

MU Guide

Apple Cultivars and Their Uses

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In choosing an apple cultivar to grow, your decision may hinge on many factors. Maybe you want to grow the same type of apples you've seen at farmers markets or supermarkets. Maybe you want to grow the same apple you had when you were a child. Maybe you want to try an apple you've never seen.

In choosing an apple, you need to consider several factors:

- Is it adapted to Missouri? Some apples become soft in our summer heat. Some apples that grow well in drier climates develop russet (brown "scuffiness" on surface of the fruit) in Missouri because of the high humidity.
- How much care do you want to give the apples? Some apples are very disease resistant and require few if any fungicides. Other apples will not produce a viable crop in Missouri without chemical sprays. Unfortunately there are no insect-resistant cultivars. Most apples become "wormy" from codling moth larvae without treatment.
- What type of apple do you want? Summer apples are great for eating fresh but often have a short storage life. They should be consumed promptly. How many bushels of apples can you eat fresh? Many of the later ripening apples tend to have a prolonged storage life. However, even late-ripening apples held in a refrigerator will deteriorate about three months after harvest.
- What about pollination? It takes at least two different types of apple for successful pollination. Crab-apples that bloom at the same time as your apple trees work perfectly well as pollenizers. Apples also need bees to carry out pollination. **Do not** use insecticides near apple trees during flowering.

Also remove dandelion flowers when apples are in bloom to encourage bees to pollinate apple flowers.

- Which strain of a cultivar should you choose? As cultivars are grown, people are always looking for strains that might be earlier ripening, better colored, earlier coloring, spur type, etc. For example, Red Delicious apple has more than 40 strains currently available on the market. Some strains are better than others. This guide cannot include all possible strains; the fruit is described according to what would typically be expected for a cultivar. After reading a cultivar's description in this publication, contact a nursery for more information.

Tables included in this publication present many popular apples that are grown in Missouri. These tables are not in any way designed to be all-inclusive. It is hoped that they will help you choose an apple to plant or help guide you in purchasing fruit. For information on growing the trees themselves, please consult MU publication G6021, *Home Fruit Production: Apples*.

For a description of apples not listed in these tables, particularly "antique" cultivars, you may want to check the following references: (1) *Fruit, Berry, and Nut Inventory*, available in libraries or from Seed Saver Publications (RR 3, Box 239, Decorah, IA 52101); a description of cultivars and where to buy them, and (2) *Register of New Fruit and Nut Varieties* (R.M. Brooks and H.R. Olmo, 1952, University of California Press); available in libraries. In addition, MU publication G6012, *Fruit and Nut Cultivar Nursery Sources*, lists nurseries where many of the more common cultivars may be obtained.

Table 1. Characteristics of various disease-resistant and standard apple cultivars.

	Apple scab	Cedar apple rust	Powdery mildew	Fire blight
Scab-immune cultivars				
Enterprise	very resistant	susceptible	very resistant	moderately resistant
Goldrush	very resistant	susceptible	resistant	resistant
Jonafree	very resistant	resistant	susceptible	resistant
Liberty	very resistant	very resistant	resistant	resistant
Pristine	very resistant	susceptible	very resistant	moderately resistant
Redfree	very resistant	resistant	resistant	moderately susceptible
Williams' Pride	very resistant	resistant	resistant	resistant
Standard cultivars				
Akane	moderately susceptible	resistant	resistant	resistant
Arkansas Black	moderately susceptible	resistant	resistant	resistant
Braeburn	susceptible	susceptible	susceptible	very susceptible
Cortland	very susceptible	susceptible	very susceptible	susceptible
Empire	very susceptible	resistant	susceptible	resistant
Fuji	susceptible	susceptible	susceptible	susceptible
Gala	susceptible	susceptible	susceptible	very susceptible
Golden Delicious	susceptible	very susceptible	susceptible	susceptible
Granny Smith	susceptible	resistant	very susceptible	very susceptible
Honeycrisp	susceptible	susceptible	susceptible	susceptible
Jonagold	very susceptible	very susceptible	susceptible	very susceptible
Jonamac	susceptible	resistant	susceptible	susceptible
Jonathan	susceptible	very susceptible	very susceptible	very susceptible
Lodi	susceptible	very susceptible	resistant	very susceptible
McIntosh	very susceptible	very resistant	susceptible	susceptible
Mutsu (Crispin)	very susceptible	susceptible	very susceptible	very susceptible
Northern Spy	susceptible	susceptible	susceptible	resistant
Ozark Gold	susceptible	susceptible	susceptible	susceptible
Paulared	susceptible	resistant	susceptible	very susceptible
Red Delicious	susceptible	very resistant	resistant	resistant
Rome Beauty	very susceptible	very susceptible	susceptible	very susceptible
Suncrisp	susceptible	susceptible	susceptible	susceptible

Note: Disease ratings are based on a collection of observations by University of Missouri personnel, Cornell University Extension personnel, and as rated by commercial nurseries. **Very susceptible** — disease control will be necessary; **susceptible** — disease control will usually be needed; **resistant** — control needed only under high pest pressure; **very resistant** — no control necessary for this disease

Table 2. Harvest dates and fruit description for several apple cultivars.

Cultivar	Typical harvest time	Fruit characteristic
Lodi	mid-July	Medium size; yellowish green; soft, sweet-tart flavor
Pristine	late July	Medium-large; yellow with blush; slightly tart
Williams' Pride	late July	Medium-large size; red fruit; softens quickly; spicy, well-balanced flavor
Redfree	early August	Medium size; bright red; well-balanced flavor
Akane	mid-August	Medium size; bright red; looks and tastes similar to Jonathan
Gala	mid-August	Small size; yellow to red strains available; outstanding fresh flavor
Honeycrisp	mid-August	Large; yellow with mottled red; sub-acid; juicy
Prima	mid-August	Medium to large size; dark red; firm, but softens in heat
Jonamac	late August	Medium size; dark striped fruit; semi-firm
Ozark Gold	late August	Medium to large, yellow fruit; resistant to russetting
Cortland	early September	Large red fruit; can be soft
Jonafree	early September	Similar to Jonathan
Jonalicious	early September	Medium size; red over yellow color

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Table 2. Harvest dates and fruit description for several apple cultivars. (Continued)

Cultivar	Typical harvest time	Fruit characteristic
Jonathan	early September	Medium-sized red fruit; tart but well-balanced flavor; favorite throughout the Midwest
Liberty	early September	Small-medium size; red over green color; McIntosh-type of fruit; tart with coarse texture
McIntosh	early September	Small to medium size; red over green color; tart fruit; can be soft; favorite in north-eastern United States
Empire	mid-September	Medium size; red fruit; McIntosh-type
Golden Delicious	mid-September	Large yellow apple; tends to russet, sweet and well-balanced flavor; many feel this is what an apple should taste like
Jonagold	mid-September	Large, red over yellow fruit, well-balanced flavor
Red Delicious	mid-September	Medium to large, solid red fruit, sweet apple with little acidity
Suncrisp	mid-September	Medium-large; yellow with orange blush; sub-acid flavor
Mutsu (Crispin)	late September	Large, yellow-green fruit; very juicy; mostly sweet flavor
Rome Beauty	late September	Large, red fruit; very firm; good flavor; favorite in eastern United States
Winesap	early October	Medium sized, crisp, juicy, red fruit; tart
Arkansas Black	mid-October	Medium to large; deep purplish color; firm; coarse texture; good flavor
Braeburn	mid-October	Large red fruit; outstanding, well-balanced flavor; very firm fruit
Enterprise	mid-October	Large; bright red; spicy and juicy
Fuji	mid-October	Medium to large reddish fruit; not attractive; very sweet and juicy
Northern Spy	mid-October	Small to large size; greenish yellow with red blush; firm, crisp, juicy, and tart
York	mid-October	Medium to large; red blush over green-yellow; firm, crisp and juicy
Goldrush	late October	Large; yellow; semi-tart and juicy
Granny Smith	late October	Medium to large green fruit; hard crisp; tart but well-balanced flavor

Note: "Well-balanced" flavor refers to the balance of acids (sour/tart) and sugars (sweet) in the fruit. A very sweet fruit with very little acidity (e.g., Red Delicious) does not have well-balanced flavor. A fruit may be very high in acids but also have high levels of sugar for a well-balanced, full flavor.

Table 3. Observations on the main positive and negative traits for selected cultivars.

Cultivar	Positive traits	Problems
Akane	Early season; Jonathan-type red apple, disease resistant	Can get too soft in heat
Arkansas Black	Long storage	
Braeburn	Outstanding flavor and texture	Fire blight; may not consistently ripen before frost; prone to bitter pit (calcium disorder in fruit)
Cortland	Good all-around use	Not well adapted to Missouri
Empire	Better than McIntosh	Prone to fruit rots, probably best of McIntosh types for Missouri, but suffers under Missouri summers
Fuji	Sweet, crisp apples	Very long season may not ripen before frost; prone to russetting and bitter pit; poor color, but newer strains have better color
Gala	Great flavor; juicy	Extremely susceptible to fire blight; brittle wood; short storage life
Golden Delicious	Great all-around flavor	Prone to biennial bearing and russetting; where possible plant low russetting types such as 'Smoother'
Granny Smith	Good fruit quality	Very long season, may not ripen before frost Jonathan-type apple, disease-resistant. Like Jonathan, susceptible to powdery mildew
Honeycrisp	Great flavor, extremely crisp	Not attractive; requires calcium applications to trees; leaves sometimes appear mottled
Jonagold	Good flavor	Will not pollinate other apples; soft texture when grown in Missouri
Jonalicious	Favorite of a small group of people	Has never proven to be an outstanding cultivar
Jonathan	What Missourians think apples should taste like	Very susceptible to fire blight and powdery mildew
Liberty	Very productive; McIntosh-type apple; very disease resistant	Small fruit, quality not the same as a good McIntosh grown in the northeast United States

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Table 3. Observations on the main positive and negative traits for selected cultivars. (Continued)

Cultivar	Positive traits	Problems
Lodi	Early season; good sauce	Soft fruit; splits and becomes mealy as turns yellow
McIntosh	Nice apple	Does not do well under Missouri summers
Mutsu (Crispin)	Sweet, crisp, juicy apple	Triploid, therefore pollen is sterile; anything will pollinate it, it won't pollinate anything
Northern Spy	Good for processing	
Ozark Gold	Nonrussetting Golden Delicious-type apple	Soft fruit; Prone to fruit drop in heat
Priscilla	Unique, spicy flavor	Low yields
Red Delicious	Sweet apple	Bland flavor; does not get the typical shape that those grown in the Pacific Northwest have
Redfree	Great color, flavor and texture for so early in the season	Prone to biennial bearing
Rome Beauty	Old favorite	Does not thrive in Missouri
Suncrisp	Firm, crisp texture	Fruit prone to russet; requires thinning to prevent biennial bearing
Williams' Pride	Flavor is good for early season	Turns soft with brown skin and flesh under high temperatures
Winesap	Old favorite; long keeper	Does not thrive in Missouri
York	Favorite of your grandparents; good keeper	Does not get as good a flavor as it might in the eastern United States

Table 4. Primary uses for selected apple cultivars.

Cultivar	Fresh eating	Processing (sauce, baking)	Salad	Freezing	Storage
Akane					Medium
Arkansas Black					Very long
Braeburn					Very long
Cortland					Long
Empire					Long
Enterprise					Long
Fuji					Long
Gala					Medium
Golden Delicious					Long
Goldrush					Long
Granny Smith					Long
Honeycrisp					Long
Jonafree					Long
Jonagold					Medium
Jonalicious					Long
Jonamac					Long

Cultivar	Fresh eating	Processing (sauce, baking)	Salad	Freezing	Storage
Jonathan					Long
Liberty					Long
Lodi					Short
McIntosh					Long
Mutsu (Crispin)					Long
Northern Spy					Very long
Ozark Gold					Medium
Pristine					Short
Red Delicious					Long
Redfree					Short
Rome Beauty					Long
Spartan					Long
Suncrisp					Medium
Williams' Pride					Short
Winesap					Very long
York					Very long

Note: With refrigeration: Short = a few weeks; Medium = 2–3 months; Long = 3–6 months; Very long = 6+ months