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When Are Apples Ripe?

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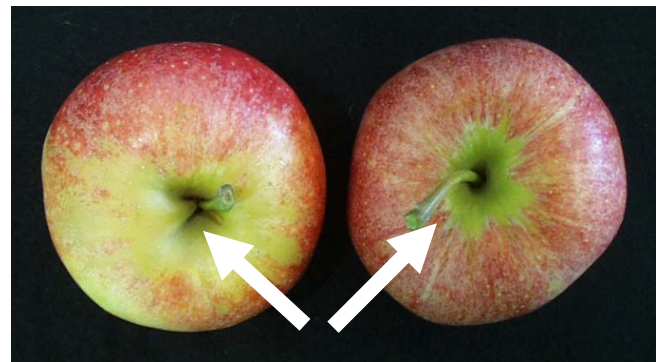
Different apple cultivars ripen over a long season. In Utah, apples ripen from late July through October. While a given cultivar ripens during the same season each year, it is impossible to specify an exact date when apples will be ripe each year. It is also important to differentiate between fruit maturity and the ripeness of fruit. Mature fruit have completed their development and are physiologically capable of continuing the ripening process, even when they have been removed from the tree. Ripe means fruit is at its peak for texture and flavor and is ready to eat.

How Can I Tell if My Apples Are Ripe?

There is no single method of determining apple ripeness that will work for all cultivars every year. Some people count the days between bloom and harvest, but that technique is considered unreliable. Yearly variations in temperature, water, and sunlight affect the date when apples mature. A general idea of apple ripening dates may be obtained from nursery catalogs.

We do know some indicators of apple ripeness that, when used together, will suggest when fruit is ready to pick. Immature apples are green. As they mature, they change from green to light green then to red or yellow. However, some highly coloring apples will change to red weeks before they are mature, so color is not always a reliable indicator.

Ground color is another good indicator. Ground color is the color of the skin in the stem indentation.



Ground color is the color of the skin in the stem cavity. As apples mature, this color changes from a green to a lighter color (except in highly colored strains such as Red Delicious).



As the fruit matures, the seed coat turns brown. However, some apples have light seed, so this test is not always reliable.

As apples mature the ground color changes from a bright green to a lighter green and then to yellow. This change is a good indicator of ripeness on cultivars such as McIntosh, but is useless on Red Delicious and other solid red apples.

Seed color also may be of use in determining maturity. In general, as apples mature the seed coat turns dark brown. However, in some cultivars the fruit is mature even though the seed coats are still white. This is particularly true of cultivars that ripen in July and August.

As apples mature, the flesh softens.

Immature apples are hard. Mature apples should be firm and crisp, but not hard. By applying some pressure to the fruit with your thumb, you can feel a change in firmness over a period of weeks. Some experience is required to become adept at this technique.

Immature apples taste starchy. As the apples mature, the starch is converted to sugars. The fruit taste sweeter and the starchy taste disappears. The flavor and aroma of the fruit also become more



As apples mature, the flesh softens. You can detect this change by firmly pressing the fruit between your thumb and fingers. The flesh should give a little as it matures.



Skin color is not always a reliable indicator of maturity. All of the apples above are 'McIntosh' and all are ripe. Notice the great difference in skin color.

pronounced as the apples mature. If you taste apples over a period of weeks as they mature you will be able to detect the starch changing to sugar and the flavor increasing.

How Do I Harvest Apples?

Apples must be picked by hand. The fruit should be grasped between the fingers and the palm of the hand with the thumb near the stem. The fruit should then be twisted slightly and lifted upward to break the stem from the branch (not the stem from the fruit). If apples are borne on short shoots (spurs) the spurs should be left on the tree. Be careful to not grasp the fruit too tightly as this can also cause bruises. Place the fruit gently into a bucket or picking bag. If full buckets are to be emptied into boxes, place the bucket into the bottom of the box and with one hand holding the fruit in place, tip the bucket to the side and allow the fruit to gently roll out of the bucket into the box. Never throw fruit into a box, bucket or bag nor to someone on the ground. This will certainly cause bruising.

All the fruit of some cultivars will mature at the same time and should be harvested all at once. For other cultivars, particularly late summer apples, the fruit ripen over a period of a couple of weeks. Fruit on these trees need to be "spot picked" three or four times. Fruit generally ripen from the outside of the tree toward the inside and from the top to the bottom. Well exposed fruit on the outside of the tree may ripen 2 weeks earlier than a fruit on the canopy interior. Spot picking can also allow remaining fruit to achieve greater size before harvest.

If you must use a ladder place it carefully so it won't tip. Do not stand on the top step. Don't lean ladders against outer limbs. These limbs will bend when the ladder supports your weight and may allow the ladder to tip. One of the great advantages of dwarf apple trees is that most operations can be done from the ground so tall ladders are not needed.

How Do I Store Apples After Harvest?

Apples should be harvested when they are physiologically mature but before their peak of ripeness. Apples for eating fresh or for short term storage (2-3 weeks) should be left on the tree until they are fully ripe. Store only sound fruit that is free from insect or disease damage. Cool apples for storage as quickly as possible and keep them in the

refrigerator between 34° and 40°F. Colder temperatures will allow apples to be stored longer, however, don't allow the fruit to freeze. Keep the fruit in plastic bags with small holes. The holes allow gases to leave the bags but keep in most of the moisture while letting enough escape so water does not condense on the apple skins.

What Do I Do if a Frost Is Forecast?

Apple quality and sweetness do not improve by being left on trees to experience frosty nights.

Apples will tolerate light frosts ($\geq 28^{\circ}\text{F}$) on the tree with no apparent injury. However, severe frosts ($\leq 25^{\circ}\text{F}$ or lower) will damage the fruit and reduce the quality. Fruit frozen on the tree should remain on the tree until the fruit is above freezing before beginning harvest. Apples that are still frozen at harvest will bruise easily. Apples that have been frozen (not just a light frost) on the tree will not store well and should be used quickly or processed into juice or applesauce.

If a severe frost is forecast for your area and you still have immature apples on your tree you need to make several decisions. Are the apples approaching maturity? If so, it may be best to pick the fruit and store it in a garage or other cool place. The fruit will continue to ripen off the tree if it is mature. If

the fruit is not approaching maturity, you may choose to leave it on the tree and take your chances with the forecast. What are the apples to be used for? If they are going to be processed or used fresh within a few days you can leave them on the tree. If you plan to store the fruit for later use you should consider harvesting before the frost, especially if it is almost mature.

Fruit on small, dwarf trees can be protected from severe frosts by covering the tree with a large tarp or plastic sheet. This will keep heat in the tree canopy. Additionally, a lighted 60 watt incandescent light bulb can be placed inside a tarped tree to provide some heat. The light should remain on all night until the air temperature once again rises above 32°F. The goal is just to keep the fruit from freezing, not to keep the tree warm.

An occasional severe frost while apples are still on the tree should not discourage you from growing apples. However, if the fruit is consistently still on the tree when fall frosts come, consider planting an earlier maturing cultivar. Recommendations on apple cultivars for Utah can be found here:

<https://extension.usu.edu/yardandgarden/fruits/apples>

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