

The warehouse cannot be expected to obliterate these inherent differences in the fruit. The grower and the handler should, on the other hand, endeavor to acquaint himself with the influence of cultural conditions on the behavior of the different varieties and their disposition from the warehouse should be governed accordingly.

We used to think (and this opinion is still commonly held by apple growers and dealers alike), that fruit should be picked somewhat green to insure the best keeping quality. Investigations have shown this opinion to be erroneous. It has been our experience that the best keeping apples or peaches are those that have attained the highest color and fullest size, but which are still hard and firm when picked. The pear has kept best when it attains full size and is picked before yellowish tints have appeared.

In our fruit storage investigations we have observed that after green fruit is picked it ripens more quickly than more mature fruit of the same variety, and the chemical changes have been shown to progress more rapidly. Green picked fruit, therefore, reaches the end of its life in the warehouse as quickly, or even more so than the latter. Poorly colored fruit brings the lowest price; it does not attract the customer; it never acquires that exquisite bouquet, or aroma, or that fine quality that are characteristic of a highly colored, well matured specimen.

CAUSES SCALD.

The premature picking of the apple makes it especially susceptible to scald. Apple scald is the most serious warehouse trouble in certain varieties like Rhode Island Greening, Grimes' Golden, York Imperial and Wagener. It appears to be the result of a ferment or enzyme working beneath the skin. It attacks the apple late in the storage season on the immature or light colored side, and a crop picked prematurely is particularly susceptible to it on account of its

green condition. Highly colored apples are less seriously affected, and a crop picked when the fruit has attained full size and deep color may escape the difficulty until very late in the season, provided the fruit is stored quickly after picking, in a low temperature. Were the average grower to allow his crop of apples to hang on the trees longer than is customary it would, therefore, result in an improvement in the keeping qualities of the fruit, better flavor and quality, greater commercial value and comparative freedom from storage scald.

If I may be pardoned for digressing from the discussion of the storage problem and entering the field of orchard management, I would suggest that you consider the advisability of picking over the trees of varieties of fine quality two or three times, taking the fruit in each picking that has attained the highest color. I know of no system of apple culture or of harvesting by which the entire crop of a tree can be picked with a uniform degree of maturity at one time. The apple, like the peach tree, bears fruit that varies several days, or even weeks, in degree of maturity. The fruit on the upper and outside branches ripens first, and the interior shaded fruit later, but, by picking such varieties as the Northern Spy, Wagener, Esopus Spitzenburg and other varieties of fine quality two or three times, at intervals of ten days to three weeks, the general average in size and color of the fruit of the entire tree may be improved considerably. I would suggest, also, that much of the poor color in apples, especially in old trees under high culture, is the result of the increased leaf surface induced by this treatment. It is probable that this fault may be corrected to a large extent by judicious pruning to let the light and air in to the interior branches.

The opinion used to be quite general among apple men that it was necessary for fruit to "sweat" after picking to give it