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## SP307-L-Selecting Quality Apples

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# Fruits & Nuts

## Selecting Quality Apples

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Apples, often called the “King of Fruits,” are grown commercially and in home orchards in all parts of Tennessee. Most varieties of apples can be successfully grown, although some may present special challenges. The primary harvest period for Tennessee apples extends from about mid-August to mid or late October. Some producers have varieties which will ripen either earlier or later than this time. Growers having cold storage facilities can supply markets with quality apples for several months after harvest. Currently, no Tennessee apple growers are using controlled atmosphere facilities which allow storage of fruit for up to 10 or 12 months.

Red Delicious, Golden (Yellow) Delicious, Romes and Winesaps are the primary varieties grown for sale to grocery stores and fruit and vegetable markets. Many of the growers who are concentrating on direct sales to the consumer through on-farm markets are emphasizing production of apple varieties not commonly found in stores. Examples of such varieties include Gala, Empire, Jonagold, Melrose, Arkansas Black and Fuji. These apples offer unique taste differences. They can be very good for drying, cooking or use in cider, as well as for fresh consumption.

When selecting apples, choose those that are mature and free from defects such as bruising and decay. Not all blemishes are detrimental to the fruit. Russetting, which may be especially prevalent on Golden Delicious, is considered a defect for apples undergoing USDA inspection. However, russet does not detract from the usability of the fruit in any way. In fact, many customers prefer a “rusty” Golden Delicious over a smooth one. Russet is primarily caused by high humidity and/or rainfall shortly following bloom.

### Determining Apple Maturity

Apples that are harvested prematurely tend to be small, poorly colored and have a starchy taste. They also tend to develop several disorders in storage. Overripe apples may develop watercore on the trees and soften quickly in storage. Therefore, to obtain optimum fruit quality and storage life, it is essential that fruit be harvested at the proper stage of maturity.

The interval from full bloom to picking maturity changes very little from one year to the next with a given variety. Red Delicious, for example, requires about 145 to 150 days to

reach picking maturity from full bloom. If this variety normally blooms about April 15, optimum picking maturity should be reached about September 3 to September 8. Differences in bloom time as a result of an early or late spring will not make much difference in the interval between bloom and harvest. This parameter may be used as an approximate indicator of harvest time.

Color can be a reliable indicator of maturity in some cases. However, the red color, or overcolor, on many varieties is not a good maturity indicator, as it may develop well in advance of fruit ripening. The ground color, or undercolor, for apple varieties which are not 100 percent red can be a useful indicator. With increasing maturity, the ground color will change from green to light green and eventually to yellowish. Proper picking time usually coincides with the first signs of the yellow color.

Flesh color may be another way to determine maturity in Golden and Red Delicious apples. As the fruits mature, the flesh will change from a greenish-white to a yellowish-white.

Taste is the best way to determine if apples are ripe enough. Since different people may prefer to eat apples at slightly different stages of maturity, taste may be the only precise way to know if the apple is at the proper stage of maturity.

### Apple Picking Tips

Some commercial apple growers utilize pick-your-own marketing. Many homeowners have apple trees in their yards. For these people, knowing the proper way to pick fruit from trees can help reduce bruising of the fruit and damage to the tree.

Grasp the apple in the palm of your hand, not with your fingertips, as this could bruise the fruit. Put your thumb up by the stem and roll or lift the apple while applying slight pressure with your thumb to the stem. The apple should separate cleanly at the point where the stem attaches to the tree. Apples should not be pulled off the tree because the stem may pull out of the apple. This will shorten the time which the apple may be stored without a loss in quality. Improper picking techniques may also result in spurs being broken off trees. These spurs are potential fruiting sites for future years.

Take care when placing harvested fruits in containers and in handling the containers. Apples, while not as delicate as peaches, are subject to bruising when treated roughly. Bruis-

ing will lower fruit quality. It can also serve as a site for rots to begin.

### Storage of Apples

Apples to be stored for extended periods should be harvested before they get fully ripe. A mature, unripened apple will continue to ripen following harvest. A ripe apple will not store well for long periods.

As with other fruits, apples are alive. Quality will decline with time to the point where the fruit is no longer acceptable. Proper storage will slow down the rate of decline, thus keeping fruit quality acceptable for a much longer period.

The ideal apple storage facility is capable of maintaining temperatures of 31 to 33F, with a relative humidity of about 90 percent. Air circulation is also an important feature of the storage. Many commercial apple growers utilize cold storage as a way to lengthen their marketing season.

While most consumers do not have access to a cold storage such as the one just described, they can accomplish similar results by storing apples properly in their refrigerator. For each 18 degrees in temperature the apple is lowered, the life of the fruit is extended two to three times longer than normal. Be aware that frost-free refrigerators run at fairly low humidity levels. To prevent moisture loss and possible shrivelling of the apples, store them in a closed plastic bag in the refrigerator.

Selecting the best quality apples and storing them under favorable conditions will enable you to enjoy Tennessee apples much longer.

**Table 1. Apple Nutritional Information**

Serving = 1 medium apple with skin	
Calories	80
Carbohydrates	21 grams
Potassium	159 milligrams
Calcium	10 milligrams
Phosphorus	10 milligrams
Dietary Fiber	5 grams

### Apple Arithmetic

One pound fresh Tennessee apples = 3 medium-sized apples OR 3 cups diced OR 2 cups applesauce

Allow about 2 pounds apples to make one 9-inch pie.

Table 2 contains some of the most common apple varieties produced and sold in Tennessee. Harvest dates are approximates only and may vary in different years or in different parts of the state.

**Table 2**

Variety	Harvest Date	Skin Color	Flesh Color	Flavor	Suggested Uses	Notes
Lodi	mid-late June	yellow-green	white	tart	pies, sauce	softens quickly
Gala	mid. Aug.	red over yellow	pale yellow	semi-sweet	all uses	good early variety, good pollinator
Jonathan	late Aug.	red-dark red	white	mildly tart	all uses	keeps well
Delicious	early-mid Sept.	red	white	sweet	dessert	keeps well, juicy crisp
Golden (Yellow) Delicious	mid-Sept.	yellow	white	sweet	all uses	firm, crisp, juicy (store in plastic to prevent shrivelling)
Jonagold	mid Sept.	red over yellow	pale yellow	slightly tart	all uses	stores well
Mutsu (Crispin)	mid-late Sept.	yellow-green	pale yellow	mildly tart, spicy	all uses	stores well
Winesap	early-mid Oct.	red blush	yellow	tart, wine-like flavor	all uses	crisp, juicy, stores well
Stayman	early-mid Oct.	red stripe	yellow	tart, wine-like flavor	dessert, baking	type of winesap
Rome	mid-late Oct.	red over pale green	white	mildly tart	baking, cider	keeps well
Arkansas Black	late Oct.	purplish red	yellow	mildly tart	all uses	keeps very well
Fuji	late Oct.	orange on yellow	white	sweet subacid	all uses	good keeper
Granny Smith	late Oct.	green	white	moderately sweet	all uses	stores well, firm

**Extension PB 746, Tree Fruit, Tree Nut and Small Fruit Cultivar Recommendations for Tennessee** , lists additional apple varieties and gives some characteristics of each. Contact your county Extension office for this publication and others on fruit production.