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Tree Fruit: Determining the Optimum Time to Harvest

One of the most satisfying and rewarding experiences for gardeners is to harvest fresh produce from their own gardens at the optimum stage of maturity. For many crops, the proper time for harvest is quite obvious. However, with some crops, including tree fruit, this stage is less obvious, so a certain amount of guess work is exercised when deciding when to harvest fruit. This article describes some of the important changes that take place during the maturation and ripening of a fruit that will allow you to harvest at the near perfect time.

GOOD INDICATORS OF MATURITY AND RIPENING

Background Color Change

The background color of a fruit is the color of the skin on the side of the fruit that is not exposed to the sun. Immature fruit typically have a dark green color. As fruit mature, this color changes from green to greenish yellow or yellow; some fruit even develop an orange color when over mature. The change in background color to some shade of yellow-green is a clue that fruit may be ready to harvest. The change in ground color may be difficult to see on some varieties that turn nearly 100% red. In this instance, look on a shaded portion of the fruit or on the portion of a fruit shaded by a leaf. You will be able to see ground color in these areas.

Ease of Separation of the Fruit from the Tree

There is a specific region on the stem of a fruit where fruit typically separate from the tree. This specialized area is called the abscission zone and it contains specialized cells that are very responsive to changes in fruit maturity. When fruit mature and approach the time that they are considered ripe, cells in this zone start to break down and collapse. In an unripe fruit, the cells in the abscission zone remain intact, assuring strong attachment of the fruit stem to the tree. At this point, it takes a great deal of force to separate a fruit from the tree. A ripe fruit should separate from the tree with relative ease. If extraordinary force is required to remove a fruit from the tree, the fruit is most likely not mature enough to harvest.

Aroma

As a fruit ripens, many biochemical processes go on, including the production of dozens of aromatic, volatile compounds that give fruit the aroma that we associate with ripeness. Fruit that are not ripe do not give off these volatile compounds. When fruit mature to the point where they give off a very noticeable and generally fruity aroma, we generally believe that they have reached their peak of flavor potential. The “Sniff Test” is a very good indicator of ripening.

Taste

Immature fruit are typically starchy, lack sweetness, and have high amounts of acids and tannins. As fruit ripens, the starch breaks down to liberate sugars; thus the fruit becomes sweeter. The acids and tannins are also reduced, making the fruit taste far less harsh. Fruit that are ready to harvest typically have an appropriate balance among sugars, acids, and tannins that make the overall eating experience rewarding.

Seed Color
Seeds in fruit are generally white for most of the growing season. As fruit start to ripen, the seeds turn from white to brown. If seeds in a fruit are brown, it is a good sign that they are near, if not at, the time that is appropriate for harvest.

Flesh Firmness
As fruit ripen, the flesh generally softens. The reduction in firmness in some fruit such as apples and pears is relatively slow. Consequently, in these fruit loss of firmness is only a qualitative indicator of ripening. The reduction in flesh firmness in other fruit, such as peaches and plums, is quite rapid and serves as a good indicator of fruit maturity. With theses fruit, the “Squeeze Test” is one of the easiest ways to determine the time to harvest.

POOR INDICATORS OF MATURITY AND RIPENING

Red Color
Although red color is generally perceived to be associated with ripe fruit, it is usually a poor indicator of when fruit are actually ready to harvest for several reasons. First, there are some varieties of fruit that were selected for their ability to develop red color early. Consequently, fruit frequently develop full deep color well before they are ready to harvest. Second, fruit of red coloring varieties that develop in the shade may become ripe long before they develop red color. Third, the weather influences red color. Thus the extent of red color development may be more determined by the temperature and exposure to high light than to the stage of maturity.

Days from Bloom to Harvest
Ripening of specific varieties of fruit can be predicted based upon the historical observation from the time of bloom to the time of harvest. However, the development period spans several weeks or months. During that time fruit development is exposed to different environmental conditions that affect the maturation process. Frequently, the time of ripening over the years in any one location can vary by more than 2 weeks. Consequently, the historical time from bloom to harvest can only be used as a rough guide to when fruit should be harvested in any one year.

These few simple observations can be useful in deciding when is the proper time to harvest fruit. These same criteria may also be useful when selecting fruit to purchase in the summer and fall from a grocery store produce section or local farm stand.

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