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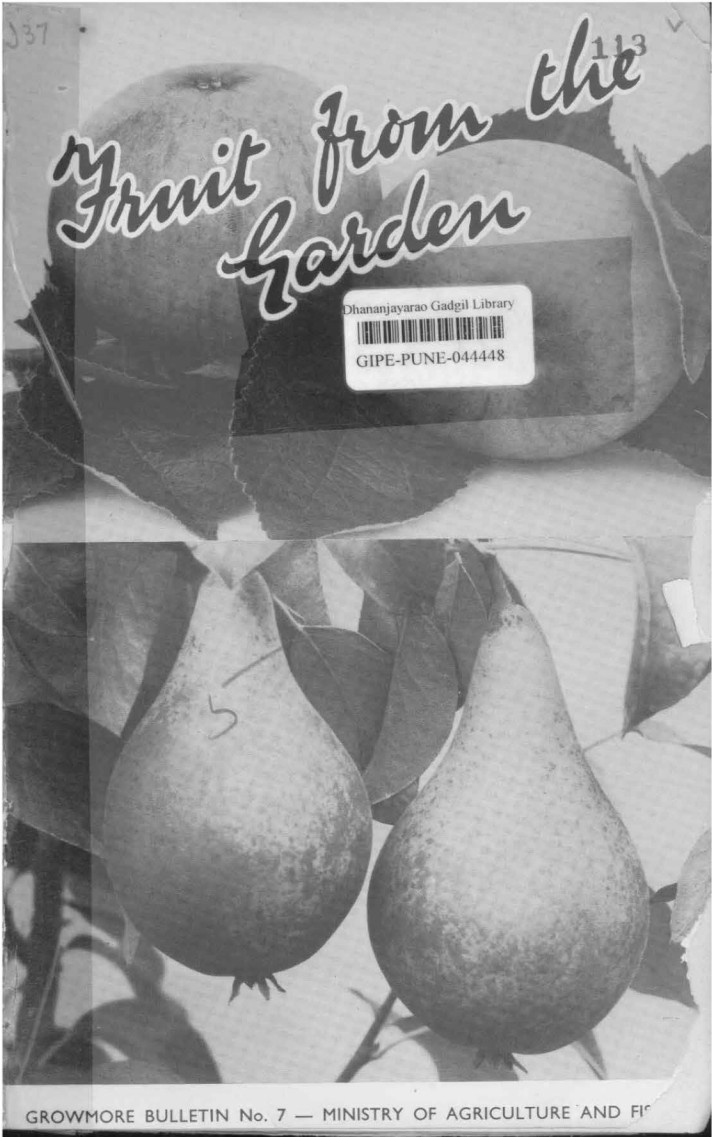
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# Fruit from the <sup>113</sup> Garden

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MINISTRY OF AGRICULTURE AND FISHERIES

## GROWMORE BULLETIN No. 7

FRUIT FROM THE  
GARDEN*Amended Edition*

J. M. S. POTTER, N.D.H.

(National Fruit Trials)

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LONDON: HIS MAJESTY'S STATIONERY OFFICE

1949

# FRUIT FROM THE GARDEN

The object of this bulletin is to assist owners of small gardens to increase their fruit production, and the information which it contains has been grouped under four heads: (1) What and Where to Grow; (2) How to Manage the Trees and Bushes; (3) How to Pick and Store the Crops; and (4) Treatment of Old Trees.

## What and Where to Grow

Although your garden may already be well stocked with vegetables, there may still be space to add some fruit trees without upsetting the balance of the vegetable plot, provided plantings are confined to the compact, restricted type of trees or bushes which are easy to handle, give a quick return and take up very little space.

The question of quick cropping is most important, because some kinds of fruit come into bearing much sooner than others. The aim should be to choose those kinds which will yield some fruit in their second year, with an increasingly heavy crop in subsequent years. Of the tree fruits, the choice for war-time conditions should be limited to apples. Pears, plums and cherries take a fair time to come into bearing, since for several years after planting their energy is concentrated on making growth. Apples, on the other hand, can be obtained on dwarfing rootstocks, and with proper treatment should produce fruit in their second year after planting, provided the trees are of the correct age to start with.

The bush fruits (black and red currants, gooseberries, raspberries and loganberries) come into bearing the second year after planting, and should be grown where there is room. Strawberries should be avoided by the beginner, as they are rather exacting in their requirements and difficult to grow successfully.

**Form of Tree.** The form of apple tree to plant should be limited to the cordon or small bush. The cordon tree has a single straight stem furnished with fruiting spurs along its entire length, and should be used when planting against walls or fences. The small 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. The half and full standards, with their 3- and 6-ft. stems respectively, should if possible be avoided because they are on vigorous rootstocks, and the trees grow large and come into cropping only after many years delay.

Apples are propagated by budding or grafting scions of the selected variety on special rootstocks. This is an important point, because the rootstock has a marked influence on the growth of the tree and consequently on the age at which the tree will start to bear. If the rootstock is vigorous, growth is also vigorous and bearing is delayed. If, on the other hand, the tree has been propagated on a dwarfing or semi-dwarfing rootstock, growth is less strong and the tree comes into bearing at an early age.

Reputable nurserymen use rootstocks of known habit and which have been classified according to this character. If your garden soil is in good heart and fertile, ask the nurseryman to supply the apples on Malling IX, which is a dwarfing rootstock. If, however, you intend planting on a soil which is light and poor, ask for the trees to be on Malling II, which is a rootstock producing trees of medium vigour.

**Form of Bushes.** The black currant is grown on the stool principle, with several stems arising from below or near ground level. Raspberries and loganberries are also grown as stools, with the crown of the plant producing new fruiting canes each year. The gooseberry and red currant are grown as bushes, having short legs of 6-8 in. before branching takes place: the branches are arranged in the form of a cup with an open centre similar to a bush apple. Gooseberries and red currants can also be grown as single or double cordons.

**Age of Tree or Bush to Plant.** A cordon apple tree should be at least two or three years old when purchased, since a tree of this age will already be furnished with fruit buds. A bush apple tree should be about four years old. This also will have some fruit buds; but what is more important, the initial framework will have been formed by the nurseryman. One or two years old is the best age at which to plant a blackcurrant bush. Raspberry suckers formed during the previous summer are used for planting (a sucker consists of a single-stemmed cane, bearing roots). Either well-rooted tips or one-year-old loganberry plants are employed. Gooseberry and redcurrant bushes are best purchased when three or preferably four years old, but if cordons are to be grown two or three-year-old plants are suitable.

**Varieties.** The choice of variety to be grown is important, because the behaviour of any particular variety varies from one locality to another. It would be useless, for example, to recommend *Cox's Orange* apple which, generally speaking, succeeds best in the South but cannot be regarded as a good variety for planting in colder districts. The best course for the owner of a small garden is to get in touch with the Local Education Authority or a local horticultural society. Either will be able to advise him on the best variety or varieties for growing in his locality.

The following list gives a few varieties which can be generally relied upon to do well in most districts, but it should be borne in mind that some may not suit every condition throughout the country.

Dessert Apples	IN SEASON	Culinary Apples	IN SEASON
Beauty of Bath	August	Emneth Early	July—Aug.
James Grieve	Sept.—Oct.	†Rev. W. Wilks	Sept.—Oct.
Worcester Pearmain	Sept.—Oct.	Arthur Turner	Aug.—Oct.
†Ellison's Orange	Sept.—Nov.	Lord Derby	Nov.—Dec.
Lord Lambourne	Oct.—Nov.	Lane's Prince Albert	Until March
Cox's Orange Pippin	Nov.—Jan.	*†Crawley Beauty	" "
Laxton's Superb	Nov.—Feb.		

\* This variety flowers very late and is therefore specially suited for districts subject to late frosts. † Self fertile.

If there is room for only one apple tree, a variety should be chosen which is self-fertile. Where two or more varieties are to be grown, select those which flower about the same time. Avoid the strong growers such as *Bramley's Seedling* and *Newton Wonder* and the tip-bearers such as *Cornish Gillyflower* and *Irish Peach*.

Black Currants	Red Currants
Goliath (Victoria)	Laxton No. 1
Baldwin	
Gooseberries	Raspberries
Whinham's Industry (Red)	Norfolk Giant
Lancer (Green)	Red Cross

**Where to Grow.** It is necessary to decide upon the best position in the garden for each kind of fruit, for much depends upon whether the position is sunny or shady. Apples, in particular, must have abundant sunshine.

The other fruits, while doing best in a sunny position, are not quite so exacting and will succeed in partial shade, by which is meant that type of shade provided by nearby trees through which sunlight can filter, and also the conditions found on the shady side of the house. Fruits do not succeed in full shade, but this condition is not commonly found in a small garden unless the garden is surrounded by very high buildings.

**Using Walls and Fences.** Cordon apple trees can be planted against the south, west, or east walls of the house, provided there is 6 ft. of growing height available. If the walls are not high enough for cordon apples, cordon gooseberries and red currants, which require less height, should be chosen. Where the height is sufficient, but the site too shady, choose a loganberry. In normal times the first choice for the north wall would be a Morello cherry, but as a quick return is necessary black currants should be selected instead. Black currants do excellently when trained against a north wall, provided there is shelter from wind.

Nothing should be done to upset the vegetable garden when planning to grow fruit away from walls. Cordon apples or raspberries, for example, should be trained against the boundary fence or planted in a straight line to form a background to a lawn or border, or to form a division between vegetable and flower gardens. When the boundary fence or other site is provided with support, the black currant and loganberry can be trained fan-wise, or the gooseberry and red currant grown as cordons or fan-trained.

**Open Garden.** A piece of open ground, no matter how small, can be planted with one or more dwarf bush apples, or with gooseberry, red- or black-currant bushes. If several rows are planted intercropping with vegetables can be carried out for a few years afterwards. Apples planted about 10 ft. apart on the square system can have a bush such as gooseberry set in the centre of the square so as to utilize every bit of ground.

**Preparation of Soil.** Fruit trees and bushes have to grow on the same piece of ground for many years, so it is essential to give thorough and deep cultivation, although elaborate preparation is unnecessary. The best method is to bastard-trench, breaking up the subsoil as far as possible. This treatment should be carried out over the whole of the area, for any attempt to limit the treatment to the immediate locality of the hole where the tree is to be planted will restrict the free ramification of root growth. This applies particularly to heavy soils; a pocket of prepared soil at the tree site is more porous than the surrounding clay and, in consequence, acts as a sump for drainage water.

**Soil Fertility and Manuring.** Generally, the average garden soil is in a good state of fertility, so that manurial requirements before planting should be simple. The general rule is that bush fruits require an abundance of bulky organic manure, which provides the soil with plenty of humus. In this way moisture is retained near the surface and in proximity to the shallow roots of bush fruits. Farmyard manure is best, but if this is not available decayed matter from the compost heap, decayed lawn mowings, or similar material can be substituted. Whichever form of manure is used, it may be applied between the first and second spit of soil in the operation of bastard trenching.

Cordon apples when planted against a wall call for similar treatments, as the soil in such a position is usually thin and liable to dry out. The border treated should be 3 ft. wide.

In the open garden, the soil for apples does not require special treatment and no bulky manure should be applied, since this would have the effect of accelerating growth and delaying fruiting.

**Planting Distances.** Cordon apples are planted 2-3 ft. apart in the row, and bush apples on dwarfing stocks 10 ft. apart. For gooseberry, black- and redcurrant bushes, allow 5 ft. each way. Raspberry canes should be spaced 18 in. apart, with 6 ft. between the rows. One plant of a loganberry is usually all that is necessary, but if more are to be grown allow 12 ft. between the plants. Allow 1 ft. between each cordon gooseberry or red currant.

**Support.** Trees and bushes of restricted habit require some form of support if they are to be trained against a wall or fence. Where the fence or wall has already been wired for the training of shrubs, this will serve for training purposes. Where support has to be provided, special wall nails should be driven into the wall at regular intervals. These nails are provided with an eye through which the wire is run, the wires being spaced horizontally 2 ft. apart. Alternatively, stout poles 6 ft. long may be secured to the wall in an upright position, spacing them 12 ft. apart. Three horizontal wires are run between the poles, the first at 2 ft. from the ground, the centre one at 4 ft. while the third is set at the top of the poles. The same type of support is useful for cordon gooseberries and other bush fruits grown as cordons, but the wires should be brought closer together and need not be quite so high.

**Planting.** Insert canes to indicate the required positions for each tree or bush, and use a line to keep the rows straight.

Planting can be done at any time between late autumn and the end of March, but if at all possible plant in late autumn. Do not plant when the soil is wet and sticky, but wait until it is reasonably dry and friable. If conditions are unfavourable for planting when the trees or bushes are delivered, the roots should be covered with soil until conditions are suitable.

Remove sufficient soil to make a hole wide and deep enough to allow the roots to be evenly spread out. In planting cordons it will be found more convenient to take out a fairly wide shallow trench along the entire row. Cut back any coarse or injured roots that may be present on the 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 the erection. Sprinkle some fine soil over the roots, holding up the upper roots should there be more than one layer, and work the soil into any holes or crevices. When the lower roots are covered tread firmly, and alternately fill in and tread until the hole is completely filled in. Firm planting is essential, but never plant any deeper than the depth at which the specimen was planted in the nursery; this can usually be seen by the ring of soil adhering to the stem. Complete the operation by giving a mulch of farmyard manure or well-decayed compost.

Cordon apples are not set upright but are planted obliquely at a slope of about  $45^\circ$ . This is done to encourage fruitfulness and to increase the length of stem. If the rows run North to South, keep the roots to the South, with the top of the tree sloping to the North. When the rows run East to West, it does not matter which way the slope runs.

Bush apples on Malling IX require staking. Use stout stakes. Drive in the stake about 2 ft. from the base of the stem, so that the slanting stake rests against the stem at an angle of about  $45^\circ$ , pointing into the prevailing wind. Drive in securely until the top of the stake comes to rest against the stem just below the lowest branch. Wrap a piece of sacking around the stem where it touches the stake so as to avoid chafing, and secure stem and stake with strong cord.



**Pruning the Newly Planted Trees or 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.

*Black Currant.* 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 Red Currants.* Cut all side shoots back to four or five buds and shorten the leading shoot of each main branch by half.

## How to Manage the Trees and Bushes

It is impossible in this short publication to detail every operation as applied to established fruit trees and bushes. A Table of operations requisite to each kind of hardy fruit is included, and this should provide the grower with a working basis. For more detailed instructions reference should be made to bulletins on specialized subjects.

### APPLES AND PEARS

**Winter Pruning.** Cordons and dwarf bush trees are pruned by cutting back all the side shoots made during the past season to four or five buds, and just tipping the leading shoot of each main branch. Long spurs are shortened back to a fruit bud, and overcrowding spurs thinned out. Large orchard trees are pruned by thinning out overcrowding branches and removing any which are crossing. This permits light to penetrate freely between the branches.

**Summer Pruning.** It is advisable to summer-prune apple and pear trees of restricted habit, in order to check growth and allow the sun to get at the fruit. Shorten the current season's shoots back to five or six leaves, but do not prune the leading shoot. The time to summer-prune depends upon the district and the season, but generally speaking in the South pears are ready about the middle of July, and apples about a fortnight later.

**Thinning the Fruit.** Start thinning immediately after the "June drop." Often the "June drop" does not finish until well into July. If the set is heavy it may be necessary to relieve the branches of excessive weight before this period. Thin gradually, first removing any diseased and malformed fruits. The final spacing depends to a large extent on the variety, but a good guide is to leave the average dessert varieties 5-6 in. apart and the culinary varieties 7-8 in. With large culinary varieties the thinnings can be used in the kitchen.

**Manuring.** Advice on manuring must be of a very general character, because the manurial requirements of trees vary from garden to garden, and from district to district. Nitrogen is required mainly for the building up of the shoots, leaves, etc., and too much nitrogen will produce rank growth but little fruit. Apples and pears lacking in vigour should be encouraged to make more growth by dressing the ground around the trees in winter with hoof-and-horn at the rate of 3-4 oz. per sq. yd. In early spring sulphate of ammonia should be given at the rate of 1 oz. to the sq. yd. Trees in regular

bearing and making an average amount of growth need only receive sulphate of ammonia. Where excessive growth is being made no nitrogen should be given. Apples, and to a less extent pears, require potash, particularly when the soil is of a light nature. Potash can be supplied in the form of sulphate of potash or muriate of potash at 2 oz. per sq. yd. If muriate is used apply it in winter in order to let winter rains wash out impurities before growth commences in the spring. Wood ash contains potash and all garden refuse not suitable for the compost heap should be converted into ash by burning, and the ashes kept dry until applied to the ground around the trees during April. A light dressing of bone meal can be given every third or fourth year, or 1-2 oz. superphosphate every second or third year.

Trees trained against a wall or fence will benefit from a mulch of farmyard manure or even decayed lawn mowings, for the soil on such sites becomes dry during the summer.

In winter, lightly fork the ground around the trees. Keep free from weeds by hoeing during the growing season.

### PLUMS AND DAMSONS

**Pruning.** Very little winter pruning is required for plums and damsons, other than wall-trained trees. All that is necessary on the bush, half and full standards, is to remove dead wood and thin out branches or shoots which cross or cause congestion, so as to keep the tree open.

Wall-trained plums require somewhat different treatment. In early summer tie in all shoots for which there is space, and where aged or spent branches exist train a new shoot along each of these. New shoots for which there is no room are pinched back to three or four buds, so that they form fruit spurs. Following upon summer pruning, winter pruning consists of cutting out old branches as required, and replacing these with the shoots which were trained against them in the summer. Any shoots which tend to cause overcrowding are removed.

**Thinning.** With the best quality plums and greengages, gradually thin the fruit until they are spaced about 2 in. apart. The less choice varieties and the culinary varieties should have the branches relieved of excessive strain, and no further thinning should be done until the fruit to be thinned is large enough for culinary use.

**Manuring.** As a rule young plum trees require no manure until they come into bearing. Established trees in regular bearing respond to good feeding. Just before flowering give a dressing of sulphate of ammonia at the rate of 1-2 oz. per sq. yd., and every second winter give a dressing of 2-3 oz. bone meal. Plums do not require so much potash as apples, and if wood ashes are not available it is not likely that the trees will suffer.

### MORELLO CHERRY

**Pruning.** In early summer pinch out all surplus new growths when they have made two leaves. Start by removing the shoots growing straight out from the tree and gradually thin out the remainder until each of the past season's shoots possesses only two or three new growths. These new growths should be situated on the past season's shoot as follows: one at the base, one at the top, and one midway between these two. Winter pruning consists of cutting back the old shoot to where the basal growth has developed, and this basal growth is tied in to replace the old shoot. It may be necessary to retain more than the basal growth if there is space to tie in more than

one new shoot for every old one, but this can be left to the discretion of the pruner.

**Manuring.** Only trees in regular bearing generally require manure. This may consist of  $\frac{1}{2}$  lb. basic slag per sq. yd. in winter in alternate years, and 1-2 oz. sulphate of ammonia per sq. yd. each spring, just before the flowers begin to open.

### BLACK CURRANTS

**Pruning.** An established blackcurrant bush should be pruned as soon as the fruit has been gathered. As much as possible of the old wood is cut out, cutting it down to ground level if there are new shoots arising from low down to take its place. If there are no new shoots from low down on the bush, cut the old branches back to where a strong new shoot has arisen. Bushes trained against a wall are pruned in the same way, as much as possible of the old wood being cut out and replaced on the trellis by new shoots which are tied in. Do not shorten the new shoots.

**Manuring.** The best dressing for black currants is a good mulch of farmyard or pig manure applied in early spring. In the absence of such manures well-decayed lawn mowings, spent hops, or garden compost may be substituted. Before giving the mulch apply 1-2 oz. sulphate of ammonia to each sq. yd. Superphosphate at a rate of 3-4 oz. per sq. yd. every second or third year will prove beneficial, and if there are any wood ashes available give a dressing along either side of the row.

*Note.* Raspberries, gooseberries, and red currants require potash to a greater degree than black currants, and these fruits should receive priority when wood ashes are available.

Lightly fork the ground in the autumn, and during the growing season keep weeds down by regular hoeing.

### GOOSEBERRIES

**Pruning.** The winter pruning of gooseberry bushes should consist of thinning out overcrowding shoots, particularly in the centre of the bush. This allows light and air to get amongst the branches and permits of easier picking. Inward growing shoots are spurred back and long shoots tipped. Suckers growing from the base of the bush should be removed.

Cordon gooseberries are pruned in winter by spurring back the side shoots to 4 or 5 buds, and tipping the leading shoot of each branch. In order to check American Gooseberry Mildew, it is advisable to summer-prune by cutting off all the mildewed shoot tips before the end of September.

**Manuring.** Mulching with farmyard manure or similar material in the early spring is essential, as this fruit likes plenty of humus. Nitrogenous manures must be applied with care, otherwise soft growth will result. Gooseberries like a plentiful supply of potash, therefore give generous dressings of wood ashes. Bone meal can be applied every third or fourth year at a rate of 3-4 oz. per sq. yd., or superphosphate at 4-5 oz. every second or third year. Fork around the bushes in winter, and hoe during the summer to keep down weeds.

### RED CURRANTS

**Pruning.** The winter pruning of red currants consists of spurring back all the side shoots to 3 or 4 buds and tipping the leading shoot of each main branch. Summer pruning can be carried out on cordons and also on bushes if a heavy crop is being carried. Cut the side shoots back to 4 or 5 leaves in order to expose the fruit to the sun. Manuring and cultivation is on the same lines as for gooseberries.

## RASPBERRIES

**Pruning.** There are two kinds of raspberries, summer- and autumn-fruiting varieties, and the type of pruning to apply depends upon the fruiting habit of the particular variety. Summer-fruiting varieties are the most popular kind grown, and pruning consists of cutting out the old fruiting canes as soon as the fruit has been picked. Some thinning of the new canes may also be necessary if they are crowded. If grown on the stool principle a good guide is to leave six or seven of the strongest canes to each stool, or when trained along a wire support tie in the new canes, spacing them 5-6 in. apart; all surplus canes can then be cut out. At the end of February the new canes which were tied in are cut back to a uniform height of about 4½-5 ft.

Autumn-fruiting raspberries are pruned by cutting down every cane to ground level at the end of February. The new canes which grow during the summer bear fruit in the autumn, but these new canes must be thinned out early in the summer to prevent overcrowding.

**Manuring.** At the beginning of April give 1 oz. sulphate of ammonia and 2-3 oz. superphosphate of lime to each sq. yd., together with any wood ashes available. It is important to supplement this with a good mulch of farmyard or other manure to keep the surface roots cool during the summer.

Cultivation consists of forking over the surface of the soil very shallowly after pruning in the autumn, and hoeing down both sides of the row to keep down weeds during spring and summer.

*Note.* Any canes developing out of alignment with the rows should be pulled up unless they are required for planting, when they should be left until the winter.

## LOGANBERRIES AND BLACKBERRIES

**Pruning.** After picking, cut all the old fruiting canes down to ground level. The new canes, which will carry the following year's crop, should then be tied in to replace the old canes.

**Manuring.** As for raspberries.

## SPRAYING CALENDAR

Fruit trees and bushes are just as liable to attacks by pests and diseases as are vegetables, and control measures are necessary to maintain healthy trees and to ensure clean crops.

Space does not permit of a comprehensive list of troubles, or of remedies for them, but the following calendar will provide a working basis. For more specific details reference should be made to the Advisory Leaflets issued by the Ministry of Agriculture which deal fully with each pest or disease.

### WINTER SPRAYING

KIND OF FRUIT	TIME OF APPLICATION	KIND OF WASH	REASON
Apple, Pear and Plum	Nov. to Feb.	Tar Oil	To kill the eggs of Aphides (Greenfly) and Apple Sucker
		or Dinitro-ortho-cresol-petroleum oil (DNC)	To kill the eggs of Red Spider, Capsid Bug and Winter Moths in addition to the above
Black Currants, Red Currants and Gooseberries	Nov. to Jan.	Tar Oil	To kill the eggs of Aphides

DNC washes may be applied on apples as late as the first half of March.

### SPRING AND SUMMER SPRAYING

KIND OF FRUIT	TIME OF APPLICATION	KIND OF WASH	REASON
Apple and Pear	March and April 1. Green Cluster Stage (March/April)	Lime sulphur 1 in 40	To control Apple and Pear Scab
	2. Pink Bud Stage (April/May)	Lime sulphur 1 in 60	
	3. Petal fall (May)	Lime sulphur 1 in 100	
Apple and Pear	March/April	* Nicotine or Pyrethrum	To control Aphides
	March/April/May	* Lead arsenate (May be added to Sprays 1 and 2 above)	To control caterpillars
Apple	June/early July	* Lead arsenate	To control Codling Moth
Plum	April/May	Lime sulphur 1 in 100	To control Red Spider
"	April/May	* Nicotine or Pyrethrum	For Aphides
Black Currants	April/May (Grape Stage)	Lime sulphur 1 in 25	Against Big Bud Mite
Raspberries and Loganberries	June: about 10 days after the first flowers open and again 10 days later	Derris	To control Raspberry Beetle
Any kind of fruit	When necessary	Pyrethrum Derris	For Aphides For caterpillars

\* Nicotine and lead arsenate are highly poisonous and should not be used on ripening fruit or near vegetables. In no circumstances should a lead arsenate wash be applied to apple or pear trees later than early July, or when the blossoms are open because of the danger of poisoning bees.

*Note.* Some varieties of apples and pears are "sulphur-shy" and are liable to be damaged by lime sulphur sprays. *Stirling Castle* should never be sprayed with lime sulphur. It should not be used on *Lane's Princess Albert*, *Beauty of Bath*, *Rival* or *Duchess's Favourite* after flowering; if a post-blossom spray is necessary Bordeaux Mixture is recommended. The pear varieties *Doyenne du Comice* and *Dr. Jules Goyot* also should not be sprayed with lime sulphur after blossoming. Certain varieties of black currants (e.g., *Goliath*, *Davison's Eight* and *Wellington XXX*) are also "sulphur-shy", and the strength of lime sulphur to be used on such varieties should be reduced to 1 in 50.

Grease band all tree fruits, fixing the band of tacky material at the end of September, and keeping the band tacky throughout the winter.

Good culture will assist the tree or bush to resist attack either by pest or fungus disease. Garden hygiene is also most important; the prevention of hibernating places by burning all prunings and leaves, keeping all dead wood cut, cleaning ditches, etc., goes a long way towards keeping parasites from the garden.

## How to Pick and Store the Crops

The harvesting, and more particularly the storing, of the different fruits are most important operations. The fruits which are to be kept, namely, apples and pears, have to be picked at the correct time and stored under good conditions in order that the varieties will keep until their proper season and so maintain a supply of fresh fruit during most of the winter months.

**Picking Apples and Pears.** The best general indication is simply to take a fruit in the hand, lift it horizontally, give a slight twist, and if the fruit is ready for gathering the stalk should part easily and cleanly from the spur. Successional pickings are necessary, going over the tree at intervals of two or three days and removing only those fruits which part easily as described above. Never tug or pull fruits, and always bear in mind that apples and pears gathered before they are ripe will not keep. Use a pail or basket lined with straw for picking, and handle the fruit with great care. Bruised or damaged fruit must not be put into store but should be used immediately.

**STORING APPLES AND PEARS.** The early dessert and cooking apples will be used as gathered from the tree. Storing applies only to keeping varieties. Grade the keeping apples into uniform sizes as they are gathered, and set them out on trays, shelves, or boxes in a cool, ventilated, but not draughty, room or shed. They should be left for 10 to 14 days to allow the skin of the fruit to become dry. Each fruit should then be wrapped and placed in trays or boxes. Use a thin, oiled paper wrap, which can be purchased from nurserymen, or if this is not available, soft tissue paper or any other clean soft paper. The best kind of store is one which provides darkness or semi-darkness, a steady temperature of 35-42° F., a moist atmosphere, and proper ventilation which can be adjusted as required. Ventilate the newly stored fruit freely for 10 days and then reduce the ventilation.

It is often possible to convert a room, cellar, or outhouse so that the conditions approximate to the ideal. For example, an otherwise suitable room may be too dry, in which case a large shallow tray of water in the middle of the floor will provide the atmosphere with moisture.

Where such a store cannot be provided, pack the wrapped fruit in wooden boxes or crates and stand them in a sheltered part of the garden on bricks or boards to prevent them from becoming damp, and to allow a free circulation of air underneath. Cover the boxes with straw, and thatch the top so that rain will run off. It may be necessary to provide some such protection as fine-meshed wire-netting against rats and mice. Alternatively, the boxes can be stored in an outhouse, but they must be covered to prevent draught drying the fruit. Dessert pears should, if possible, be stored indoors; they ripen better at a slightly higher temperature than apples, and do not require quite so much atmospheric moisture. Pears in store have to be inspected at regular intervals, because they ripen very quickly and soon go bad if not used at the right time. Apples also must be inspected periodically, and when storing a note should be made of the season of each variety. If in doubt about the season of any variety, consult a good fruit nurseryman's catalogue.

**Plums.** The best dessert greengages and plums are left until they have become soft or even cracking; the rich flavour will then be more pronounced. Fruit for preserving is best left until it is fully mature, but still firm and not soft; damsons, similarly, are picked when "firm-ripe."

**Morello Cherries** are picked when well coloured but still firm and sound.

**Currants**, both red and black, are picked when all the fruit on the bunch is coloured. A pair of scissors is useful for cutting off the bunches of ripe fruit, as an inexperienced picker tends to crush the end berries.

**Gooseberries** for bottling and preserving are picked when well developed but still green. It is a good practice to pick the large berries for culinary purposes and leave the smaller ones to grow larger and ripen for dessert.

**Raspberries and Loganberries** ripen over a period, and therefore successional pickings of the ripe fruit have to be made. For dessert purposes clip the fruit off with the stalk attached, but for preserving pull the fruit off so as to leave the "plug" attached to the plant.

## Treatment of Old Trees

The most inexperienced amateur will have little difficulty in recognizing a tree or bush which has become too old to attempt rejuvenation. The really worn-out trees and those which are badly infected with disease should be dug up and burned. Apples and pears dying from Canker, plums infected with and dying from Silver Leaf disease, black currants suffering from Big Bud or Reversion, and raspberries which have deteriorated with Mosaic, are not worth retaining. Besides removing a source of infection, the wood ash resulting from their destruction will be more valuable than the worthless trees and bushes. The spaces cleared by the removal of these trees can be cropped with vegetables for a year and then replanted with new trees and bushes after the ground has been suitably prepared.

**Treatment of Neglected Trees.** The first thing to do with a neglected, but not worthless, tree is to prune it so as to bring the tree back into shape and to let sun and air penetrate freely to all parts of its framework. The extent of the pruning will depend upon the tree being treated. If the tree is in a poor state of vigour it should be pruned severely. Cut out completely any branches from the centre of the tree in order to open it up. The outer part of the tree is then dealt with by thinning out overcrowding branches, large and small, and by cutting back any which are crossing or growing in the wrong direction, so that the result is a tree with a well-balanced framework. This drastic treatment will induce the weakly tree to make more growth, after which the normal pruning can be carried out annually. If, on the other hand, the neglected tree is of moderate vigour, drastic pruning such as that described would stimulate too much growth. To avoid this, the pruning must be spread over two or three years. In the first year the centre is opened up and the worst of the overcrowding branches removed. In the second year thinning of the crowding branches is finished, and in the third year the long side branches are shortened back.

The foregoing remarks apply in particular to the tree fruits, but similar pruning can be applied to neglected red currants and gooseberries.

**FURTHER TREATMENT.** After pruning the neglected tree, which should be done preferably in late autumn, spray thoroughly with a tar oil wash. Clear the ground of weeds as far out as the branches extend, and manure as recommended on earlier pages for the particular fruit.

**Overcrowding.** In many instances trees and bushes are too close, so that when they reach maturity the branches of adjoining trees interlace, while the roots compete for food and moisture. The remedy is to remove every other tree, but if the removed trees are still fairly young, it may be possible to replant them in another part of the garden: otherwise, burn them.

Intercropping is often a cause of overcrowding. Tree fruits are intercropped with soft fruits, and when the tree fruits have developed the intercrop is starved. The only remedy is to do away with the intercrop.

**Self-Sterility.** Some varieties of apples, pears, and plums are self-sterile, that is, they have to be fertilized with pollen of another variety of the same kind of fruit before a crop can be obtained. It often happens that a single fruit tree is planted and the variety is self-sterile. The tree flowers profusely but fails to fruit. The remedy is to get a different variety of the same fruit so as to provide a pollinator for the self-sterile tree. The second variety should be one that comes into flower about the same time.

**Unsuitable Varieties.** There are varieties which are local in habit, that is, they will crop well in one locality but fail completely in another. If the variety fails after everything has been done to make it crop, remove the tree and replace it by a variety which is known to crop well in the district.

**Spur Thinning.** When apples and pears are pruned by spurring the side shoots back each year, the branches in time carry far too many spurs which in turn bear too many fruit buds. Thin out these overcrowding spurs. Often it will pay to cut out practically every other spur, as well as to shorten back those which remain. Too many fruit buds, particularly on well-established trees, tend to make the tree crop only in alternate years, but spur thinning helps to prevent this.

### Local Advice

Growers may encounter difficulties, often due to local conditions, which are not dealt with in this Bulletin, the object of which is to give guidance on the main operations of fruit growing. In such circumstances advice should be sought from local experts or from the local Education Authority, the address of which is usually the County or County Borough Council Offices.

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