

SOME ANTIQUE APPLES FOR MODERN ORCHARDS

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Fruit is not just a food group anymore. People are looking for something healthful, distinctive and unique in the produce section, as in other market sectors. The HoneyCrisp phenomenon is part of this recent trend. Growers are planting this variety everywhere, hoping to benefit from enthusiastic demand and high prices before HoneyCrisp becomes just another commodity apple. Growers and apple breeding programs are developing and marketing new cultivars more strategically than in past decades, trying to avoid the cycles of over-planting and excess supply that have occurred with varieties such as Gala and Fuji in the past. The trend toward proprietary licensing and restricted supply of new apple varieties has significant implications for the New York apple industry. Many of NY's commercial apple growers may not be able to obtain patented or trademarked trees and update their orchard variety mix to meet consumer demand for "hot" new varieties in the future. However, there are other ways for apple growers to achieve market differentiation for their fruit, and I will describe one such strategy in this report: "Antique" or "Heirloom" (i.e. traditional chance seedling) apples.

First, let's consider some recent trends that are changing the apple industry locally, nationally, and globally. Fruit production, storage and shipping costs have increased substantially. Food security is a major issue, and consumers are much more concerned with where and how their food was grown. This has substantially increased activity in local direct markets. There are now more than 4,700 Farmers Markets in the US, many of them located in urban centers, serving large populations, and limited to regional growers (Fig. 1). Direct sales through U-Pick, at farm stands, and in roadside markets provide increasingly important sales venues for fruit growers in the eastern US. Each of these trends represents a potential market advantage for NY growers, because we are situated in the midst of several major urban/suburban population centers.



Figure 1. *Ithaca Farmers Market*

Recent medical research has shown that increased fruit consumption is linked with better health. Government agencies and produce organizations are encouraging people to eat more fruit and vegetables, and this has increased demand for food diversity in the daily diet. For people to eat "Five-A-Day," we need to offer them nutritious fruits and vegetables in a rainbow of colors, flavors, and varieties (Fig. 2). At the same time, our national

food system is increasingly concentrated within a few supermarket chains such as WalMart, that require a year-round uniform supply of a dozen or so apple varieties that fit their low-cost, high-volume retail system. Americans can shop at similar "superstores" anywhere in the country, and

they will find the same limited choice of apple varieties, often stored for six months to a year, grown and graded for uniformity and reliable quality. Paradoxically, this situation has created strong demand in NY and elsewhere for apples that are fundamentally different in appearance, texture, and flavor! The remarkable success of HoneyCrisp is a good example of this trend. Initially a local favorite in Minnesota, it became a national favorite precisely because it looks and tastes so different from the standard mainstream apple varieties.



Figure 2. *A diverse fruit sampler bag at a local NY farm market*

The NY fruit industry is well situated to take advantage of consumer interest uniquely local apples. The renowned fruit-breeding program at the Geneva Experiment Station is working to create new apple cultivars uniquely well suited to our growing

conditions and market preferences. In NY we already grow more varieties commercially than other parts of the US, and we are used to producing and marketing regional favorites such as Northern Spy, McIntosh, and Macoun. We also have a long history of apple growing that included hundreds of antique or heirloom apples that once formed the basis of NY's fruit industry. These antique apples were described memorably in *The Apples of New York*, published in two volumes by the NY State Ag Experiment Station in Geneva (Beach et al, 1903 and 1905). This comprehensive description of the apples grown a century ago, when NY was primarily an agricultural state, with thousands of diversified small farms producing many more apple varieties than today. It has long been a favorite for its detailed descriptions and illustrations, and is still my favorite reference for identifying the unknown apples sent to Cornell each autumn by homeowners curious about old apple trees in their backyards or family farms.

If antique apples were only of historical importance, this report would end here. However, some of these old varieties have earned a new lease on life! They are in high demand at Farmers Markets all around the country, where they fetch prices comparable to HoneyCrisp. There is similar interest in heirloom vegetable varieties. This market trend has been nurtured by the Seed Savers Exchange in Decorah, Iowa, which has published a series of books and colorful posters describing fruit and vegetable heirloom varieties. Fruit growers will find the Seed Savers most recent *Fruit, Berry and Nut Inventory*, 3rd edition (Whealy, 2001) especially useful for concise information about both antique and contemporary apple cultivars, including a list of nurseries offering each for sale. A few years ago I wrote a chapter on antique apples in *The Brooklyn Botanic Garden All-Region Guide* (Hanson, 2005), intended for home gardeners. In this present report I want to provide more practical information on antique apples that may be useful for commercial apple growers considering this niche market for apples in their pick-your-own orchards, roadside retail stands, food cooperatives, farmers markets, or in the "local produce" section of regional supermarkets such as Wegmans stores. This information is based mostly on my own experience producing antique apples in a small commercial orchard (Black Diamond Farm) that my wife and I operate in Trumansburg, NY (details online at www.incredapple.com).

Although they comprise only one-third of our total apple production, antique varieties are a vital part of our niche market strategy, because they help to differentiate us from others growing apples for the local and regional market. We are fortunate to be part of the thriving Ithaca Farmers Market, and close to a cooperative food market (GreenStar Natural Foods), a Wegmans store, and many fine restaurants and bakeries that feature local foods. We market our entire fruit crop through these outlets. At one time we were growing more than 100 varieties of antique and specialty apples (the latter category includes old European apples grown exclusively for hard cider production). In recent years we have narrowed our variety mix to ten main-crop varieties and about thirty heirloom apples. The main-crop varieties include Williams Pride, Sansa, Gingergold, HoneyCrisp, McIntosh, Liberty, Macoun, Jonagold, Crimson Crisp, and Mutsu (listed in approximate harvest sequence). About half of these varieties are scab-immune, enabling us to emphasize our efforts to reduce pesticide inputs, in a consumer market where environmental concerns are a high priority. Most commercial growers are familiar with the mainstream varieties that we grow, so they will not be discussed further in this report.

The heirloom varieties that we produce are described below, in approximate ripening sequence. A few of these apples are not traditional chance seedlings, but they are rarely grown because of their rustic appearance or unusual flavor, so we market them as “rare and unusual” apples.

Northfield Beauty—Originated in Vermont, early 1800s. Selected by Albert Etter in California. Tart, striped red over green, good size, ripens late Aug. Tree is medium vigor, spreading, scab resistant, and bears annually. Fruit hangs well, can be used for dessert or sauce (Fig. 3).

Summer Rambo—French variety from the 1600s. Tart flavor, striped red on green, a large oblate apple that ripens in early Sept. Tree is vigorous but spurry. Fruit hangs well, good for dessert, sauce or pie (Fig. 4).

Chestnut Crab—From Univ. of Minnesota program, 1940s seedling of Malinda. Small fruit (about 2 inch diam.), with light russet over bright orange blush. Sub-acid, high sugar, delicate texture and fine aroma with characteristic russet (nutmeg or cinnamon) flavor. Low vigor, spreading tree with Cedar Rust resistance. Reliable cropping, long-stemmed fruit hangs well (Fig. 5).

St. Edmund's Pippin—Early ripening (mid Sept.) uniformly russeted apple from England, 1800s. Medium to large fruit size, bright yellow groundcolor when ripe, sub-acid fruit, often described as pear-like in texture and flavor. Tree is low vigor, tip-bearing, pendant, annual cropping, productive (Fig. 6).

Holstein Cox—A Cox Orange seedling from northern Germany, early 1900s. Triploid, pollen sterile. Larger fruit and more vigorous, spreading tree than Cox Orange. Tart, granular flesh, with intense orange juice and pineapple aroma. Scab resistant. Annual bearing, fruit lightly russeted, orange blush over pale yellow (Fig. 7).

Egremont Russet—Old English variety from the mid 1800s. Tree is medium vigor, well spurred. Fruit is medium sized, uniformly covered with a smooth fine russet over yellow-green groundcolor. Flavor is mild, with hints of anise, mildly tart, and the flesh is firm and moist but not juicy, with a delicate pearlike texture. Fruit hangs well and ripens earlier (mid Sept.) than most russet apples (Fig. 8).

Cox Orange Pippin—The quintessential English apple since the 1820s. Tree is moderate vigor, blooms late, and best suited for cool growing regions (fruit may be damaged by full sun and temperatures above 90 F). Prone to alternate bearing and susceptible to scab, powdery mildew, and black rot. Fruit are tart, lightly russeted, orange blush over pale yellow, mid sized, firm juicy texture, strongly aromatic, and ripen in late Sept. to early Oct. in NY (Fig. 9).

Karmijn de Sonnaville—A Cox Orange seedling from the Netherlands, 1940s. Tree is vigorous, spreading, prone to biennial bearing and not very productive. Fruit are very tart and aromatic, orange blush over yellow, heavy russet and patches of rough and cracked skin, prone to cracking as harvest approaches. Despite these problems, its intense flavor and unusual appearance are a hit with consumers and make the variety worthwhile for direct marketing (Fig. 10).

Pink Pearl—One of Albert Etter's seedlings from California, early 1900s. Fruit are opalescent pale yellow, mid sized, conical, with a glassy smooth finish. Flesh is shocking pink, tart, firm and very juicy. Tree is low vigor, flat branched and well spurred, needs aggressive thinning to prevent biennial bearing (Fig. 11).

Bramley's Seedling—A traditional English cooking apple since the 1830s. Tree is vigorous and sprawling, triploid, scab and mildew resistant. Fruit are very large, oblate round, green with red stripes developing as they ripen, very tart (high vitamin C content), and cook to a sweet-sour puree with a smooth texture much prized by English cooks. Prone to push-off approaching harvest unless doubles are thinned to singles (Fig. 12).

Kidd's Orange—A Cox Orange x Delicious seedling from New Zealand (1924) and one of Gala's parents. Large, conical apple with granular low-acid, very sweet flesh. Orange to pink blush over pale white, with light russet. Ripens late Sept. and does not maintain quality on tree for long. Tree is vigorous, spreading, a reliable producer (Fig. 13).

Margil—An old French variety from the 1700s, also known as Reinette Musquee (Perfumed Princess). Fruit are small, very tart and aromatic, with fine granular texture, usually russeted with yellow under-color developing as they ripen in late Sept. Tree is a reliable annual producer, medium vigor and the fruit hang very well (Fig. 14).

Esopus Spitzenberg—The proverbial favorite apple of Thomas Jefferson, originated near Kingston, NY, in the late 1700s. Fruit are large, conical with prominent lobes, red blush over cream white when ripe, tart with firm granular flesh and intense flavor. Tree is low vigor, sprawling, needs spur pruning to maintain fruit size and quality. Tree is prone to scab, powdery mildew, and black rot (persistent fruit mummies when chemically thinned), and only moderately productive. Ripens unevenly over several weeks in early to mid Oct. in NY. A difficult tree, but worth the trouble because your customers will love it (Fig. 15)!

Zabergau Reinette—Distinctive fruit are very large, oblate, with red stripes over smooth tawny russet. Mild acidity with intense cinnamon and almond flavor, breaking but firm granular flesh. Low vigor tree is reliably annual and productive but needs spur thinning as it matures. Preharvest drop and push-offs are a problem, and trees require several pickings because fruit ripen unevenly and will drop and become over-ripe if left on tree too long (Fig. 16).

Orleans Reinette—French apple from late 1700s (possibly synonym for Blenheim Orange). Typical Reinette flavor and appearance, with large conic to round fruit, deep orange-red blush

over golden ground-color with variable russet. Tart, granular yellow flesh is juicy and strongly aromatic. Tree is low vigor and well spurred. Fruit ripen mid Oct., hang and store well, good for dessert and cooking (Fig. 17).

Blue Pearmain—Old American apple from the early 1800s. A large, deep red apple with heavy wax bloom making it appear almost blue when ripe. Flesh is granular, pale yellow when ripe, sub-acid and very sweet. Ripens mid Oct. and quality deteriorates quickly if left too long on the tree. Vigorous and spreading tree; hand thinning is necessary to eliminate doubles that will cause much of the crop to drop preharvest if not adequately thinned. Difficult to grow, but its unique appearance is a big hit with customers (Fig. 18).

Hudson's Golden Gem—This one is truly unlike any other apple! A chance seedling from Oregon, early 1900s. Tree is low vigor and pendant, needs spur thinning to maintain vigor and fruit quality. Sets heavy, annual crops of medium-to-large size conical fruit that ripen mid Oct. Heavily russeted, pubescent apples with delicate snow-white flesh that is sub-acid and very sweet, with a pearlike cotton-candy softness that melts in the mouth. Fruit hangs and stores well, scab resistant but may crack in wet weather (Fig. 19).

Tompkins King—Popularized by Kingtown Orchard in Tompkins County NY, early 1800s. A vigorous triploid tree that puts more effort into its branches than its fruit! Very large apples are extremely sweet and juicy, with a tendency for sunburn and severe watercore in hot summers. Very high juice yield of an aromatic cider, but not a good prospect for the fresh market (Fig. 20)

Thornberry—Another pink fleshed yellow-green apple from Albert Etters farm in California, early 1900s. Ripens later than its cousin Pink Pearl, and is useful to continue the supply of apples for customers who enjoy the surprise of red flesh. Tree is medium vigor, upright. Fruit are tart and crisp, conical, mid sized, ripen early Oct. and do not hang well on the tree (Fig. 21).

Keepsake—From the Univ. of Minnesota breeding program, a Malinda x Northern Spy cross from the 1960s. One of the parents of HoneyCrisp, this apple has the same fine-grained, very crisp and juicy flesh, but more acidity and richer flavor than its offspring. Ripens late Oct. and holds up well for many months in cold storage. The fruit are medium sized, very rough and irregular in appearance, with splashes of deep red intermixed with russet and scarf-skin overlying creamy white skin when ripe. A vigorous tree, resistant to fireblight and cedar apple rust, tends to be biennial without judicious pruning and fruit thinning (Fig. 22).

Roxbury Russet—Supposedly the first American apple to be given a name, in Roxbury, Massachusetts, circa 1650. Vigorous triploid tree, with upright growth habit. Bears more-or-less annual crops of medium to large apples, light brown russet over green color, very tart, granular white flesh with high sugar and juice yield. Long-term keeper in regular storage; like most russet apples it is prone to shrinkage unless the relative humidity is kept above 90% in the cooler (Fig. 23).

Ashmead's Kernel—Old English russet from the early 1700s. Similar to Cox Orange in appearance and flavor, but ripens a month later, toward the end of Oct. Tree is medium vigor, triploid, will bear annually with adequate thinning. Apple is lightly russeted over bright red flush with golden yellow ground-color. Very tart, dense, fine-grained juicy flesh with aromas of pineapple, citrus, and pear. Cherished by customers for its unparalleled flavor (Fig. 24).

Court Pendu Plat—Reputedly one of the oldest apples known, from France in the 1500s. This small apple has an unusual flattened shape that goes with its distinctive flavor. Very dense, hard-grained flesh is tart and chewy, with cinnamon, citrus and other exotic flavors. Tree is vigorous and upright; bears annual but light crops (Fig. 25).

Calville Blanc—Another classical French apple from the 1500s, still popular in Normandy where it is cherished for pastries, pies, and hard cider. Fruit is very tart and non-browning (high in vitamin C), with a delicate smooth snow-white flesh beneath a smooth, buttery yellow skin suffused with red highlight. Prominent calyx lobes make it look almost like a bell pepper. Tree is vigorous, spur-bearing and upright. Prone to excessive thinning and scab infection (Fig. 26).

Winter Banana—A beautiful old apple from Indiana, mid 1800s, that looks better than it tastes! The name comes from its late (Oct.) ripening, and the five prominent suture lines corresponding to its fruit carpels. A uniformly large apple with smooth yellow skin under bright rouge cheeks. Despite its corky texture and bland flavor, the apple is a hit with customers because it is so pretty (Fig. 27).

Golden Russet—Originated in NY, around 1840. Tree is vigorous, tip-bearing and willowy. Apples small to medium size, hang well and ripen in late Oct. The fruit are at once intensely acidic and intensely sweet, making this one of the few apples that by itself can produce a well balanced cider approaching 10% alcohol, without any additions of sugar. Apart from cider makers who prize this apple, its rich flavor and smooth russet over a golden skin make it a hit at road-side stands and farmers markets. Bears annually with careful pruning and thinning (Fig. 28)

Baldwin—Also known as the Woodpecker apple, this Massachusetts variety (circa 1850) was the most important apple in the Northeast prior to the lethal winter freeze of 1934, and people still ask for it at farmers markets. A medium large apple with dark red skin and prominent lenticels. Dense grained acidic flesh and aromatic flavor that holds up for many months in cold storage. Vigorous, spreading, triploid tree, often biennial even with chemical thinning. Heavy preharvest drop is a problem in the on years unless the tree is spot-picked several times over a ten day period in late Oct. (Fig. 29).

Albemarle (Newtown) Pippin—This is another old local variety (from Long Island, NY) first described in the early 1700s, and popular in Washington orchards before it was supplanted by Granny Smith in the tart green apple category. A medium sized, bright green apple that develops a yellow-orange blush and hangs well as it ripens, in late Oct. Tree is vigorous, upright, and annual if thinned adequately. This is another old favorite that people often request in local markets (Fig. 30)

GoldRush—This remarkable apple is certainly not a genuine heirloom variety! In fact it is a recently named (1990s) apple from the Purdue Univ. breeding program, but its flavor is so unusual that it definitely fits the niche market category. The tree readily assumes a vertical axe form with a straight trunk and flat, heavily spurred side branches. It is low in vigor and best suited for semidwarf rootstocks such as G.30 or M.7, on a good soil. GoldRush bears heavily at an early age, and needs aggressive chemical thinning to maintain fruit size and tree vigor. The fruit are medium sized and conical, with a light red blush and sparse russet over bright golden skin. Mitch Lynd calls this “the habanero of apples”, because its flavor is so rich and spicy. The flesh is very dense and tart, but at the same time juicy and very sweet (approaching 20% sugar

when fully ripe). It is non-browning when sliced, and will keep in excellent condition in regular cold storage for more than six months. GoldRush ripens reliably in late Oct. to early Nov. in NY, but it needs some frosty weather to initiate ripening. This is an excellent apple for direct market growers who do not have CA storage, and want something with great flavor to sell from Feb. to April (Fig. 31).

Black Oxford—Despite its name, this is not an English apple; it originated in Oxford, Maine, in the mid 1800s. The tree is medium vigor but loose-limbed and sprawling. Not a heavy bearer, but will produce modest crops annually. The fruit are dark purple, almost black, with pale yellow flesh, mildly tart and strongly aromatic. The flesh is dense and granular, and the fruit will keep for months in good condition. A very distinctive apple, in both flavor and appearance (Fig. 32).

Winesap—Like Newtown Pippin, this old US apple originated from the early 1800s was popular in Washington until the 1970s. People still remember and ask for it, because of its sprightly tart flavor, high sugar content, and fine crisp texture. Red Winesap (the Ruple strain) colors better than the original Winesap or the numerous other strains of this apple. The fruit ripens over a week or so in late Oct., and will keep for many months in good condition. The tree is vigorous, and bears heavily and regularly when properly pruned and thinned (Fig. 33).



Fig. 3. Northfield Beauty



Fig. 4. Summer Rambo



Fig. 5. Chestnut Crab



Fig. 6. St. Edmund's Pippin



Fig. 7. Holstein Cox



Fig. 8. Egremont Russet



Fig. 9. Cox Orange Pippin



Fig. 10. Karmijn de Sonnaville



Fig. 11. Pink Pearl



Fig. 12. Bramley's Seedling



Fig. 13. Kidd's Orange



Fig. 14. Margil (Reinette Musquee)



Fig. 15. Esopus Spitzenburg



Fig. 16. Zabergau Reinette



Fig. 17. Orleans Reinette



Fig. 18. Blue Pearmain



Fig. 19. Hudson's Golden Gem



Fig. 20. Tompkins King



Fig. 21. Thornberry



Fig. 22. Keepsake



Fig. 23. Roxbury Russet



Fig. 24. Ashmead's Kernal



Fig. 25. Court Pendu Plat



Fig. 26. Calville Blanc



Fig. 27. Winter Banana



Fig. 28. Golden Russet



Fig. 29. Baldwin (Woodpecker)



Fig. 30. Albemarle (Newtown) Pippin



Fig. 31. GoldRush



Fig. 32. Black Oxford



Fig. 33. Winesap

Suggested Reading

- Beach, S.A., N.A. Booth, and O. M. Taylor. The apples of New York, Vols. 1 and 2. New York State Ag. Exp. Station, Geneva, NY. 1905.
- Merwin, I.A. 2005. Antique apples: A guide for eaters and growers. Pp. 16-23 in The best apples to buy and grow. Brooklyn Botanic Garden Handbook No. 181. N.Y.
- Whealy, K. 2001. Fruit, Berry and Nut Inventory, 3rd Edition. Seed Saver Publications, Decorah, Iowa.