NEW YORK'S FOOD AND LIFE SCIENCES BULLETIN NO. 25, AUGUST 1972

PLANT SCIENCES

POMOLOGY (GENEVA) • NUMBER 8

NEW YORK STATE AGRICULTURAL EXPERIMENT STATION, GENEVA, A DIVISION OF THE NEW YORK STATE COLLEGE OF AGRICULTURE AND LIFE SCIENCES, A STATUTORY COLLEGE OF THE STATE UNIVERSITY, CORNELL UNIVERSITY, ITHACA

Jonamac—a new apple from Geneva

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Jonamac Apple

ORIGIN

Jonamac originated from a Mclntosh x Jonathan cross made in 1944. Formerly identified as N. Y. 44428-5, Jonamac was selected on September 21, 1955 from a population of 2,474 seedlings originally planted.

CHOOSING A NAME

In anticipation of its introduction on September 21, 1972, suggestions for names were solicited at the annual meetings of the New York State Horticultural Society held in Rochester and Kingston in January 1972. Further, the garden editors of the Buffalo Evening News and of a Boston newspaper published brief notes in their columns indicating that a name was being sought. A total of 515 suggestions were submitted. Jonamac was suggested by the following seven persons: William Darrow, Sr., George LaMont, James Oakes, Mrs. Dorothy Kline, Rockwood Berry, Mrs. Laura Stypowany, and Paul Wells (age 8). Because these included four commercial apple growers, an official of an apple advertising agency, and two others, Jonamac was made the final choice.

FRUIT

Jonamac is an early fall dessert apple. Table 1 shows 9 years of comparative harvest dates for Jonamac and Mclntosh at Geneva, N. Y. On the average, Jonamac was harvested 8 days earlier than Mclntosh.

This close proximity of harvest date to that of Mclntosh may be a disadvantage for Jonamac because Mclntosh is the cultivar most extensively grown by many commercial apple growers, and any cultivar harvested so near to the same date may be undesirable. On the other hand, Jonamac is a Mclntosh type harvested before Mclntosh, and one of the commercial grower's greatest needs in new cultivars is a Mclntosh type ripening before Mclntosh.

Jonamac fruit size is medium, similar to Mclntosh, being mostly 23/4 inches in diameter, with a range from 21/4 inches, to 3 inches or above. Fruit size of Jonamac, however, is generally more uniform than that of most cultivars. The shape is round or frequently round-oblate, just slightly flatter than Mclntosh.

Skin color resembles Mclntosh, except it is darker red and usually more of the surface is colored with red than Mclntosh. It has a very attractive dark red blush, usually with a small amount of striping. It is a handsome apple.

In all cultivars, skin color, of course, is partly dependent on the nitrogen status of the tree. Although Jonamac fruits are generally about 90 per cent dark red and often entirely dark red, excessive nitrogen will cause apples to have some green ground color. The ground color of Jonamac, when it fails to become red, is rather dark green, although fully ripe fruits have a faintly yellowish ground color. The skin has a heavy waxy bloom covering it.

Flesh texture is similar to Mclntosh. Fruits are semi-firm, but they will bruise if they are handled roughly. Fully ripe fruits are soft. The flesh is nearly white like Mclntosh or slightly whitish cream colored when fully ripe. Immature fruits have slightly greenish flesh.

The flavor is subacid with very good eating quality, superior to Mclntosh.

STORAGE

For 10 consecutive years, 1962-1971, fruits of Jonamac were stored at 33° F, beginning at the time of their proper harvest maturity and held until January of the following year. In most years, the storage life was rated as fairly good, or about 120 days. Storage life was usually just slightly better than Mclntosh. However, because Jonamac is harvested before Mclntosh, it is probable that growers will want to finish marketing their Jonamac crop early and will not expect to store it late into the winter.

TREE

Jonamac trees are medium in vigor; they do not grow as large as Mclntosh. This is a desirable characteristic for growers who wish smaller than standard trees for closer spacing and easier harvest. Trees can be propagated on any of the full range of Mailing rootstocks to achieve the desired tree size.

Fruits of Jonamac are borne mainly on spurs. The branches are sturdy, and although the tree is spreading in growth habit, there is less drooping of branch terminals than is found in its parent, Jonathan.

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

	1955	1961	1964	1965	1966	1967	1968	1970	1971	Mean
Jonamac	Sept. 21	Sept. 25	Sept. 20	Sept. 20	Sept. 25	Sept. 28	Sept. 13	Sept. 24	Sept. 21	Sept. 22
McIntosh	Sept. 23	Oct. 5	Sept. 25	Oct. 2	Oct. 6	Oct. 4	Sept. 28	Sept. 25	Sept. 30	Sept. 30
Jonamac, no. days before McIntosh	2	10	5	12	11	6	15	1	9	8

The leaves and fruits of Jonamac are susceptible to attack by apple scab, and a full spray program is needed. Although a complete evaluation of its susceptibility to the various diseases and insects has not been made, Jonamac probably has no special immunities.

POLLINATION

Chromosome counts made by Miss C. S. Pratt, both in 1967 and 1968, showed that Jonamac is diploid. The pollen is viable. Jonamac will effectively serve as a good pollen source for other cultivars. Pollen viability of Jonamac was positively demonstrated when good fruit sets resulted from four to six controlled hand pollinations made on other cultivars in each of 3 different years.

Jonamac is an early bloomer. Its 11-year average bloom date was about May 17, approximately half a day later than Mclntosh (Table 2). In 1 year, Jonamac bloomed 1 day earlier than Mclntosh; in 5 years, it bloomed on the same day; in 3 years, Jonamac bloomed 1 day later; and in 2 years, it bloomed 2 days later than Mclntosh.

Because it is an early bloomer, Jonamac will serve as a good pollen source in plantings of early bloomers such as Mclntosh, Idared, Milton, Puritan, and Lodi. In most years, Jonamac will also effectively pollinate such mid-season bloomers as Delicious, Cortland, Spartan, Empire, Jonathan, Tydeman Early, Niagara, Julyred, Mutsu, and Stayman. Jonamac generally should not be depended upon as a pollen source for such late bloomers as Golden Delicious, Rome, Macoun, Northern Spy, early Mclntosh, or Rhode Island Greening.

YIELDS

Jonamac trees are productive. They bear good annual crops. Jonamac yields are compared with those of Mclntosh in Table 3. In this study, tree yields were estimated by the author. Periodic checks of estimated yields against actual yield measurements showed that the estimated yields were extremely conservative. This is further illustrated by the fact that most commercial apple growers would expect to harvest more than the 5 bushels of Mclntosh in their 12th and 13th years in the orchard (14 and 15 years old) which are listed in Table 3.

Table 3 shows that Jonamac trees on M.7 roots are precocious, beginning to bear their first measurable crops in their third year in the orchard. They begin to bear at about the same early age as Mclntosh. They are less precocious than Golden Delicious trees but are more precocious than Rhode Island Greening or Delicious.

Individual tree yields in Table 3 show that Jonamac crops annually, although Tree D showed a slight

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

	1959	1961	1963	1964	1965	1966	1967	1968	1969	1970	1971	Mean
Jonamac	May 13	May 23	May 13	May 13	May 17	May 23	May 24	May 10	May 14	May 11	May 21	May 16.6
McIntosh	May 13	May 21	May 13	May 11	May 18	May 23	May 23	May 9	May 14	May 11	May 20	May 16.0

Table 3.—Yields of individual trees of Jonamac and McIntosh trees at Geneva, New York. Two-year-old trees/M.7 roots planted November 1958. Estimated number of bushels.

		Tree age (years)											
	Individual tree	5 (1961)	6	7 Frost	8	9	10 (1966)	11	12	13	14	15 (1971)	Mean cumulative per-tree yield to 15 years of age
Jonamac	A	0.5	0.8	0	2.0	3.0	4.0	0.3	3.5	2.5	6.0	7.0	
	B	0.5	0.3	0	1.5	2.0	3.0	0.5	2.5	1.5	5.0	5.0	
	C	1.0	0.5	0	2.0	2.5	3.0	1.0	3.0	2.0	6.0	6.0	
	D	0.8	0.8	0.1	1.5	2.5	4.0	1.5	2.5	1.5	5.0	3.0	
	Mean	0.7	0.6	0	1.8	2.5	3.5	0.8	2.9	1.9	5.5	5.3	25.5
McIntosh	A	0.3	1.0	0.0	2.0	4.0	4.0	1.0	3.0	6.0	7.0	6.0	
	B	0.1	0.8	0.1	1.5	4.0	5.0	1.0	3.0	5.0	5.0	7.0	
	C	0.0	1.0	0.0	1.5	3.0	3.0	1.3	1.5	2.0	4.0	4.0	
	D	0.3	0.5	1.3	1.0	0.3	(4)	4.0	4.0	1.5	3.0	2.5	
	Mean	0.2	0.8	0.4	1.5	2.8	4.0	1.8	2.9	3.6	4.8	4.9	27.7

tendency toward biennial cropping. Thinning is sometimes necessary to prevent overcropping and small fruits.

FRUIT DROP

At harvest, Jonamac fruits hang to the tree much better than Mclntosh, thus premature dropping is much less of a problem.

COMMERCIAL USEFULNESS

In 1959, three 1-year-old test trees of Jonamac were planted in each of five commercial orchards, three in western New York, one in the Hudson Valley, and one in Vermont. The cultivar was later test planted in the Champlain Valley. These young trees began fruiting in 1961, and their fruiting performance was observed annually through 1971 by the growers and by research personnel. All six growers have been impressed with the good performance of their Jonamac trees, and three have repeatedly suggested that this selection should be named and introduced. Two of the growers have proceeded to propagate it, and each planted several acres of it, even before it was named.

Because of this good performance over a 17-year period both in Experiment Station trials and in commercial orchards, Jonamac is introduced as a Mclntosh-type dessert apple, ripening about 8 days before Mclntosh. It is not suitable for processing. Having better red color and better eating quality than Mclntosh, it appears to be best suited to replace some of the Mclntosh apples that are now harvested immature and put onto the market before they are ripe. Jonamac has been suggested as a replacement for Mclntosh. It is offered as a worthy new apple that should be eminently useful both to the commercial grower and to the home gardener.