

PRUNING THE RED RASPBERRY

By STANLEY JOHNSTON AND R. E. LOREE

The red raspberry grower is confronted with two problems in pruning his red raspberry plants: (1) the number of canes to leave for fruiting and (2) the amount to head back those that are left. This holds true whether the plants are grown in hedge rows or hills.

In a vigorous Cuthbert red raspberry plantation trained to the hedge



Fig. 1.—Seven feet of hedgerow in a Cuthbert raspberry plantation before pruning. It contains 24 reasonably large vigorous canes and a number of weak slender ones. Compare with Fig. 2.

row system there are likely to be as many as 15 canes of all kinds in four feet of row. Some of these canes are small and undesirable for fruiting. Experimental results have shown that about 10 canes should be left for fruiting to each four feet of hedge row, or about two and

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one-half to the foot. (See Figs. 1 and 2.) Ordinarily a greater reduction in number of canes will be attended by a decrease in yield with no improvement in the quality of the fruit.

Data which have been obtained show that when plants are grown in hills about eight canes in each hill ordinarily gives the most satisfactory results. Total yield is considerably reduced when fewer canes are left in the hill. On the other hand, 10 or 12 canes per hill do not increase the total yield and the increased number of canes may so overload the plants as seriously to influence the total yield and quality of fruit during a dry season. Canes grown in hills are not so well distributed as those in hedge rows and are therefore more subject to the injurious effects of overcrowding.

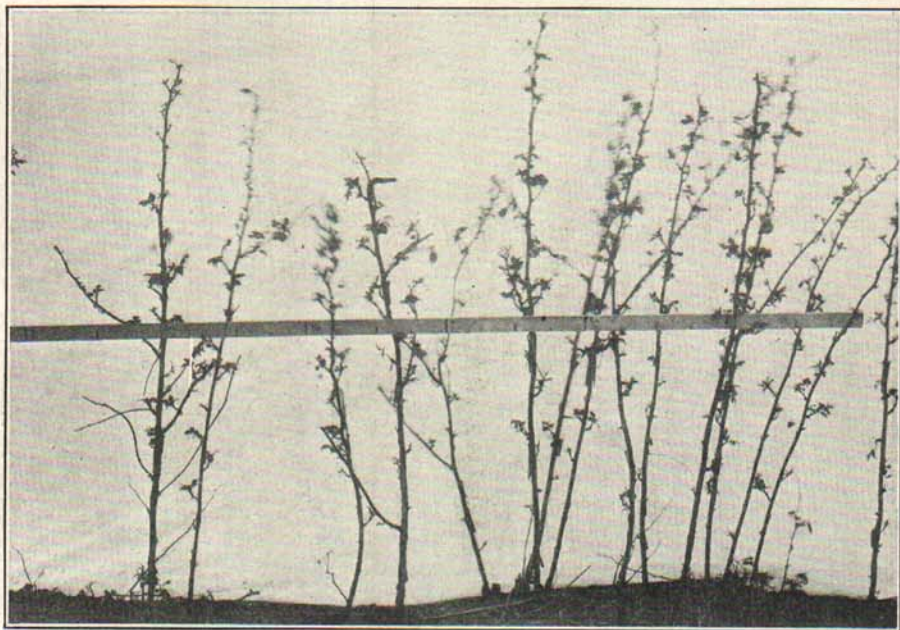


Fig. 2.—The same seven feet of hedgerow in a Cuthbert raspberry plantation as shown in Fig. 1 after pruning. It still contains 15 of the largest, most vigorous canes, over two to the foot, and all of these canes and their laterals have been headed back. This illustrates about the amount of pruning that can be done without appreciably reducing yield.

Both the hill and hedgerow systems of culture have their advocates and their advantages and disadvantages. Plants grown in hills may be cultivated both ways for a longer period than those trained to a hedge, and they are easier to keep free from weeds and grass. Diseased plants are rogued out with greater facility. On the other hand, experience indicates that a fourth to a third heavier yields are probable with the hedge row system, a difference that compensates many times for the slight advantages offered by the hill system of culture.

Summer pinching of red raspberry canes is not recommended, due to the comparative susceptibility to winter injury of the resulting lateral

branches. A majority of the canes in the red raspberry plantation are therefore unbranched. A light heading back or the removal of approximately the upper fifth of the cane has given the best results when both total yield and size of fruit are considered. More severe

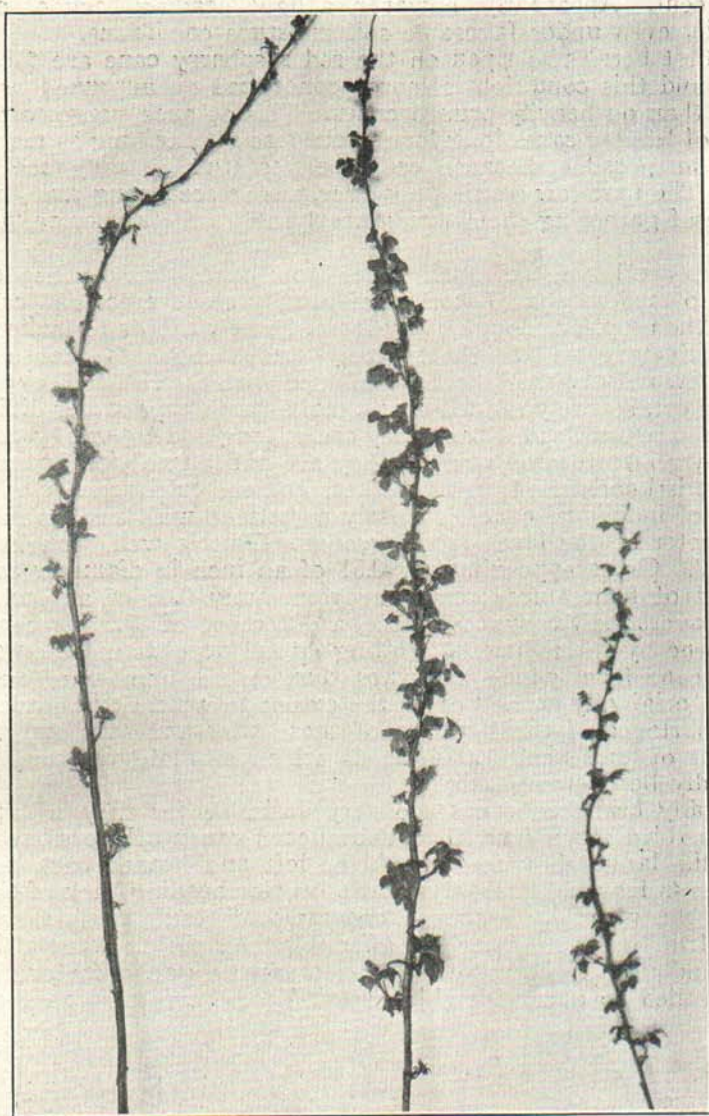


Fig. 3.—Unbranched canes of the Cuthbert variety, $\frac{1}{2}$, $\frac{3}{8}$ and $\frac{9}{32}$ of an inch in diameter, respectively. The average yields of the $\frac{1}{2}$ inch canes was over $\frac{1}{2}$ pound, requiring less than 18 feet of row to produce a crate. The average yields of the $\frac{3}{8}$ inch canes was about 5.8 ounces, requiring about 24 feet of row standing two and a half canes to the foot to produce a crate. The average yield of $\frac{9}{32}$ inch canes was less than $\frac{1}{4}$ pound, requiring more than 36 feet of row to produce a crate.

heading back is attended by marked reductions in yield with little improvement in the size of the berries. For instance, heading back canes from 35 buds to 30 buds in length resulted in a decrease in yield of 13 per cent, and from 35 buds to 20 buds in length in a decrease of 35 per cent. Apparently, however, a light heading back of canes is desirable, even under favorable soil moisture conditions.

The first berries to ripen on the red raspberry cane are those near the tip and this condition is more pronounced on unpruned or lightly pruned than on heavily pruned canes. This at once suggests the possibility of leaving canes long for the purpose of obtaining as many early berries as possible, because early berries usually bring the highest prices. The first few berries, however, are so scattering that the extra expense of gathering them would nearly offset the higher value of the fruit.

Berries are harvested much easier from canes that are headed back lightly to moderately. These canes usually stand erect and carry the bulk of the crop far enough away from the new shoots to make picking comparatively easy. In the severely-headed canes the dense foliage on the new non-fruiting shoots, combined with the rather heavy foliage of the short, severely headed canes, make harvesting rather difficult. If the canes are not headed back they are so long and top-heavy that they bend down into the rows where they are difficult to pick and much of the fruit is knocked off by the pickers and the cultivator.

Yield of individual canes is closely correlated with size, as measured by diameter at the level of the ground. This is well brought out in Figure 3. Canes approximately 0.31 of an inch in diameter averaged 4 ounces of fruit apiece; canes approximately 0.43 of an inch in diameter averaged 7.5 ounces apiece, a difference of 87.5 per cent. The crop borne by the individual fruiting lateral depends more on the size of the cane from which it springs than on the number of buds that the cane originally carried or on the extent to which it is headed back. The importance of the selection of those sites and soils and the employment of those cultural methods which promote vigorous growth can hardly be overemphasized.

Naturally branched canes are very desirable for they will produce nearly a third more fruit than unbranched canes of the same height. All of the lateral branches should be left and headed back to about 10 inches in length. Probably a little heavier heading back of the main cane of the naturally branched canes would result in an increase in size of fruit without materially affecting their yield. Natural branching is undoubtedly correlated with increased vigor, a factor that can be controlled to a considerable extent by the use of proper cultural methods.

Note:—This circular presents in condensed form the more important points covered in detail in Special Bulletin No. 162 of the Michigan Agricultural Experiment Station. A copy of that bulletin may be obtained upon request.