The pruning of fruit trees: deciduous fruit trees (apricots)

H R. Powell

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APRICOTS are grown in this State mainly for the fresh fruit market. Varieties commonly grown include Newcastle Early, Royal, Ouillins Early, Blenheim, Moorpark, Trevatt and Tilton.

In some orchards the trees are regularly pruned (see Fig. 133), but in others they are left unpruned (see Fig. 134). Unpruned trees are given some renovation pruning from time to time.

Generally, all varieties have the same spreading habit of growth and in favourable locations the unpruned trees grow very large and live for many years.

THE ANNUAL WOOD GROWTH

The annual wood growth consists of wood shoots, fruit shoots, fruit and leaf twigs, fruit spurs, leaf spurs and water shoots. A general description of these parts was given in Part 1 and the treatment of wood shoots and water shoots was outlined in Part 2. As the components of the annual wood and fruit spurs have specific functions on apricot trees some detailed knowledge is necessary if they are to be satisfactorily pruned. In many respects the fruiting system of these fruit trees is similar to the fruiting systems of peach and plum trees, described previously.

The general term lateral, refers to the weaker and more horizontal growth. Although one type of growth may merge into another, there are a number of well defined types. These are:—

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Fig. 133.—Aged apricot trees annually winter pruned, in the orchard of Mr. A. R. Dowell, Bedfordale. The advantages of annual pruning include easier picking and spraying and control over the supply of fresh fruiting wood. The author can be seen on the left.
Fig. 134.—Aged apricot trees that have been unpruned for many years. The annual fruiting wood is on the extremities of the branches and picking and spraying operations are made difficult.

Wood Shoots

These are strong growing, upright shoots essential for the extension of the leaders and the formation of subsidiary leaders when necessary. Secondary lateral growth is common on the more strongly growing shoots. Flower buds often in clusters are associated with the leaf buds, but they are of no value for fruit production (see Figs. 138 and 140).

Fruit Shoots

These weaker shoots are the main fruit bearing parts of the tree. Their length varies with the age and vigour of the tree and they are usually inclined to the horizontal in growth. They are fully clothed with leaf buds and should they be pruned, new growth can be expected to take place from the leaf buds nearest to the pruning cuts. On many varieties each leaf bud is associated with two or more flower buds, but on others the flower buds are only found towards the ends of the shoots (see Figs. 135, 136 and 138).

Fig. 135.—Apricot Laterals: On the left is shown a fruit twig characterised by the flower buds being placed singly along its length and a leaf bud at its extremity. These twigs should not be pruned unless they are too numerous; then the surplus should be cut back to the basal buds. On the right is a fruit shoot, the most valued of all the annual wood. At each node there are clusters of three to six buds. They are flower buds with the exception of the small grey inconspicuous leaf bud in the centre. The suggested pruning is indicated. On some varieties the flower buds are restricted to the extremities of the shoots and consequently allowance must be made for this at pruning time. The pruning of early varieties is similar to the short pruned peach varieties. (See Figs. 44 and 45.)
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Fruit Twigs

These growths are weaker and more twig-like than the fruit shoots. They also differ from the fruit shoots in that the flower buds are placed singly and the leaf buds are usually found at the extremities of the twigs. If the terminal leaf bud is removed by pruning the twig will be unable to grow and mature any fruit and will eventually die. When too numerous the twigs should be thinned out and cut back to basal buds (see Figs. 135, 137 and 141).

Fig. 136.—The base of a fruit shoot enlarged to show the arrangement of the buds at each node

Fig. 137.—Apricot Laterals: On the left is a two year old lateral, consisting of a fruit shoot previously left unpruned, and the annual extension, consisting here of a modified fruit shoot with most of the characteristics of a fruit twig. Fruit spurs have developed towards the base of the lateral. If suitable annual wood is available on the leader or sub-leader this growth should be cut back to its base. If not, no pruning is necessary. On the right is a three year old lateral originally left as a fruit shoot. The annual growth consists of fruit twigs and a fruit spur on the left, just below the topmost fruit twig. The extent of pruning will depend on the amount of suitable annual wood available as mentioned above. If retention is necessary, the topmost portion could be removed at the junction of the fruit twig on the right.
Leaf Twigs

These twigs are similar in growth to the fruit twigs but all the buds are leaf buds. They are usually found on weak or shaded portions of the tree.

Secondary Lateral

When a fruit shoot is pruned back or left unpruned, the subsequent growth produced during the following growing season from one or more leaf buds, are known as secondary laterals. They are also formed on strong wood shoots during the current season's growth (see Figs. 137 and 138).

Fruit Spur

These short spur-like growths, bearing flower buds, like modified fruit twigs, are more common on some varieties than others. They are of value for fruit production especially on the shy bearers (see Fig. 137).

Leaf Spur

Leaf spurs like modified leaf twigs have no flower buds and are of little value for fruit production. When numerous, they indicate weakness in the growth of the tree.

Flower Buds

These buds are easily picked out, being larger and plumper than the centrally placed leaf buds. They are often found in clusters in association with the leaf buds. Should a flower bud develop it will give rise to a single fruit.

Water Shoots

These are strong vigorous growths arising from dormant buds and are caused by too severe pruning treatments or the loss of branches by breakages.

TREATMENT OF THE ANNUAL WOOD

Hard unintelligent pruning will cause stunting of the tree and delay cropping. Most of the annual growth consisting of strong wood shoots and some water shoots, will have to be cut away at the next pruning. Growth will be dense and any suitable laterals will be too shaded to develop properly.
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Fig. 140.—Part of last season’s leader extension together at the base with a small portion of the previous year’s extension. In this example the annual wood growth consisted of two well developed wood shoots, and two fruit twigs just below them. On the older wood there are four two year laterals. It is obvious that the previous season’s pruning was too severe, causing a dearth of fruiting wood and an excess of growth in the formation of the strong wood shoots.

Should trouble be experienced in coping with strong growth on vigorous trees, even with the more lenient treatments, the leaders should be left untipped until some stability has been reached.

Leader Extensions—Current Season

Stage 1.—The leaders are extended each year by suitable wood shoots and other competing wood shoots are suppressed. The length of the extension will usually vary between one third and one half the length of the wood shoot selected for the extension (bearing in mind the principles mentioned in Part 2). When there is room they can be utilised as sub-leaders (see Figs. 139 and 141).

Leader Extensions—Older Wood

Stage 2.—During the following season’s growth, buds on the leader extension will develop according to the manner in which the previous winter pruning was carried out. If it was too severe, most of the buds will produce strong wood shoots (see Fig. 140). If the pruning was more realistic the topmost buds will develop into wood shoots, and the lower ones into fruit shoots and fruit twigs (see Fig. 138).

At the next winter pruning the leader extension will be selected and competing wood shoots either removed or shortened back to prevent competition with the leader extension.

When room is available, suitably placed wood shoots can be used to start sub-leaders. (See Fig. 139.)

With trees more or less normally pruned, the degree of shortening back of any fruit shoots will depend upon the variety; Newcastle Early for example, bears consistent...
Fig. 142.—An older part of the apricot leader shown in Fig. 140. This is a good example of a variety that does not freely produce fresh fruiting wood on the framework branches. All the laterals are either two years or three years old and the annual wood is confined to the lateral extensions. (See Fig. 137.) Attempts have been made previously to returnish new growth. This is shown by the evidence of the old pruning wounds on the leader and the small branch "arm" on the left.

crops and the fruit shoots can be treated in much the same way as short pruned peaches. (See Figs. 44 and 45). Other varieties tend to be more temperamental and react to their environment and previous growing conditions to a greater extent. With these varieties the pruning of fruit shoots should be done with more caution. (See Figs. 141 and 143). Under favourable conditions the fruit shoots can be shortened back to about six inches. (See Fig. 135). Surplus shoots can be cut back to the basal buds to stimulate the new growth of similar shoots.

Fig. 143.—The example shown in Fig. 142, pruned. The stronger laterals have been retained for next season's fruit crop. Where possible, attempts have been made to rejuvenate new growth. This will be noticed particularly with the lateral, middle right, the small branch or arm, on the right and the lateral just above the arm. Obviously weak laterals have been removed and this can be seen top left and bottom right.

Fruit twigs should not be shortened back, as the removal of the terminal leaf buds will cause the death of the twigs. Should there be too many they should be thinned out in the same way as the surplus fruit shoots.

During the following season's growth, fruit should be produced from the fruit shoots and fruit twigs, and these shoots will continue their growth on similar lines to those shown in Figs. 44 and 137.

New growth, too, will come from dormant buds on the leader extension and from basal buds of shoots and twigs removed at the previous pruning. If the previous
Pruning had been too severe there will be the possibility of stronger growth. Wood shoots and water shoots with their strong growth will tend to shade and weaken the desirable fruiting laterals. This will, of course, indicate more lenient treatments at the next pruning.

The treatment at the next pruning will depend on the results obtained. Wood shoots, if not needed for the replacement of framework branches, may have to be cut back to the basal buds. If they have to be retained owing to the shortage of suitable fruiting wood they should be well shortened back to an underneath bud.

The treatment of the fruiting wood will always depend upon the supply of new fruiting wood on the leaders and the requirements of the variety concerned. If enough new growth is available more of the older fruiting wood can be removed, but if not, care will be needed to make sure that enough of it is retained for satisfactory cropping. It should be borne in mind that fruit is only carried on the annual wood produced during the previous season’s growth. The annual extensions on the fruit shoots and fruit twigs left unpruned generally become weaker each successive year. Every opportunity should be taken to encourage the supply of suitable new growth. (See Fig. 143).

Some varieties, particularly Newcastle Early, tend to over-crop. To some extent over-cropping tendencies can be reduced at pruning time, by removing a larger proportion of the fruiting wood. However a proper appreciation of what to leave and what to cut out can only be obtained by experience. Under normal conditions there will always be a need to hand thin these crops early enough to ensure satisfactorily market returns. Particulars of spray thinning Newcastle apricots in association with some hand thinning are contained in Department of Agriculture Bulletin No. 2642.