AND RIDGE CUCUMBERS

Leave the fruit intended for seed on the plant until it is fully ripe. The seed should be removed by hand, washed to remove the surrounding pulp and dried in the sun.

The Fruit Garden

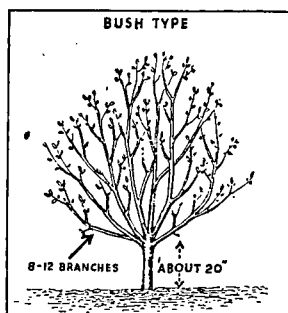
The shortage of fruit during the war has led many people to turn their minds in the direction of growing their own, especially apples. They have grown vegetables successfully and feel they can grow fruit, too. Why not, if they have got the necessary space for a tree or two and perhaps some bush fruit? So here are a few notes about apple growing.



The aim should be to plant the compact, restricted type of tree that is easy to handle, gives a quick return and takes up very little space. So keep to the cordon type or the bush tree. The cordon has a single straight stem, furnished with fruiting spurs along its entire length. It is the type for planting against a wall or a fence. The bush tree has a stem of about 20 in. before branching takes place, and eight to twelve branches grow in the form of a cup, leaving an open centre. This form should be chosen when planting in the open garden.

A cordon tree should be at least two or three years old when you buy it, since a tree of this age will already be furnished with fruit buds. A bush tree should be about four years.

Be careful when you buy fruit trees. Apples are propagated by budding or grafting scions of the selected variety on special root-stocks. It is important that you should know this, for the root-stock has a marked influence on the growth of the tree, and so on the age at which it will start to bear. If the root-stock is vigorous, growth will also be vigorous, you will have to do much pruning and fruit-bearing will be delayed; if, on the other hand, the tree has been propagated on a weaker growing root-stock, such as



Type IX, growth will be less strong and the tree will come into bearing at an early age.

Reputable nurserymen use root-stocks whose habit is known; such root-stocks have been classified accordingly. So if your garden soil is in good heart and fertile, ask the nurseryman to supply apples on Malling Type IX, which is a weak growing stock. If, however, your soil is light and poor, ask for the tree to be on Malling Type II, a stock that produces a tree of medium vigour.

The choice of variety is also important, for any particular variety

behaves differently in different localities. For instance, Cox's Orange—possibly the most famous English dessert apple—does best in the South and in areas of low rainfall. It is not a good variety for planting in cold or wet districts. People's tastes differ, too. The small gardener would do well to take the advice of his local horticultural society about suitable varieties for local conditions. Here is a list of a few well-known varieties that can generally be relied on to do well in most districts, though some may not suit every condition throughout the country.

<i>Dessert apples</i>	<i>Cooking apples</i>
James Grieve	*Rev. W. Wilks
*Ellison's Orange	Lord Derby
Allington Pippin	Lane's Prince Albert

Laxton's Superb *Crawley Beauty

The varieties marked with a * are self-fertile, and Crawley Beauty flowers very late, so being specially suited to districts subject to late frosts. If there is room for only one apple tree choose a self-fertile variety. Where two or more varieties are to be grown, select those that flower about the same time.

PLANT CERTIFIED STOCKS

Good planting stock costs very little more than rubbish and in the long run it will prove *less* costly. Many of you will have been disappointed with the crops produced by those fruit bushes and plants that you have picked up cheap. You may be lucky now and again, but cheap stocks rarely give satisfaction. They will possibly introduce diseases and pests into your garden, and often they do not prove true to type. The best plan is to plant stocks that are certified true to variety and substan-

tially free from pests and diseases.

Every season the Ministry of Agriculture examines stocks of strawberry plants and blackcurrant bushes, and issues certificates for those stocks that attain the standards

laid down. The supply of certified stocks is limited, but it is worth while saying to your nurseryman when you order, "Certified Stocks please!" And you will find that certified stocks please.

Chapter XIV. OCTOBER

THE FARMER, WE ARE TOLD, looks at winter with spring in his eyes. So does the good gardener. For both, the practical couplet is this:

"In October dung your field,
And your land its wealth shall yield."

But the reader may say, "It's all very well for the farmer, but where can I get dung?" Well, the answer is simply this—if you can't get dung, make compost (see p. 4). And how few gardeners do, yet compost will help them to keep their land fertile.

October is the month for dropping leaves, and to the sensible gardener those leaves, when they drop, should be made into compost. Leaves of oak, beech and birch are very valuable for the compost heap, but pine and spruce needles, together with lime and plane tree leaves, are best burnt and the ashes used instead as a fertiliser.

Don't make the mistake of piling masses of fallen leaves and autumnal garden waste on the heap that you may have started several months ago. Start a fresh heap (see p. 4). Turn over the old heap now, and any material that has not rotted completely should be placed on the inside of the new heap, the properly decomposed stuff going to the outside.

Cleaning up

Now is the time of the year for a little bit of "garden hygiene." That

simply means keeping the garden clean. Cleanliness, we are told, is next to godliness, and that applies to gardens and allotments as well as to persons. An unclean body—inside or outside—is asking for trouble of some sort, and an unclean vegetable plot means harbouring pests and encouraging disease. Pests and diseases have to winter somewhere, and if they don't find their quarters in cracks in the wall or the fence, or on trees or shrubs, they may take them up on those beansticks that ought to have been put away for another season, or in the rubbish pile, or among those decaying brassica leaves. So let's have a good clean up and make things tidy, putting all suitable waste on the compost heap and burning all the rest. Don't forget that the ash contains potash and should be stored away in some dry place for future use.

And when you can, stir up the soil by hoeing between the plants still on the plot, for later on this will not be feasible, and it is important that you should let the air and what sun there is get into the soil to make it warm and in better condition for the roots. Weeds may have to be kept down by hand weeding; they must not be allowed to compete with your food plants.

Keep those bonfires to the smallest limits and burn only woody or diseased material, the underground

parts of thistles, docks, couch grass and the like.

Bonfire ash should not be left out for the rain and dew to dissolve and wash away the very soluble form of potash it contains. It can be incorporated in the garden soil immediately it is cold, or it may be bagged, stored in a dry place and used as a fertiliser when needed.

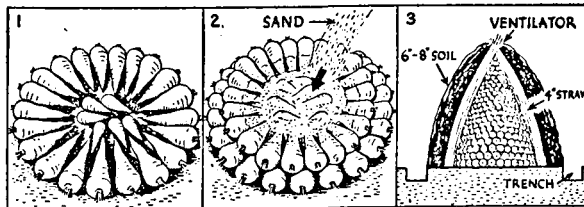
Storing Carrots and Beets

The main carrot crop should now be ready for lifting. Treat the roots carefully, lifting with a fork and taking care not to damage roots or crown. Trim off the leaves near the crown, but do not cut the top part of the carrot, even if it is green. Some gardeners slash off the top half-inch, but that leads to trouble later on when the carrots are stored. Any split, misshapen, forked roots, or those that show signs of damage by carrot fly or other pests, should be kept out for use in the next few weeks. The rest can be stored, either indoors, or, if you have more than you can conveniently store under cover, you could clamp them as illustrated below.

tainer, then a layer of carrots completely covered with sand, and so on until the box is full.

Clamping outside is very simple. Make a level site, preferably in the shade, and place the carrots, thick end to the outside, in the form of a circle. Lay a few carrots in the middle and sprinkle a little sand over them to level up; then put a second layer of carrots on the top of the first, and so on. The circular layers get a little narrower each time until the whole heap builds up into a shapely cone. Cover the cone with a layer of 4 to 6 in. of straw. Then dig out about a foot of soil around the heap, to get sufficient to cover the clamp to a depth of 6 to 8 in. Leave ventilation holes at the top, filling them with twists of straw that show through the soil. Otherwise cover the whole clamp with soil before severe weather sets in. It may be necessary later on to add a little more soil to the outer covering, but 8 in. should provide enough protection in a reasonably mild winter.

Beetroots, too, must be lifted before frost seriously threatens. The leaves are twisted off—not cut—and the roots taken inside to store. This is



Carrots stored indoors can best be kept in boxes. A layer of dry sand, soil or ashes should be placed over the bottom of the box or other con-

tainer, then a layer of carrots completely covered with sand, and so on until the box is full. Clamping outside is very simple. Make a level site, preferably in the shade, and place the carrots, thick end to the outside, in the form of a circle. Lay a few carrots in the middle and sprinkle a little sand over them to level up; then put a second layer of carrots on the top of the first, and so on. The circular layers get a little narrower each time until the whole heap builds up into a shapely cone. Cover the cone with a layer of 4 to 6 in. of straw. Then dig out about a foot of soil around the heap, to get sufficient to cover the clamp to a depth of 6 to 8 in. Leave ventilation holes at the top, filling them with twists of straw that show through the soil. Otherwise cover the whole clamp with soil before severe weather sets in. It may be necessary later on to add a little more soil to the outer covering, but 8 in. should provide enough protection in a reasonably mild winter.

material you use should not be bone dry; while it should be moderately dry, the roots may shrivel if it is quite dry. The boxes of roots should be stood in a shed, cellar or store of some kind that is frostproof. A storage temperature of between 30° and 35° F. is most suitable. The important point to remember is that the beet must be kept free from frost. During hard frosts, if the store is not frostproof, an additional covering of old sacks, bracken, straw or something of a similar nature, should be heaped over and around the boxes. Stored in this way the roots will keep for many months.

Artichokes

Some readers may be wondering if Jerusalem artichokes should be lifted like potatoes. That is not necessary; indeed, they keep better in the ground if, in very severe weather, a covering of leaves or bracken is heaped over the roots. The stems should be cut down now and bruised and put on the compost heap, but the roots may stop in the ground until after Christmas. Most gardeners lift the tubers in February and replant some for next year. Those intended for the kitchen are then stored in damp sand and can be kept fresh for several months.

Picking Brussels

Early-planted Brussels sprouts should now be ready for picking. There is a right way and a wrong way of gathering them. Start at the bottom and clear the stem of sprouts as they become large enough; don't pick a sprout here and there, but do it systematically from the bottom of the stem. Some gardeners are doubtful whether they should re-

move the growing tuft of leaves at the top of the plant. That should be left until next Spring, for the leaves are necessary to the health of the plant and also afford protection from the weather.

Leeks

A little soil should be drawn up to leek plants now to encourage them to produce sizeable, well-blanching stems.

Getting Early Rhubarb

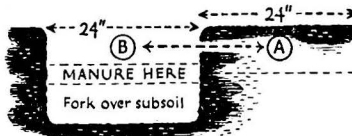
Forced or early rhubarb is one of the things we can enjoy in these difficult days when delicacies are none too plentiful. If you have some good crowns or clumps of rhubarb, you can, without much trouble, provide the table with early stalks. When the plants have shed their summer leaves, place some dry leaves or bracken loosely over the crowns. A box or big pot should be placed over this material, to keep it dry and stop it blowing about. This encourages the rhubarb to make early growth. If you have a dark shed or a greenhouse, you can lift a few crowns and place them on the shed floor or under the greenhouse staging. Hang sacking in front of the staging to make it dark. Crowns intended for such treatment can be lifted a week or so before they are taken inside. They should be stood on the surface of the soil and if a slight frost occurs, so much the better, for it will make them break into growth earlier.

The Fruit Garden

The September chapter deals with the sort of fruit to grow in the small garden. Here is information about planting.

BASTARD TRENCHING

Break up and turn over subsoil, add manure, and then move topsoil A to B



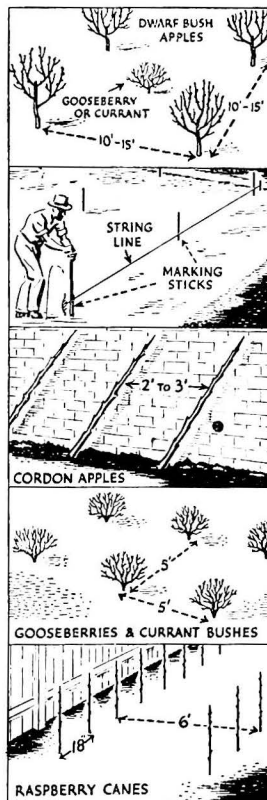
First of all, the site. Peaches and pears need abundant sunshine. Most other fruits do best in a sunny position, but are not so particular and often succeed in partial shade.

Peaches or pears should go on the south wall or fence, apples and plums on the west or east, and morello cherries on the north. Blackcurrants, gooseberries and raspberries should be in a bed where they can be netted against bird attack. Loganberries or blackberries should be trained on a boundary fence.

In the open garden you could plant one or more dwarf bush apples or gooseberry, red or black currant bushes. Apples planted about 10 to 15 ft. apart in a square could have a gooseberry or currant bush placed in the centre.

As fruit trees and bushes have to grow on the same piece of ground for several years, you must cultivate the plot thoroughly and deeply. The best method is bastard trenching—see illustration above—breaking up the sub-soil as far as possible. Do this over the whole fruit plot—especially on heavy soils—not just where the tree or bush is to stand.

As to manure, the general rule is that bush fruits need much bulky organic stuff, which provides the soil with plenty of humus. Through generous manuring the moisture is retained near the surface and close to the shallow roots of bush fruits. Use farmyard manure, if you can get

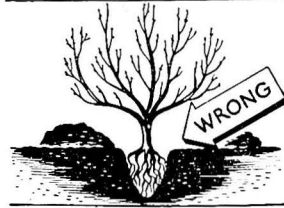


it; if not, you could use good stuff from the compost heap, decayed lawn clippings or similar material. Apply between the first and second spits when bastard trenching. When planting cordon apples give similar treatment, making the border so treated 3 ft. wide. In the open garden, if the soil is in an average state of fertility, no special treatment is needed and no bulky manure should be applied, since this would hasten growth and delay fruiting.

When you come to planting, use a line to keep the rows straight and put in sticks to show the position of each tree or bush. Provided the weather is not frosty, you can plant at any time between late autumn and the end of March, but, if possible, plant in late autumn. Don't plant when the ground is too wet or too sticky; wait until it is reasonably dry and workable. If the weather is frosty when you get your trees or bushes, cover the roots with soil and wait until you can plant out.

Cordon apples are usually planted 2 to 3 ft. apart in the row, while bush apples on dwarf stocks are given 10 ft. For gooseberry and currant bushes 5 ft. apart each way is the distance, while raspberry canes should be placed 18 in. apart with 6 ft. between the rows. If you are planting cordon gooseberries or red currants, allow 1 ft. apart. Now for some hints on the planting of cordon and bush apples. When the time is right, take out enough soil to make a hole wide and deep enough to allow the roots to be evenly spread out. In planting cordon apples it is generally better to take out a fairly wide shallow trench along the entire row. Cut back any coarse or injured roots on tree or bush, using an upward sloping cut. Set the tree in the hole and

spread the roots out evenly. In planting against a wall or fence keep the stem about 6 in. away from it. Sprinkle some fine soil over the roots. If there is more than one layer of roots, hold up the upper roots. Work the soil well into the spaces between the lower roots, and when they are covered, tread the soil firmly. Keep on filling and treading until the hole is completely filled in. Firm planting is very important, but



do not plant any deeper than the tree or bush was planted in the nursery: you can usually judge this by the ring of soil adhering to the stem. Complete your planting by giving a mulch of farmyard manure or compost.

Cordon apples are not set upright, but sloping at an angle of about 45° . If your rows run north to south, keep the roots to the south, with the top of the tree sloping north. When the rows run east to west, the slope of the trees is not so important.

Bush apples on Malling IX root stock (see p. 5) need staking with a stout stake, which should be driven in securely about 2 ft. from the base of the stem, so that the stake rests against the stem at an angle of about 45° and points in the direction from which the wind generally comes.

Wrap a bit of sacking round the stem at the point where stem and stake touch, so as to prevent the tree being chafed, and then tie stem and stake together with strong cord.

The pruning of newly-planted fruit trees and bushes is touched on in Chapter XV.

Chapter XV. NOVEMBER

NOVEMBER MAY NOT be as gloomy as it is painted; but it has never been a popular month, least of all among gardeners. For the perennial border may look bedraggled and the vegetable plot untidy and a bit sombre. We may have some promising looking beds of winter greens to reassure us that there will be no hungry gap in the early part of next year. But we shall miss the colour and interest associated with our runner beans and peas, our beet and carrots; while our fruit trees will be "bare ruin'd choirs where late the sweet birds sang."

We shall miss the bees—our pollinating allies. We shall miss the butterflies—at least the beautifully coloured sorts. There is nothing to fear from them: in fact, some of them are beneficial: for instance, the Small Tortoiseshell, Red Admiral and Peacock thrive on stinging nettles. But we shall be glad to see the back of that beastly pest the "Cabbage White" butterfly.

Well, there's very little we can do this month about the vegetable plot, except to do a spot of tidying up; ordering our farmyard manure—if we are lucky enough to have a source of supply—and getting on with digging such bare land as there may be; and checking up on our stored crops

to make sure they are keeping well. But given the right sort of weather we can do some useful work on the fruit plot.

The Fruit Garden

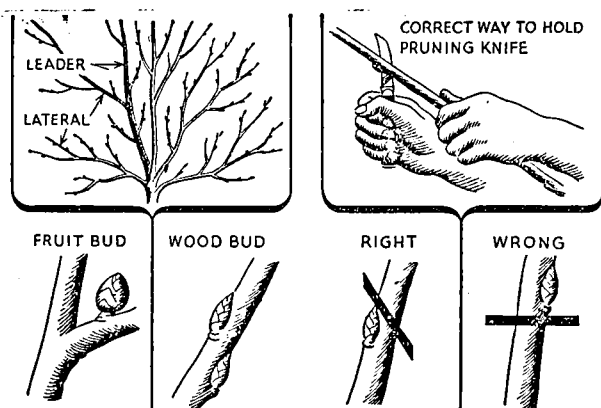
WINTER PRUNING

Here are a few hints about winter pruning, though you would get a better idea of the art by watching some knowledgeable person do the job a time or two.

Before beginning to prune apples and pears, look for two kinds of shoots—"leaders" and "laterals," and two kinds of buds—"fruit buds" and "wood buds."

"Leader" shoots are the main shoot growths that extend at the ends of the branches; "laterals" are the side shoots that grow out from the "leaders." The "wood buds" that form leafy shoots are thin and pointed, while the "fruit buds" that form blossom are plump and round (see illustrations overleaf).

Cordon and dwarf bush trees are pruned by cutting back all laterals to three or four buds (see p. 59) and cutting the leaders so as to leave two-thirds of the current season's growth. Make the cut just above an outside bud. The right and wrong ways of making these cuts are shown



in the pictures. If you are planting new trees this winter, pruning is best left until the buds begin to swell. Then cut all laterals back to four or five buds and reduce leaders by half.

Don't prune stone fruits unless absolutely necessary, owing to the risk of disease. In fact, plums and damsons need very little winter pruning. Dead wood should be removed, and any branches or shoots that cross or crowd should be thinned out.

Gooseberries and redcurrants can be pruned now. Winter pruning of gooseberry bushes consists of thinning out overcrowding shoots, especially in the middle of the bush, so letting in air and light and making fruit picking easier next season. Cut back new growth at the end of the main branches to a bud pointing outwards about halfway down. But if the birds are unusually troublesome in your district and peck at the buds, leave pruning until Spring.

With redcurrants, shorten all side shoots (laterals) in winter to three or

four buds, and cut back the growths at the end of the main branches to an outside bud, leaving about 6 in. of new growth each year.

PRUNING NEWLY-PLANTED TREES AND BUSHES

The pruning of trees and bushes planted during the winter is best left until the buds begin to swell; then treat each as follows:—

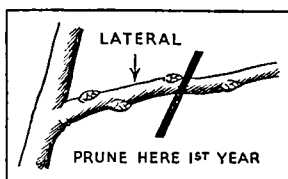
Apples (Cordon and Dwarf Bush). Cut all the side shoots back to four or five buds, and shorten the leading shoot by half its length.

Blackcurrant. Cut each shoot on the young bush down to two buds from ground level.

Raspberries. Shorten the canes to 1 ft. or 15 in. from ground level.

Loganberry. If rooted tips have been planted there is nothing to prune. Cut the canes on the one-year-old plant back to about 1 ft. from ground level.

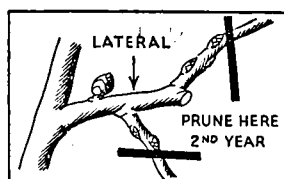
Gooseberries and Redcurrants. Cut all side shoots back to four or



five buds and shorten the leading shoot of each main branch by half.

PRUNING NEGLECTED FRUIT TREES

Be careful in pruning neglected apple and pear trees and bushes. Don't remove too much growth in any one year. If the tree is growing freely, there is usually a tangle of branches that bear few fruit buds except at their tips. Shorten all tall branches that cannot be sprayed or from which the fruit cannot readily be picked. Any crossing or badly-placed branches and those dead and



diseased should also be removed. Finally, if the tree is still too thick—remove more branches to open the centre to the sun. In later years the "lateral" shoots can be shortened back when necessary.

Neglected trees in a starved condition will have almost ceased to make new shoots; instead the branches will bear numerous spurs with weak fruit buds. In pruning remove alternate spurs. The tree should be given a generous dressing of nitrogenous fertiliser such as sulphate of ammonia.

Chapter XVI. DECEMBER

AT THIS TIME of year we gardeners are apt, in the words of the poet, to indulge in the pastime of "I remember." And no doubt we shall sit by the fire thinking of our successes and failures of the past season in the vegetable and fruit gardens. We shall no doubt do a bit of moralising, too—possibly make good resolutions about being more timely in our operations next year. So as there's very little we may be able to do outdoors this time of year, save possibly getting on with digging any spare ground that's not frostbound, let us do a bit of fireside gardening, with a bit of looking back and perhaps a glance into the future.

Looking back

It has been said that of all dead things only the past smells sweet. How does the past "smell" to you as you look back on your gardening year? If you were successful, no doubt the past year was "sweet." (But were there no crops that failed you?) If, however, your season was very mixed, you will no doubt be thinking of the weather or the pests or both.

The weather is always with us to grieve about. Did we have too much rain and not enough sun—or too much sun and not enough rain? Did we delay our digging until the early

Spring, with the result that we were for ever trying to 'catch up on the jobs to be done and seldom succeeded? And the soil lacked that weathering influence that benefits land dug before winter sets in? But was our chief trouble the pests—black fly, green fly or—worst of all—the cabbage white butterfly? And did we tackle them in good time or did they get the better of us just because we didn't?

Looking forward

When we are doing our fireside gardening round about Christmas we shall like to have our seedsman's catalogue to study. So if you have not already got it, why not send for it? And remember that he has still got his labour difficulties and that he would appreciate it if you sent in your order early, not delay ordering until the last moment just before sowing time, when there is always a hectic rush at seedsmen's premises. Order your seed potatoes early, too.

Don't feel aggrieved if you still can't get all your favourite varieties. You'll know only too well that the end of the war has not meant the solution of all our problems.

Make a new plan for the cropping of your allotment or garden, being guided by your past experience of what to grow and the quantity of each kind.

What about some Herbs?

When planning your garden or allotment for next year, bear herbs in mind. If you already have one or two kinds, try some of the less common, to give variety of flavour to your vegetables. Herbs are not difficult to grow, for many are perennial; once established, they go

on growing year after year. Plants can be raised from seeds; but as this is rather a slow business, see if your friends can let you have some cuttings or pieces for next Spring and early Summer.

In the meantime get the soil ready by digging deeply and working in plenty of well-rotted manure or compost. Once the plants are growing, only surface cultivation will be possible, so it is worth while making a good job of the digging. It will then only be necessary to keep weeds in check and the soil aerated by hoeing during the growing season. It is better to group herbs together in one bed. Mint prefers partial shade and not too dry a soil; but most of the others like a sunny, well-drained soil.

There are several forms of mint, but the nicest for mint sauce and other flavouring is spearmint. "Runners," or side branches of an old plant, root very easily and may be planted in March or April. If there is no natural shade, a mulch of rotted leaves will help to keep the roots cool.

Besides the ordinary thyme, the lemon-flavoured kind should be grown. Both prefer a warm soil. Cuttings can be taken during the early Summer, or old plants can be lifted and divided into convenient pieces for replanting in Spring. It is a good plan to do this every two or three years, as old plants often get "leggy" and bare of young shoots.

Sage is another herb that can be propagated by cuttings, preferably with a "heel"—a piece of the old stem attached to the slip. In some districts they need the protection of a cold frame for rooting. April and May are the best months for this.

Pot marjoram or sweet marjoram, the best-known forms, can be raised from cuttings, though they are often treated as annuals, seeds being sown each April.

Chervil and savory are two more herbs that are often raised from seeds, though savory can also be propagated in the same way as thyme. Chervil is used fresh, but savory can be dried like sage.

Chives are among the easiest herbs to grow and the "grass" or stems, either fresh or dried, can be used for flavouring instead of onions. The more it is cut, the better the plant grows. Chives make a delightful edging to the herb bed and new plantings can be made in Autumn or Spring by lifting and dividing old plants into single bulbs or groups of two or three.

Parsley, too, is suitable as an edging plant. To get successional supplies it is best to sow three times: February or March, April, or early May, and again in July. The last sowing will give fresh parsley until severe frosts cut down the plants.

Fresh sprigs of parsley are generally used, but it is not always known that the shoots can be dried for winter use. To keep the colour as much as possible, the drying must be done quickly, and it is best to put the bunches in a cool oven.

Among the less common herbs are tarragon, wormwood, southernwood, basil, balm and fennel. Now is the time to look round and see where you can get seeds, cuttings or pieces to make a start next Spring.

About those Tools

Now is the time of year when you ought to take stock of your tools and buy any replacements, so that you

will be ready for next season. There are a number of little things that matter when you are choosing new tools and the following hints may be helpful. When getting a spade, make sure that it's comfortable to handle. And see that the wide ends of the grain are at the side of the handle, otherwise it might split later on and tear your hands, or even break with a heavy strain. The rivet on the shaft should be well sunk and smoothed off, or again your hands may suffer.

A good fork should be properly forged and should ring clearly when you knock the prongs on the floor. Gardeners generally prefer a flattish trowel, for the very round sort makes the work much harder. Take care, too, in buying rakes and hoes. A very thin handle is not comfortable to grip, so try it in the shop before you take it away. The hoe should be properly welded, as it will have some tough work to do when the ground is very hard. The teeth of an iron rake should be riveted firmly or they will soon fall out. Better still, get one that is cast in one piece.

If you have no need to buy, it will repay you to take care of what you have. See that all your tools are stored in a safe place. Spades, hoes, trowels, rakes and forks should be thoroughly cleaned, dried and well oiled before being put away for their short rest. Nets should also be well dried and neatly rolled up, the garden line cleaned of soil and stored safely in a dry place, barrows put under cover and, if necessary, given a coat of paint—if you can get it. Well-kept garden tools make the work so much easier, for a sharp, well-kept spade demands far less energy than one that has not had its regular cleaning and oiling.

The Fruit Garden

Thorough spraying at the right times is probably the most important step you can take towards more and better fruit. Spraying in Winter kills the eggs of Aphides (Greenfly), Apple Sucker, Red Spider, Capsid Bug and Winter Moths. Between the beginning of December and the end of January, you should spray your apples and pears once, either with a tar-oil spray ($\frac{1}{2}$ pint tar-oil to 1 gallon water) if Aphides or Apple Sucker are the troublesome pests, or with dinitrocresol petroleum oil (D.N.C. for short) if the other pests mentioned also need to be controlled. D.N.C. can be applied as late as the first half of March.

With plums and damsons, spray as for apples up to the middle of January. Don't delay until after the end of January or the crop may be seriously affected. Spraying time for gooseberries is up to the middle of January and for blackcurrants up to the end of that month.

So you will see that by choosing a date between early December and mid-January you could spray your apples, pears, plums, black currants and gooseberries at one go.

Here are some important *spraying* points to bear in mind—

Don't alter the proportions recommended for making up the sprays. Stronger mixtures may do more harm than good; weaker sprays may not be effective.

Mix and strain all sprays thoroughly before use. A piece of coarse muslin makes a good strainer.

Spray thoroughly; every part of the tree or bush must be drenched, especially the twigs.

Don't spray in the rain, when rain is likely, or during frosty or windy weather.

Cover any vegetable crops under or near the trees, to prevent damage when using tar-oil or D.N.C. sprays; spring cabbages, for instance, are spoiled by the spray. Failing anything better, use newspapers.

Take care not to damage flowering plants and hedges, especially your neighbour's, over the fence; if accidentally sprayed, they should be thoroughly washed with clean water, using the garden hose before the spray has time to dry.

Wash the spraying equipment after use.

Don't make up more spray than you need for a day's work.

The quantity of spray needed will, of course, vary with the number and size of your trees and bushes. For fruit trees, here is a table showing the average quantities required according to the size of the tree—

<i>Diameter of spread of tree</i>	<i>No. of gallons of dilute wash per tree</i>
10-12 ft.	1
12-15 "	1½
15-18 "	2½
18-21 "	3
21-24 "	4

For blackcurrants, gooseberries and other bush fruit, 1 gallon of spray will be enough for up to 10 bushes, according to size.

Any form of syringe can be used for spraying, provided that you can reach every twig with it. Or you could use a stirrup and bucket pump of the A.R.P. variety, though you'll need two persons to work it. For really big trees, a barrow type of sprayer would be necessary.

WINTER MANURING

Because conditions vary from district to district, even from garden to garden—manuring advice must be fairly general, and these notes deal only with what can be done at this time of year. Fruit trees and bushes, like vegetables, need fertilisers—and in the right proportions; for instance, nitrogen is needed to make shoots and leaves, though too much of it will produce rank growth but little fruit. If your apples and pears are not so vigorous as they should be, they can be encouraged by dressing the ground around the trees in winter with hoof-and-horn at the rate of 3-4 oz. per square yard. Alternatively, sulphate of ammonia, applied in early Spring at the rate of 1-2 oz. per square yard, will prove equally effective.

Apples and pears (not so much) need potash, especially on light soils. But that's difficult to come by and you may have to rely on wood ash from your bonfires. This should be kept in a dry place until you apply it to the ground in April. And don't forget that your gooseberries would like as much wood ash as you can give them; if there's any to spare the redcurrants and raspberries would appreciate it. Blackcurrants don't need it so much.

Every second Winter give your plums a dressing of 2-3 oz. of bone meal.

Don't forget at this time of year to fork lightly over the ground around

fruit trees and bushes. But be careful about the raspberries: their roots are near the surface and they don't like being disturbed.

Knowledge for the Gardener

To-day, more than ever before, gardeners are seeking knowledge and generally the bookseller has a section of his shelves devoted to gardening books from a few shillings upwards. Or if you want something cheaper, there is the Royal Horticultural Society's excellent book "The Vegetable Garden Displayed," which is lavishly illustrated with instructional photographs and can be obtained from the Society at Vincent Square, London, S.W.1, price 2/- post free. Or cheaper still is any one of the Ministry's own bulletins:—"Food from the Garden," 3d. (4d.), "Fruit from the Garden," 3d. (4d.), "Pests and Diseases in the Vegetable Garden," 4d. (5d.). Your wife may like "Domestic Preservation of Fruit and Vegetables," 1s. 6d. (1s. 8d.) or the cheaper bulletin "Preserves from the Garden," 4d. (5d.). The figures in brackets are inclusive of postage. All these bulletins can be had from the branches of H.M. Stationery Office (addresses on back cover), or through any bookseller.

Why not become a member of an allotment or horticultural society? Knowledge gained from these personal contacts is sometimes more helpful than the written word.

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