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SUMMER-PRUNING THE PEACH

BY

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GREENSBORO, 5 YEARS OLD

One of main limbs, pruned immediately after harvesting of crop of 1913

KNOXVILLE, TENNESSEE

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Bulletins of this Station will be sent, upon application, free of charge, to any farmer in the State.

SUMMER-PRUNING THE PEACH

BY C. A. KEFFER

It is the usual custom to prune peach trees while they are dormant, in late winter or early spring. The peach fruits on shoots made the previous season. When the pruning is done in winter, or before growth begins in the spring, the new growth has the entire season for its development. In the peach, as in almost all trees, the terminal growth is stronger than the laterals, and when summer pruning is not practiced the more rapid growing upper shoots shade the lower, slower growing ones, in most cases causing their death. The result

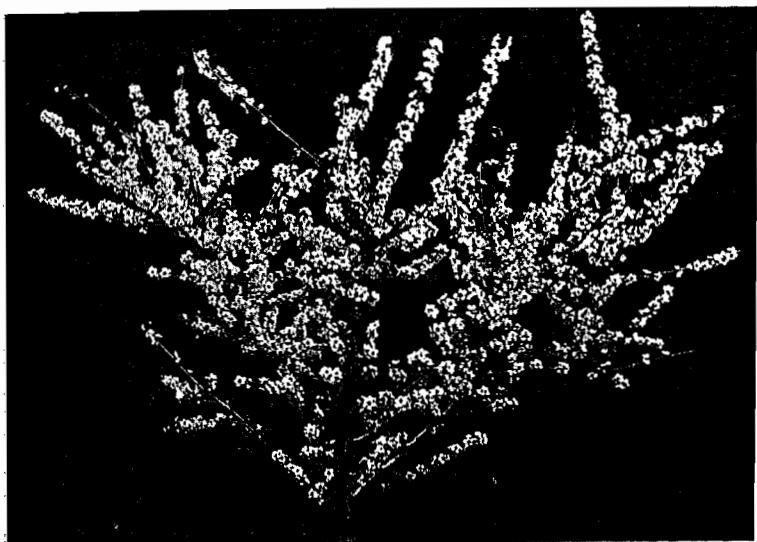


FIG. 1, GREENSBORO, 5 YEARS OLD

Pruned immediately after crop was harvested (early June)
(See photograph of main limbs of this tree on title page)

is that year by year the fruiting wood gets farther and farther from the ground; and in the course of five or six years, even when the trees are regularly pruned, it is necessary to use high stepladders to harvest the crop. And every few years dehorning becomes advisable, if the tree is to be kept within reasonable limits.

Moreover, when the fruiting wood is permitted to form prin-

cipally toward the outer parts of the main limbs the bark of these near the base of the tree is open to sun-scald during the winter, thus shortening the life of the tree. The difficulty of spraying, as well as of harvesting, is greatly increased when the trees are high. For all which reasons it is desirable to keep the crowns of peach trees as close to the ground as possible.

In order to get a full crop from a low-crowned tree, however, approximately as much fruit-bearing wood is necessary as in trees of the usual shape. The purpose of summer pruning is to enable the



FIG. 2, GREENSBORO, 5 YEARS OLD
Not summer-pruned

tree to develop fruiting wood on the lower part of the main, or skeleton, branches, which are usually bare.

Seventy trees, including early and late varieties, were set in orchard in 1908, the distance being 18x20 feet. An investigation of the peach-tree borer required additional young trees, and in the spring of 1909, one-year-old trees were interplanted, so that the orchard stood 9x10 feet. As the trees came into bearing it was deemed desirable to ascertain how long they could be kept profitable at this close distance. Of course, heavy pruning was resorted to, and last year the usual winter pruning was supplemented by summer pruning.

Previous work of a similar nature had proven that in seasons

of average moisture the Greensboro and all earlier varieties set a crop of fruit buds after their harvest. In 1913 the Greensboro was ripe the first week in June. Red Bird was ripe May 23d. These two varieties were pruned the second week in June. The trees were divided into four groups, with an unpruned checkrow, and in each group the wood of the previous year's growth, whether it had produced peaches or not, was pruned back to varying lengths, from one to eight inches. By far the best results attended the close pruning. Where the spur was very short the new growth in many cases sprung from its base, and at most it was close to the main limb that supported it. But in the long spurs in most instances the new growth was near the extremity of the spur, thus defeating measurably the purpose of the pruning, and there were many spurs that did not send out new shoots.



FIG. 3, GREENSBORO, 5 YEARS OLD
Pruned in August

In all cases of early pruning the new wood was well set with fruit buds during the season, as is shown in Fig. 1, a picture of a Greensboro tree photographed when in full bloom, April, 1914. It is difficult by photography to show the fruit on the tree because leaves and fruit are so near the same color, and the picture is necessarily greatly reduced. As the peach blooms in advance of leafage, the blossoms show exactly the location of the fruiting wood and trees in full bloom are therefore used in illustrating this article.

Comparing Fig. 1 with Fig. 2, a tree that was not summer-pruned, it is seen that the result of summer pruning is to bring the

fruit of the next season nearer to the main limbs, and also that in the unpruned tree the lower part of the crown has very many less blossoms than the tree that is pruned by the middle of June. The picture on the title page is a detailed view of the lower part of one of the main limbs of the tree shown in Fig. 1. In the lower lefthand corner the trunk of the tree and its separation into three main limbs is shown. It will be observed that this limb (and the others equally) is clothed with blossom-covered shoots from its base outward, and fruit set on every one of these shoots, so that fully a fourth of the entire crop of the tree is produced within four feet of the ground. All the



FIG. 4, GREENSBORO, 5 YEARS OLD
Pruned in July

fruit on the tree can be picked from the ground by a man of average height.

Early summer pruning permits the formation of fruit buds for the next year's crop during the remainder of the growing season. But late pruning is harmful to the succeeding crop. The tree shown in Fig. 3 is a Greensboro tree that was pruned in August. Very few fruit buds formed on the new growth, which was very short. A Greensboro tree, pruned in July (Fig. 4) set a good stand of fruit buds in the upper part of the crown, but the lower part is relatively bare. Red Bird trees pruned in early June were quite as full of bloom in the lower branches as was the Greensboro tree shown in Fig. 1.

The later varieties respond in practically the same manner to early and late summer pruning. Fig. 5 is a Belle (of Georgia) tree pruned in early June, and Fig. 6 is a Belle that was not summer-pruned.

The late-pruned Belles were no better than the late-pruned trees of the earlier varieties. Champion gave results so similar that it was not thought necessary to multiply photographs. Elberta is not included in this orchard, but in all probability its action would be the same.

To prune any variety of later ripening season than Greensboro after its crop is harvested would seem to be unprofitable. Is it feas-



FIG. 5, BELLE (of Georgia), 5 YEARS OLD
Pruned in early June

ible to prune Carman and all later varieties before their crop is gathered? What sacrifice of crop is involved?

Carman, Belle and Champion trees were pruned as described above in early June, July and August. In every peach tree there are shoots that do not bear, and others that grow so close together on the main limbs as to shade one another too much for good fruit development. In the case of these varieties the barren shoots, and a part of those placed close together, were pruned, leaving fruiting wood the whole length of the main limbs. In this way all the trees

produced as full a crop as they should. In all cases the early-pruned trees developed fruiting wood in the lower part of the crowns, as indicated in Fig. 5. The late-pruned trees, and the unpruned trees, gave much less fruiting wood, particularly in the lower part of the crown (see Fig. 6).

All peach trees tend to develop a stronger growth toward their outermost parts, whatever the pruning. This is seen in all the trees illustrated herein. But if the center of the crown is kept open, enough light will reach the lower parts to insure the development of a profitable crop, where in unpruned trees little or no fruit is produced. It is recognized that summer pruning involves additional expense to the

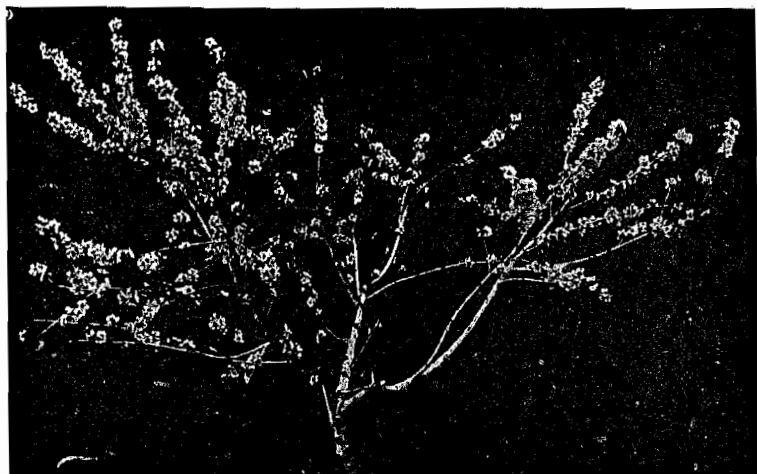


FIG. 6, BELLE, 5 YEARS OLD
Not summer-pruned

grower. But the method is quickly learned and cheaply employed. All that is necessary is to cut back the wood of the previous year's growth before the middle of June, and only in the inner part of the crown; the outer branches get enough light laterally. Fig. 7 is a fourteen-year-old Greensboro tree that was summer-pruned after its crop—a full one—was harvested in June, 1913. It has been dehorned twice, the last time in 1910. Its center has not been kept as open as in the trees previously illustrated, but there is a fine setting of bloom throughout the crown. Fully one-third of its crop is set within five feet of the ground, the total height of the tree being nine feet. Compare this tree with Fig. 8, in which the new wood was permitted to

grow unpruned throughout the summer of 1913; the practice of summer pruning, for early varieties, at least, would seem to be established.

Summer pruning will enable the grower to develop a full crop of fruit in the lower part of his late varieties if he trains the trees properly. Let us suppose a tree, open at the center, with fruiting wood well distributed along its main or skeleton limbs from the crotch to their ends. Young trees in which three skeleton limbs radiate from the trunk in spreading fashion will produce new shoots at close intervals. If these new shoots are pruned alternately, before the middle of June, one set being allowed to grow throughout the season and

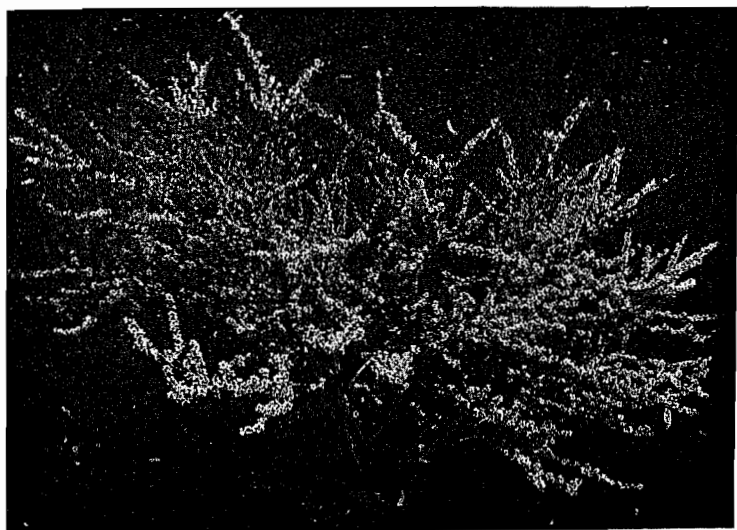


FIG. 7, GREENSBORO, 14 YEARS OLD
Not summer-pruned

the other pruned to a spur, the following year the unpruned shoots will bear a crop. The second year they will be reduced to spurs and the alternate set will bear. Thus both late and early varieties can be kept in full bearing the entire length of their skeleton limbs. Even with this heavy pruning the greater convenience of harvesting and spraying the low-crowned trees will warrant whatever increased labor the plan involves.

When winter pruning alone is practiced heavy growth follows. Such new shoots as form on the lower parts of the crown reach up for light, and before midsummer are crowding one another so much

as to overtop completely the weaker growths. By fall these smaller shoots are dead, and because of lack of light very few fruit buds have formed on the lower parts of the surviving shoots. Thus the fruit forms toward the ends of the new wood, where it is poorly supported. As the crop approaches maturity these long branches bend and break beneath a weight of fruit that could have been safely carried had it been placed near their bases. Summer pruning evades this difficulty by thinning the new growth and giving the parts remaining full sunshine.



FIG. 8, GREENSBORO, 14 YEARS OLD
Summer-pruned immediately after harvesting of crop of 1913

Summer pruning is an insurance against sun-scald on the skeleton limbs of the trees; for the shoots that spring from the upper sides of the main branches not only shade them but draw into their supporting tissues a constant flow of sap, thus keeping them in vigorous health.