



DISEASE RESISTANT APPLES

Few horticultural plants suffer as much damage from diseases as apples. In humid climates, apple scab is a particular problem. To produce a disease-free crop, commercial growers carefully apply several fungicide applications over the growing season. Back-yard gardeners who try to grow apples soon find they must do the same or never get fruit that they can eat. Even crabapples can lose their ornamental charm to the ravages of diseases. In spring and early summer, people will apply as much as a fungicide every week to get clean, healthy fruit.

The last twenty years has seen the start of a revolt against this fungicide use. The release of several disease-resistant apple varieties has largely eliminated the need for fungicides so that it is no longer a choice of spraying or having diseased trees. With these new varieties, and some innovative insect management techniques, it is possible to grow high quality apples with two insecticide sprays a year. In some cases, even these sprays may be eliminated.

The first question most people ask is, “But how do these apples taste compared to the ones I know?” The answer is that they compare very well. Taste tests consistently rank the good disease resistant varieties with the popular McIntosh, Empire, Cortland or Red Delicious.

It is important to note that these varieties are not resistant to all apple diseases. None seem to be resistant to the fungus which causes frog-eye leaf spot and black rot. Several varieties are susceptible to rust. The effect of summer diseases, such as sooty blotch, may also be a small problem. Some varieties, notably those from the New York program, are resistant to rust, powdery mildew and fire blight as well as scab. Still, eliminating the most serious problem, scab, means that quality fruit and ornamentals are much easier to grow.

Disease resistant apples have been developed from a few plant breeding programs at agricultural universities and Experiment Stations in North America. From New York, there is Liberty and Freedom. Purdue, Rutgers, and Illinois have developed several, including Prima, Red Free and Priscilla. From Nova Scotia, there are Nova Mac and Nova Easygro. The present cultivars represent the pioneers. Improvements will certainly come with new releases over the next few years. Other varieties are starting to surface from other parts of the world.

To produce good fruit using disease-resistant apples with a minimum spray program, try the following program (adapted from Dr. Ronald Prokopy):

1. Apply spray oil (formulated for fruit trees) prior to bloom, to control San Jose scale and European red mites.
2. Apply 2 applications of spinosad at petal fall and 1 week later for sawflies and codling moth.
3. Use red sphere traps for apple maggot flies.



A LIST OF DISEASE RESISTANT APPLE VARIETIES

Liberty. NY. Presently, the best of the named disease-resistant cultivars. Resistant to scab and other common apple diseases. Ripens shortly after McIntosh; flavor sweet, only mildly acidic; crisp texture.

Redfree. PRI. Outstanding summer apple, crisp texture which will store for 6 to 8 weeks. Ripens 4 weeks before McIntosh, and may require selective picking. Excellent red color.

Prima. PRI. Late summer apple, maturing 2 to 3 weeks before McIntosh. Mild flavor. Overall good quality if not allowed to over-mature.

Nova Easygro. NS. Matures about 2 weeks after McIntosh (some listings say earlier, but early harvest yields a hard, bland fruit). Fresh fruit of variable quality, improves with storage. Appearance is less than colorful.

Priscilla. PRI. Ripens 1 to 2 weeks before McIntosh. A flavor which is rated close to Prima, but overall quality only fair.

The following cultivars have not received extensive testing in our program. Comments may come from other sources.

Britegold. Ont. Yellow fruit, ripens end of August to early Sept. Sweet. Overall quality variable.

COOP 28. PRI. Delicious type. Flavor as good as Delicious.

COOP 29. PRI. Golden Delicious type. Also matches Delicious flavor.

COOP 30. PRI. McIntosh type. Very good flavor.

Dayton. PRI. New, early September apple. Spicy, mildly tart.

Forina. France. Red stripe. Crisp. Harvest 1 to 2 weeks after McIntosh.

Freedom. NY. Quality and growth habits not the best. Still, a good cooking apple, very productive.

Gavin. England. English introduction. Red stripe. Harvest very late September.

Jonafree. PRI. A Jonathan-like apple, a little less tart.

Macfree. NS. Reasonably McIntosh-like flavor and fruit.

MacShay. PRI. McIntosh type; does well in Oregon, less well elsewhere.

Moira. Ont. New Nova Scotia McIntosh type, mid-late season.

Murray. Ont. Red-blushed McIntosh type for early September. Good quality, stores well for early apple.

Novamac. NS. Nova Scotia McIntosh type.

Novaspy. NS. Possible fresh market Idared-type apple.

NY65707-19. NY. Stores until March. Attractive fruit, good quality. Harvest mid-October.

NY66305-289. NY. Good quality McIntosh type, 5 days before McIntosh.

NY75414-1. NY. Leading new Geneva introduction, McIntosh type.

NY74828-12. NY. Also, McIntosh type.

NY75441-67. NY. Ripens 2 weeks after Delicious. Large, red.

Priam. France. Red blush on green. Mid-September. Reasonable overall quality.

Richelieu. Quebec. 1 week before McIntosh. Best for juice.

Rouville. Quebec. Developed for juice.

Sir Prize. PRI. An early, yellow apple. Bruises very easily.

Trent. Ont. Marginal quality in Nova Scotia and New York. Red. Harvest late October

William's Pride. PRI. Newly named, very early (late July) apple.

DISEASE RESISTANT CRABAPPLE VARIETIES

The following cultivars were judged in a survey conducted by L.P. Nichols to be resistant to scab, cedar-apple rust, powdery mildew, fire blight and frog-eye-leafspot.

Ames White. Single pink and white flowers, fruit yellow.

Autumn Glory. Buds deep, bright red opening to full white. Blooms heavily on spurs. Fruit bright orange red.

Coral Cascade. Buds deep, coral red opening to white. Fruit pink to coral orange.

Donald. Buds deep pink opening to white, single blossoms. Fruit bright red.

Gibbs' Golden Gage. Pink buds opening to single, white flowers. Yellow fruit, 1" diameter.

Golden Gem. Pink buds expanding to rose pink, single flowers. Small yellow fruit.

Molten Lava. Buds deep red opening to single, white blossoms. Red-orange fruit.
Mt. Arbor Special. Carmine buds and flowers. Red fruit.
Prof. Sprenger. Pink buds expanding to single white flowers. Orange-red fruit.
R.M.J. 102. Red buds opening to white, cup-shaped flower. Red fruit, very prolific.
Sargentii 'Tina'. Red buds opening to white flowers. Small red fruit.

The following crabapples were judged to be no more than slightly susceptible to scab or one of the other diseases.
Adams. Red buds opening to single pink flowers. Fruit carmine.
Albright. Pink flowers, single. Dark purple fruit, fairly large.
Baskatong. Dark red-purple buds open to purple-red flower. Fruit dark purple-red, large.
Centurion. Red buds opening to rose-red flowers. Leaves with reddish cast when young. Cherry red fruit. Columnar tree.
Christmas Holly. Bright red buds open to white single blossoms. Fruit bright red.
Henry Kohankie. Pink buds expanding to single pink-white flowers. Glossy red fruit.
Robinson. Crimson buds opening to single crimson flowers. Fruit red.

When a trade name is used for identification, no product endorsement is implied nor is discrimination intended against similar materials.

SOURCES OF DISEASE RESISTANT APPLE CULTIVARS

From Dr. Robert Lamb, 1989

NYS Fruit Testing Cooperative Assoc., Geneva, NY; Hilltop Nursery, Co., Hartford, MI; Stark Bros. Nursery Co., Louisiana, MO; Millers Nursery Co., Canadaigua, NY; Amberg's Nursery, Stanley, NY; St. Lawrence Nursery Co., Potsdam, NY; Fritz Wafler, Wolcott, NY; C&O Nurseries, Wenatchee, WA; Dave Wilson Nurseries, Hickman, CA; Henry Field Seed and Nursery Co., Shenandoah, VA; Hidden Springs Nursery, Cookeville, TN; J.W. Jung Seed Co., Randolph, WI; Kelly Bros. Nursery, Dansville, NY; Lawsons Nursery, Ball Ground, GA; Knollview Nursery, Woodburn, OR; Raintree Nursery, Merton, WA; Langs Nursery Inc., Dansville, NY; Hughes Nursery, Montesano, WA; Johnson Nursery, Ellijay, GA; Ames Orchard and Nursery Co., Harrison, AR;

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Retyped -- 2010