

The Orchard and Garden

The Color of Fruit

The following from a bulletin issued by the U. S. Department of Agriculture will be found of interest to fruit growers:

A large proportion of the poorly colored fruit from old orchards is caused by dense-headed trees and close planting, which prevent the free access of air and sunlight and delay the maturity of the fruit in the fall. The fundamental corrective in such cases lies in judicious pruning, by which means the fruit may be exposed to the sunlight.

In other cases the poor color may be due to a combination of heavy soil, tillage, frequent turning in of nitrogenous cover crops, spraying, etc. These conditions stimulate the trees to active growth, the foliage increases in health, size and quantity, and as the water holding capacity of the soil is enlarged by the incorporation of the cover crops and is retained by the tillage, the trees grow late in the fall and the fruit does not properly color before the picking season arrives. It is often possible to overcome the difficulty by severely pruning the top to let in more air and light. If this treatment does not prove efficient, the cover crops may be withheld when the fruit will usually mature earlier in the fall, unless the season is wet. As an additional treatment, where necessary, the growth of the orchard may still further be checked by seedling it down until the desired condition is attained.

It is impossible to secure a uniform degree of maturity and size when all the apples on a tree are picked at one time, as fruit in different stages of growth is mixed together on the same tree. The apples differ in size and maturity in relation to their position, the upper and outer branches producing the large, highly colored and early ripening fruit, while the apples on the side branches and the shaded interior branches ripen later. Greater uniformity in these respects is approached by proper pruning and by other cultural methods, but the greatest uniformity can be attained when, like the peach or the pear, an apple tree is picked over several times, taking the fruit in each picking that approaches the desired standard of size and maturity.

Summer apples, like the Yellow Transparent, Astrachan and Williams,

are usually picked in this manner, and fall varieties, like Twenty Ounce, Oldenburg and Wealthy, are sometimes treated similarly. In recent years a few growers of winter apples have adopted the plan for the late varieties, with the result that the size, color and ripeness of a large proportion have been uniform. This method of picking is not usually adapted to the apple merchant who buys the crop of a large number of orchards, and who cannot always secure efficient or abundant labor, but for the specialist who is working for the finest trade and who has a storage house near by or a convenient refrigerator car service to a distant storage house, the plan has much to commend it.



How would you like to be the bee-man and have a swarm light on your hat?

Late Blight or Potato Rot

This terrible fungoid disease is supposed to have originated in the United States, being first noticed near Boston in 1840, and by 1845 had spread all over Europe and most of temperate America. The failure of the crop in Ireland led to the great famine in 1846, and for many years after heavy losses were sustained by it. For a long time its cause and origin were a mystery, and as a consequence little could be done to restrain it. Along in the sixties that great mycologist, DeBary, was the first to definitely ascertain the fungoid nature of the disease. Its first indication is to be seen on the leaf in the shape of a slight reduction in the intensity of the coloring matter of the leaf, followed by small brownish blotches, generally at the edge of the leaf. They increase rapidly in size, turning dark brown and nearly black. In humid weather they spread rapidly.

During the winter the vegetable portion of the fungus remains dormant within the tissues of affected potatoes. Special organs for passing the winter, such as oo spores, or resting spores, so common in other fungi, are in this species quite absent. When the tubers germinate the fungus threads which constitute the vegeta-

tive portion of the fungus, penetrate the young shoot and keep pace with the aerial growth. When it reaches the leaves it grows out of the breathing spores in the shape of tree-like growths, on the branches of which are borne the spores (conidia). These represent the fruit of the fungus.

These conidia are of two kinds, although alike in size and shape. In the first they germinate directly, the other does not germinate directly, the protoplasm first rounding itself into many small masses, each of which becomes a pear-shaped body provided with two cilia by means of which it can swim in dew drops, etc. These swimming bodies are swarm-spores, and only develop in water, and are carried all over the plants by the water, and are washed on the tubers also. When dry they are conveyed by the wind over large areas and infest healthy crops. A single affected tuber planted in a crop will serve as an infection centre for a whole district.

Healthy tubers may be affected in two ways; first, by the growth of the mycelium down the haulms until it reaches the tuber; second, by spores (conidia) being washed by rain, or other agencies directly on the surface of the tubers, where they germinate and soon set up decay. Both methods are equally destructive, the latter being especially dangerous in those crops which have not been moulded up enough, and in which the tubers are near the surface. This disease is almost wholly propagated from season to season by the sets, showing the importance of clean seed.

When the plants are from 6 to 9 inches high spray thoroughly with Bordeaux mixture, and twice later at intervals of ten days, the last time when the plants are in blossom. Spray the under surface of leaves, as it is there that the fungus is developed. Repeat if necessary.

W. J. STEVENSON,
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This is the weed season on the farm. That is the season when everything possible should be done to keep them in check. There should hardly be an idle day for the cultivator this month. It will pay handsomely.

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