

Apple Varieties with Significant Scab Resistance

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Apple varieties are available with decent to excellent resistance to apple scab, the most important fungal disease in rainy climates. Fruit quality of many of these scab-resistant varieties is quite good. Some of these scab resistant varieties resemble more traditional varieties to some extent. Some of these are not recommended for fresh market, as noted in the table.

It is generally recommended that at least a minimal spray program effective against apple scab be used to help reduce the potential for the scab pathogen to overcome the plant genes that gives resistance. Most apple varieties use the same Vf gene for resistance, and scab strains resistant to this gene have been found in Europe, Indiana, Illinois, and Ohio. Some of these apple varieties may be resistant or relatively susceptible to various diseases such as fire blight, cedar apple rust, or powdery mildew, as noted in the tables.

The following tables summarize characteristics of apple varieties that may be of value to commercial and backyard growers. The focus here is on the better quality varieties. The harvest dates for the newer varieties is still tentative.

Some information on pollinizers is included in the table. Varieties that are pollen-sterile require two additional varieties so that all trees are supplied with compatible pollen. Varieties that bloom late may not be a good pollen partner to those varieties that bloom early. Detailed descriptions are given for the better quality scab resistant varieties.

Table 1. Harvest order of apple varieties with significant scab resistance in comparison with non-resistant reference varieties

Scab resistant varieties		Non scab resistant reference varieties	
Pristine	-70 FB*	Yellow Transparent	-78
William's Pride	-55		
Redfree	-49 FB		
		Zestar!, Sansa	-35
Prima	-28	Jonamac	-25
Initial	-26		
		Imperial Gala	-19
Priscilla	-14	Marshall Macintosh	-15
		Honeycrisp	-11

Crimson Crisp	-11	FB		
Jonafree	-7			
Dayton	-7			
Scarlet O'Hara	-7	FB		
Pixie Crunch	-7		Cortland	-5
Galarina				
Liberty	-3			
Sir Prize	0		Campbell Redchief	+0
Eden	0			
Crimson Gold	+2			
			Golden Delicious	+4
Freedom	+10		Empire	+8
Crimson Topaz	+11	FB	Idared	+13
Juliet	+14		Northern Spy	+15
Sundance	+18		Cameo	+19
			Crispin	+23
Enterprise	+33			
			Braeburn	+40
Goldrush	+49			

**Numbers are the approximate ripe days (- = before, + = after) relative to Campbell Redchief.
FB = fire blight prone variety*

Table 2 Detailed descriptions of selected scab resistant or scab tolerant apple varieties

Variety	Description
Akane (Tokyo Rose)	Somewhat Jonathan-like in appearance and flavor, bright red blush, medium sized fruit, some susceptible to fire blight, not totally resistant to apple scab, medium sized apple, good flavor, harvests shortly after Gala
Crimson Crisp (Co-op 39)	80% deep cherry red, relatively clean, medium size, round, smooth finish, yellow flesh, tart/sweet, crisp texture, thick skin, ripens mid season, slightly before Red Delicious, good storage, eye appeal and flavor make this a popular apple for u-pick and farm markets
Crimson Gold	Variety developed in the Czech Republic, susceptible to fire blight, and somewhat to powdery mildew, nearly solid red blush on yellow background. Productive, medium vigor tree.
Crimson Topaz	Variety developed in the Czech Republic, 70 to 80% red/orange stripes on yellow back, ripens about 4 days ahead of Red Delicious, medium sized fruit, crisp juicy flesh, suitable for fresh market, fire blight prone, may need fall spray for necrotic canker
Eden	80% med red slight stripe on yellow green back, mac-like flavor but firmer, round, sometimes lopsided, medium to large, juicy, crisp, fine-textured white flesh, non-browning, slice and processing, ripens in Red Delicious season, fruit hangs on tree into winter

Variety	Description
Enterprise (Co-op 30)	Large, 80% glossy, medium dark red on green/yellow background, fine textured cream to light yellow flesh, productive, looks like a Rome, not for fresh market due to the thick skin and medium eating quality, used as a Northern Spy substitute for processing, resistant to fire blight, and cedar apple rust, moderately resistant to powdery mildew, stores well, somewhat late bloom
Galarina	Medium red with strips, conical shape with lobes, small to medium sized, yellow / white fine textured flesh, somewhat Gala-like, ripens 2 weeks after Gala, fruit have better shelf life than Gala, fruit holds on tree into winter, potential for ice wine production, somewhat late bloom
Goldrush (Co-op 38)	Rough finish yellow / slight green skin, firm flesh, spicy flavor resistant to powdery mildew, moderately resistant to fire blight, susceptible to cedar apple rust, late (early Nov) ripening, excellent storage, late bloom
Jonafree (Co-op 22)	red skin, productive, somewhat Jonathan-like, very firm, not prone to bitter pit or Jonathan spot, susceptible to fire blight, cedar apple rust, less acid and firmer than Jonathan, late September ripening
Juliet (Co-op 43)	70% striped medium red blush on yellow-green background, smooth finish, white to slightly cream flesh, juicy, sweet / low acid, resistance to mildew, somewhat aromatic, maintains good firmness in storage, 2.5 to 3 inch diameter, round / somewhat flat
Initial (X 6163)	Red blush on yellow, medium to large fruit with conical shape, triploid so is pollen sterile, prone to fruit drop, marketed for use in hard cider and for deer food plots
Liberty	80% dark red slight stripe skin on yellow background, flesh is fine textured yellow/white, crisp, somewhat mac-like appearance and flavor, but with better shelf life, resistant to cedar apple rust, moderately resistant to fire blight, productive, early bloom
Nova Easygro	Cortland/McIntosh-like, does better in cooler climate, very sweet, moderately juicy, moderately resistant to cedar apple rust and powdery mildew, moderately susceptible to fire blight
Novamac	Mac-like, 70% medium red blush/stripe on green yellow background, medium size fruit, cream white fine textured medium crisp and acid flesh, resistant to cedar apple rust, moderately resistant to powdery mildew
Novaspy	Northern Spy-like, but not quite equal quality or storage life, dark red stripes and blush on greenish yellow background. Cream to yellow flesh with fine texture, very firm, crisp, medium acid, juicy, ripens 5 days before Northern Spy.
Pixie Crunch (Co-op 33)	Nearly solid red, on green-yellow background, low tendency to russet, small fruit, crisp, juicy, sweet/tart complex flavor, medium storage life, moderately resistant to fire blight and frog-eye leafspot, some biennial bearing tendency, susceptible to powdery mildew and cedar-apple rust, popular as u-pick apple for children
Prima (Co-op 2)	Somewhat Jonathan-like, dark red blush on yellow green background, resistant to cedar apple rust.
Pristine (Co-op 32)	Yellow type, early, better quality than Lodi or Transparent, somewhat fire blight susceptible, somewhat late bloom

Variety	Description
Redfree (Co-op 13)	Somewhat Jonathan-like quality and appearance, susceptible to fire blight, better resistance to powdery mildew, cedar-apple rust, and fire blight than Jonathan
Scarlet O'Hara (Co-op 25)	Large, 3+ inch diameter, round, 80% medium red/orange blush, light yellow to cream flesh, very firm and crisp, fruit hangs well, mild to spicy pleasant flavor, juicy, moderate resistance to powdery mildew, highly resistant to cedar apple rust, highly susceptible to fire blight, long storage, flavor improves in storage
Sundance (Co-op 29)	Very large, round / somewhat conical, yellow skin, resistant to cedar apple rust, moderate to heavy cropping, some stem bowl russet, very susceptible to black rot (frogeye leaf spot), stores well, spicy flavor
Williams Pride	Somewhat like Red Delicious, medium dark red on pale yellow to slight green background, decent size and quality for an early Red Delicious-like apple, mild flavor, short storage life, relatively crisp for early apple, productive, has shown excessive water core and some bitter pit in some years, resistant to cedar apple rust, moderately resistant to powdery mildew and fire blight.

Other scab resistant varieties: Belmac, Britegold, Florina Querina, Priam, Florina, Baujade Macfree, Priscilla, Prima, Trent, Wolf River, Sir Prize, Res Rajka, Ras Resi, Res Releika, Res Goldstar, Super Mac, Freedom, Dayton.

Honeycrisp, Akane also have some resistance to apple scab. Suncrip has some resistance but is significantly susceptible to fire blight.