ALABAMA A&M AND AUBURN UNIVERSITIES

ALABAMA COOPERATIVE Extension SYSTEM

ANR-53-Q

Fruit Culture in Alabama

Harvesting and Handling Fruit

All fruit must be harvested at the proper time for the best quality. Fruit should mature fully on the tree or plant, but since it is highly perishable, fruit may have to be harvested before it is fully ripe if it will be handled or shipped. Fruit can be left on the plant until it is fully ripe if it will be eaten fresh or processed.

The time of harvesting depends on the type of fruit and how it will be used. To determine when specific fruit types are harvested in Alabama, refer to Extension publication ANR-53-B, "Understanding and Selecting Fruit Types to Grow."

Harvesting Apples

The question of when to harvest a particular apple variety is one that every grower must face on a year-to-year basis. Skin color alone cannot be used to accurately determine ripeness. Last year's harvest date is just that—last year's—and should not be taken as the date to begin picking this season's crop.

Research in the Northeast over several years has shown that of all the methods used to determine apple maturity, including the starch index method commonly used in that area, taste was actually the most consistent method. Thus, home gardeners as well as commercial growers should always use the "taste test" when deciding on proper harvest time for apples. However, for long-term storage, apples must be picked before they develop good flavor while they are still starchy.

Several other criteria can also used to determine the optimum harvest date. These are:

• Seed color. Most apple seeds are brown when fruit is ready to harvest; however, some fruit will show this seed color 2 to 3 weeks before maturity. Thus, seed color is a poor indicator of ripeness.

• Skin color (also known as ground color or undercolor). The ground color changes from green to yellow as fruit matures. Red is an overcolor affected by leaf area, light, nutrition, and temperature. Red sports may show no ground color and still have solid red color 3 weeks before full maturity. Thus, red overcolor is not necessarily a good index of maturity.

• Firmness and percent soluble solids. Some of the most accurate indexes to determine fruit maturity are firmness and percent soluble solids. However, special equipment is necessary for these determinations.

• Ease of separation of fruits from the spur. Stems should remain with the fruit when harvested. This criterion varies with the variety, moisture and nitrogen levels, temperature, and use of stop-drop chemicals. Ease of separation can be a valuable tool when used with other indexes.

• Days elapsed from full bloom. The number of days from full bloom to maturity is rather constant, regardless of seasonal variations and location. For example, Red Delicious apples require 135 to 155 days from full bloom to reach maturity. This index is probably the most reliable for determining maturity and harvest dates.

Harvesting Pears

Hard pears are usually harvested at a less mature stage than other fruits are. The stone or grit cells are more noticeable if the fruit ripen on the tree. Hard pears should be harvested about the time the green in the fruit begins to fade and the fruit color becomes lighter and slightly yellow. Allow the fruit to ripen in a cooler place (60° to 65°F) for 7 to 14 days. If you do not have refrigerated storage, you can improve the quality of pears by ripening them in a cool basement or cellar.

European pear hybrids such as Moonglow and Warren should be harvested as fruits change skin color from green to greenish yellow. They have not reached full flavor at this stage of ripeness but will do so in 7 to 10 days or fewer. You can pick fruits of this type of soft pear at the "eating ripe" stage, but their shelflife is greatly reduced.

Asian pears are becoming quite popular among homeowners and differ from the other pear types in several regards. The general tendency among home gardeners is to wait too long to harvest Asian pears. Fruits that outwardly appear much too firm can be harvested. Fruit reaching full size and skin color breaking from green to greenish yellow or russetted are the first indications of maturity. However, the taste test is again the most reliable indicator of fully ripe fruit at the peak of quality.

Harvesting Peaches

To determine when a peach or nectarine is ripe, look at the ground color or undercolor, not the red blush. On yellow-fleshed varieties, the undercolor changes from green to light green to yellow. On white-fleshed varieties, it changes from green to light green to ivory. Pick peaches when all green color is

gone. Harvest peaches somewhat less ripe only when they are shipped long distances.

Pick fruit when flavor is fully developed for optimum quality. Unlike apples and pears, peaches and nectarines do not improve in sugar content after harvest.

Harvesting Plums

Plums do contain a small amount of starch and may improve in flavor after harvest. However, they should also be harvested at the "tree ripe" stage for maximum flavor. Some people like green plums; others prefer them partially ripe or fully ripe. Thus, individuals can pick fruits in the late green stage (skin color) or as fruits break into greenish yellow, yellow, red, or purple as they mature on trees.

Harvesting Citrus

The most common types of citrus grown in Alabama—satsumas, Meyer lemon, and kumquats—should be harvested on the basis of their color break and taste. Florida uses five indexes to determine legal maturity of citrus, including soluble solids, juice content, acid level, soluble solids/acid ratio, and skin color. However, home gardeners can easily determine ripe stages for picking by tasting fruit as they reach full size and start changing skin color from green to greenish yellow to orange.

Meyer lemons are ready to use when they change from a green skin color to greenish yellow. Satsuma fruit may be ready to eat before skin becomes more than 50 percent orange, especially if the early fall is warm. Kumquats are usually at their peak of quality when they become fully orange but can be eaten somewhat earlier if you enjoy a tarter fruit.

Harvesting Small Fruits

Determining when to harvest small fruits is usually less difficult than determining when to harvest most tree fruit. For example, blueberries should not be harvested until at least 3 to 5 days after the fruit turns blue. Unlike most small fruits, blueberries will hang on the plant for at least a week after becoming ripe and still retain necessary firmness and quality for harvest and handling. Blueberries do not improve in flavor after picking. Harvest can begin when tasting indicates that acceptable flavor has been reached. Blueberries do not usually have fruit-rot problems in the field and can be harvested once a week.

Blackberries usually go from green to red in 1 to 3 days and red to black in 1 to 2 days. They can be picked when they turn black, but for optimum flavor, they need 1 to 3 additional days for fruits to complete swell and flavor development. Rots are a problem, so harvests should be prompt and frequent.

Color break and taste should generally be used in determining when to harvest grapes. Bunch and muscadine grapes have major rot problems and should be harvested promptly once they are fully ripened.

Red color is used to determine harvest date for strawberries. For maximum flavor, berries should be harvested when fully red. If fruit are being shipped, they must be harvested when slightly on the firm side when some fruit may not be completely red. When harvest begins, berries must be picked every second or third day. Strawberries do not improve in sugar content or flavor after harvest.

Postharvest Cooling

One of the biggest problems in maintaining quality in fruit comes after the fruit is harvested. This problem can be minimized with proper postharvest cooling and handling of the fruit.

Postharvest cooling rapidly removes field heat from freshly harvested fruits before shipment, storage, or processing. It is essential for many perishable fruit crops. Postharvest cooling can:

- Suppress enzymatic degradation and respiratory activity (softening)
- Slow or inhibit water loss (shriveling)
- Slow or inhibit the growth of decay-producing microorganisms (molds and bacteria)
- Reduce production of ethylene (a ripening agent) or minimize the product's reaction to ethylene

Postharvest cooling provides marketing flexibility by making it possible to market at the optimum time. Being able to cool and store can be an advantage for commercial growers as well as pick-your-own operators.

Cooling the product can be as simple as harvesting during the cool hours of the day and removing the fruit from the field. All fruit should be carefully handled to avoid bruising. Soon after harvest, fruit should be set in the shade or refrigerated, depending on how long fruit will be held. If fruit is for sale, it should be properly packaged and sent to the market without delay. To avoid loss of flavor and texture, peaches and nectarines should be stored at 32° to 36°F or 55° to 65°F, which means storage at normal refrigerator temperatures (40° to 45°F) for very long is detrimental to these fruits.

When stored in home refrigerators, some fruits such as citrus do not absorb "refrigerator odors," while other fruits such as peaches and nectarines do. Keeping fruits in plastic bags in refrigerators tends to reduce loss of moisture and development of off flavors.

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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