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, Romeines 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, optim-
um 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 co-
cides with the first signs of the yellow color.

Flesh color may be another way to deter-
mine 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 circu-
lation 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**

<table>
<thead>
<tr>
<th>Serving</th>
<th>1 medium apple with skin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>80</td>
</tr>
<tr>
<td>Carbohydrates</td>
<td>21 grams</td>
</tr>
<tr>
<td>Potassium</td>
<td>159 milligrams</td>
</tr>
<tr>
<td>Calcium</td>
<td>10 milligrams</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>10 milligrams</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>5 grams</td>
</tr>
</tbody>
</table>

**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 com-
mon apple varieties produced and sold in Ten-
nessee. Harvest dates are approximates only and
may vary in different years or in different parts
of the state.
Table 2

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

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.