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Burgundy—An early fall, dark red apple

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ORIGIN

The Burgundy apple (N.Y. 161) originated from a cross made by R. C. Lamb in 1953, Monroex N.Y. 18491 (Macoun x Antonovka). A population of 357 seedlings from the cross was field planted in May 1955. As the seedlings came into fruiting several years later, their fruiting performance was evaluated. This particular seedling ripened its first fruits on September 10, 1960 and was selected by R. D. Way in 1961. Nineteen other superior selections were also chosen from this same population. This is a much higher proportion of good clones selected from a progeny than is usually chosen, indicating that this was an especially good parental combination. After 8 years of fruiting observations on the original seedling tree (1960-1967) and 10 years of fruiting

on trees repropagated onto seedling rootstocks (1965-1974), Burgundy was introduced on September 19, 1974. Burgundy is the 200th fruit variety introduced by the New York State Agricultural Experiment Station, Geneva.

A NAME IS CHOSEN

In June, 1974 a brief description of this N.Y. 161 apple was sent to 114 persons who were asked to submit candidate names. These people included the staff in Geneva's Department of Pomology and Viticulture, the Pomology faculty at Ithaca, several active apple grower members of the New York State Horticultural Society, a few fruit tree nurserymen, and other interested persons. Twenty-five persons submitted a total of 77 name suggestions. This list was carefully considered by a group of seven pomologists in the Department of Pomology and Viticulture. Burgundy was selected as the most appropriate name. The name, Burgundy, had been first nominated by Professor Emeritus George L. Slate of this Department.

The word "burgundy" refers to red wines made in the Burgundy district of France and is sometimes used as a color name, referring to a specific shade of dark reddish color. Burgundy is especially appropriate for this new apple because it is descriptive of the fruit's dark red skin color.

FRUIT

Burgundy is an early fall dessert apple. Table 1 shows that in a 14-year period, its average harvest date at Geneva, New York was September 11. This is 2¹/₂ weeks before the average harvest date for McIntosh. Because it ripens just before Wealthy in early September and before

Table 1.—Comparative harvest dates of Burgundy and McIntosh apples at Geneva, N.Y.

	1960	1961	1962	1963	1964	1965	1966
Burgundy	Sep. 10	Sep. 10	Sep.20	Sep. 15	Sep. 10	Sep. 15	Sep. 11
McIntosh	Oct. 5	Oct. 1	Oct. 1	Sep. 27	Sep. 25	Oct. 2	Oct.6
Burgundy, no. days before McIntosh	25	21	11	12	15	17	25

	1967	1968	1969	1970	1971	1972	1973	Av.
	Sep. 10	Sep. 10	Sep. 8	Sep. 4	Sep. 10	Sep. 19	Sep. 7	Sep. 11
	Oct. 4	Sep. 28	Sep. 25	Sep. 25	Sep. 30	Oct. 5	Sep. 25	Sep. 30
	24	18	17	21	20	16	18	19

the beginning of harvest of the important varieties, it could be especially attractive to consumers who wish to start eating apples early in the fall. It should be most useful for the roadside stand or local markets.

Burgundy skin color is very dark red, an attractive, glossy dark mahogany, similar to a Bing cherry. The entire fruit surface is colored in a blushed pattern with very little striping. Its very dark color may be too dark in the opinion of some people. However, limited studies indicate no consumer rejection due to its dark color. This dark, early coloring will encourage growers to harvest Burgundy long before it is ripe. But, harvesting immature fruit should be avoided because it is of poor quality, even if it is well colored. Maturity can be judged by testing the eating quality and flesh texture.

Burgundy fruits sometimes suffer sunburn. This is because they develop the very dark pigment in early September, while the sun's rays can still be very hot. The exposed sides of unshaded fruits can become hot and this kills the flesh just beneath the skin, giving it a rotted appearance. However, sunburning is generally not a serious problem.

Burgundy fruit size is medium, similar to McIntosh, generally 2½ inches in diameter, with some fruits slightly larger and others slightly smaller. The shape is a partially flattened sphere, somewhat flatter than McIntosh.

The cream-colored flesh is semifirm to firm in texture, crisp, and juicy. Fruits are firmer and more easily handled than McIntosh. The texture is mouth pleasing when fruits are eaten. Although the taste of any apple variety is difficult to describe, Burgundy taste is different from McIntosh and perhaps somewhat resembles Jonathan. The flavor is sub-acid and the eating quality is good. Having the high quality Macoun as one grandparent, Burgundy's eating quality measures up to its expectations. Apple eating quality is very dependent on the stage of maturity when harvested and upon the site on which the tree is grown. Thus, even Burgundy will not taste good if it is picked before it is ripe, or if the trees are grown in wet soil.

Burgundy fruits are sometimes troubled with watercore. Watercore, which is a condition of the fruit flesh having a water-soaked appearance, becomes more serious as the fruits become overmature. The problem can be reduced by harvesting somewhat before optimum maturity. Burgundy

is more severely affected by watercore than many other early fall varieties. Overripe fruits also have a reddish color in the flesh just beneath the skin.

Burgundy fruits do not drop off the tree badly after they become fully ripe. Unlike McIntosh, no stop-drop sprays are needed.

The storage life of Burgundy is short in comparison with winter varieties, but it will keep longer than most varieties harvested in September. Because Burgundy is an early fall variety, it is suggested that it will be grown almost entirely for the early market and there will be little need to store it more than a few weeks.

TREE

Burgundy trees grow vigorously similar to McIntosh or Delicious. Trees can be propagated on any of a full range of Mailing rootstocks to obtain the desired tree size.

Fruits are borne mainly on spurs but also some on twig terminals.

Trees of Burgundy are susceptible to apple scab and cedar apple rust, and highly susceptible to fire blight. Burgundy's susceptibilities to these diseases have been investigated by Dr. Herb S. Aldwinckle, Department of Plant Pathology. He makes these points: "1. The scab and rust ratings are based on artificial inoculations in the greenhouse, but performance in the greenhouse should give a good indication of behavior in the field. 2. The fire blight rating is based on artificial inoculations in the greenhouse and limited observations of natural infections in the field. 3. Susceptible varieties will not necessarily become heavily infected in all years in all locations. In some areas, fire blight or rust is rarely a problem even on very susceptible varieties. There are recommended chemical spray programs for all of these diseases."

Chromosome counts made by Charlotte Pratt of the Department of Pomology and Viticulture in 1969 showed that Burgundy is diploid; i.e., it has the usual two sets of 17 chromosomes. In 1968, controlled crosses using Burgundy pollen resulted in good fruit sets. This demonstrated that Burgundy very probably can serve as an effective pollen source for other varieties. Burgundy blooms in early mid-season. Table 2 shows that the average bloom date over a

Table 2.—Bloom dates of Burgundy and McIntosh apples at Geneva, N.Y.

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	Av.
Burgundy	May 18	May 25	May 23	May 10	May 14	May 13	May 22	May 23	May 12	May 14	May 17
McIntosh	May 18	May 23	May 23	May 9	May 14	May 11	May 20	May 22	May 8	May 14	May 16

10-year period was about 1 day after McIntosh. Because it is a rather early bloomer, it can serve well as a pollen source in orchards of early bloomers such as McIntosh or Idared and in orchards of mid-season bloomers such as Delicious and Empire.

YIELDS

Burgundy trees are moderately productive. Estimated yields of Burgundy trees are compared with those of McIntosh trees in Table 3. Like McIntosh, Burgundy trees began to bear their first measurable crops in their fourth or fifth year after planting. Burgundy is less precocious than Golden Delicious but more precocious than Delicious. Individual tree yields in Table 3 show that Burgundy is an annual cropper, without any indication of biennial bearing. We have not observed overcropping and thinning sprays have not been necessary.

COMMERCIAL USEFULNESS

One commercial grower writes, "You see, I am very, very anxious for N.Y. 161 apple as I think it really will sell. I am very anxious to get this new variety to sell the fruit at my roadside market."

Another apple variety tester from Maine writes, "Of several varieties of apples on Mailing 7 rootstocks which I bought from you in 1970, only one is exceptional here for everything—color, size, productivity, hardiness, and even scab and rust resistance (sic). This is N.Y. 161. This is one for air zone 4/5 boundary of erratic seasons. Do you know anything bad about it? It keeps in storage better than Spartan which ripens 2 weeks later."

Compared with Wealthy, Burgundy ripens about 4 days earlier, it is much darker in color, its fruit size is about equal, the fruits hang much better on the tree after they ripen, and the tree has much less tendency for biennial cropping. Because of its very dark color, it should replace greener, early ripening varieties such as Wealthy and Milton.

Burgundy will probably be most useful for early fall roadside sales. However, it is possible that the apple industry would discover it to be a variety to extend the early harvest season, in which case, it could become planted on a larger scale. Burgundy is a fresh market variety and is not considered useful for processing. By introducing Burgundy, we feel that we are making a genuine contribution and are offering attributes superior to those found in the present selection of varieties. Burgundy should be useful to both the commercial apple grower and the home gardener.

Dormant scions for topgrafting and 1-year-old nursery trees of Burgundy for orchard planting can be purchased from the New York State Fruit Testing Cooperative Association, Geneva, New York 14456.

Table 3.—Yields of individual trees of Burgundy and McIntosh apples at Geneva, N.Y. Trees on seedling roots. Estimated number of bushels.

	Year 1-yr-old trees planted in orchard	Individual tree	Tree age (no. yrs. after budding)						Av. cumulative per-tree yield at 11 yrs. of age	
			5	6	7	8	9	10		11
(1967)										
Burgundy	1964	A	0.0	0.05	0.0	0.3	0.7	1.3	2.0	
		B	0.5	0.3	0.3	2.0	0.7	4.0	3.0	
		C	0.05	1.0	0.3	2.5	0.3	3.0	2.5	
		D	0.3	0.3	0.7	4.0	4.0	5.0	3.0	
		Av.	0.2	0.4	0.3	2.2	1.4	3.3	2.6	10.4
(1960)										
McIntosh	1957	A	0.5	1.5	0.5	0.5	3.0	2.0	4.0	
		B	0.0	0.7	0.05	0.3	2.0	3.0	4.0	
		C	0.0	0.5	0.7	0.3	4.0	0.3	6.0	
		D	0.3	0.7	1.0	0.05	2.0	0.5	6.0	
		Av.	0.2	0.9	0.6	0.3	2.8	1.5	5.0	11.3