

The capacity of P.R. 1-67 to out-yield Red Spanish was confirmed by the data obtained (Table 1) in a field experiment in which three planting distances were tested.

Since the experimental results available confirm the superiority of P.R. 1-67 over Red Spanish, it is expected to eventually replace Red Spanish, because it provides the industry with a more profitable basis for expansion.

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Apple Varieties in Vermont — 1971

WILLIAM H. DARROW, SR.*

It has been ten years since I reported in "The Fruit Varieties and Horticulture Digest" (Vol. 16, No. 1) on how some of the newer apple varieties are doing in Vermont. First let me say that the Green Mountain Orchards are located in the foothills of the Green Mountains in South Eastern Vermont. They are located on five different farms ranging in elevation from 600 to 1,000 feet above sea level. There are at present about 275 acres in apples varying from one to 57 years of age. The older trees on standard stocks are gradually being eliminated, and are being replaced by trees propagated on size-controlling stocks—mostly EM VII, EM26 and MM106. Within 10 years or so, we expect most

of the standard trees will be replaced by these smaller growing semi-dwarf trees.

Our market is chiefly wholesale. Trailer truck loads of 700 to 900 cartons are sold to chain store outlets. From 5 to 10% of the crop is sold retail at the packing house or to roadside stands and store outlets within a radius of 50 to 60 miles. These factors control to a great degree the varieties we decide to grow.

We are eliminating some good varieties because of this market situation or because of our inability to grow the variety as well as some other areas. Northern Spy and Golden Delicious would be good illustrations; Northern Spy, because of the lessening demand;

*Green Mountain Orchards, Putney, Vermont.

and Golden Delicious because we have not been able to grow them without some russetting due to spray, or weather, or both. Melba is being removed because it is too soft, and, ripening as it does in early August, it breaks down too soon, even when sold at roadside stands or local stores.

We are limiting the production of certain other varieties such as Cortland. Cortland is a good apple and a good pollenizer for McIntosh; but it often fails to make any money—always selling for less than McIntosh; and the tree and fruiting habits are less desirable than those of McIntosh.

At the present time we are planting or producing commercial quantities of the following varieties: Quinte, Julyred, NJ38, Paulared, Tyderman's Early, Spartan, the red strains of McIntosh and Delicious, and Idared. We think, or at least hope, that Quinte and Julyred will soon be replaced by better early varieties. The fruit size of Quinte and Spartan tends to be small on standard stocks. However, the size of both improves when grown on dwarfing stocks. At first we found that the Spartan dropped too badly; but after using Alar or other "stick on" sprays, the drop problem was largely controlled. The Julyred requires four pickings, and tends to get mealy as it ripens. Tyderman's is a fine apple but the scraggly tree leaves much to be desired. We planted two sizeable blocks of it before NJ 38 or Paulared were available. It may be several years before we will decide about keeping all three of these apples to fill the season just before McIntosh.

Our experience with NJ 38 and Paulared is limited. Both varieties were ready for picking this year on August 20 to 23, and this was a late season, perhaps a week later than average. Both are of good quality, although we prefer the NJ 38 for eating out of hand. Both can be kept in

cold storage for several weeks if need be. However, we anticipate selling them before McIntosh. Growing these early apples should eliminate the temptation to pick an immature McIntosh or to "rush the McIntosh market" by selling a few loads at a special price before they are quite ready to harvest.

Comparing NJ 38 and Paulared, it appears that NJ 38 has a brighter red. It has a tendency to thin itself like McIntosh. It makes a fine tree with wide angle crotches. It also appears to be an annual bearer. However, it developed some "bitter pit" in 1971. Paulared develops a darker red than NJ 38. It may be a heavier bearer as the crop on young trees tends to cluster. The branch angles are sharper. It looks like a thinning spray might be needed. However, when the two apples are mixed in the same box it's not easy to separate them again.

Three-fifths or more of the apples grown by the Green Mountain Orchards are McIntosh. We have several of the red strains, and see little differences between them. Its susceptibility to apple scab is its chief fault.

We have tried many strains of the Red Delicious. We started with the Richared, but probably have more of Royal Red at present than any other. We have one row of 50 or more trees where we alternated Royal Red and Vance. They are all harvested together, although Royal Red is darker.

Idared is a fine winter apple. We have had a dozen or more trees in bearing for some years on standard stocks. They have been productive over the years, so we decided to plant a thousand trees on dwarfing stock. We were advised to use M26 or MM106 stock for Idared. This will prolong our picking season. We always have a few pickers who like to stay as long as the picking lasts. There are others who want to leave for home

as soon as the McIntosh harvest is over.

Looking to the future, we hope that a McIntosh type apple will be developed which is resistant to apple scab. We will want a better early apple to replace Quinte and Julyred, a red apple which will ripen in early August, be of good eating quality, and not require more than two pickings.

The variety picture is changing so rapidly that we are inclined to believe the college professor who stated that, by the year 2000, none of our present varieties would be grown commer-

cially; that all would be replaced by better apples before that time.

We used to test the new hybrids by grafting, thus getting a look at the apple in three or four years time. Now we plant them on one of the dwarfing stocks and get a better look at it in three years time. Hereafter, undesirable varieties will be pulled out rather than grafted, thus saving time and labor. For example, some of our three-year-old Julyreds on EM VII stock produced more apples than the five year old grafts on standard stocks. Times are changing!

Jerseymac — Earlier and Prettier than McIntosh*

L. F. HOUGH AND CATHERINE H. BAILEY**

Jerseymac is a McIntosh type apple that ripens one month earlier than, and is more attractive than McIntosh, wherever it has been tested. Since Jerseymac ripens just after Raritan, the three varieties Julyred (1), Raritan (2), and Jerseymac give a sequence of about 3 weeks of good quality, red, summer apples during late July and early August in central New Jersey.

Jerseymac has been tested as NJ38, and also under the seedling number 160456. It was selected from the cross NJ24 ♀ x Julyred ♂ made in 1956. NJ24 is a seedling of [117637 = Melba x (Wealthy x Starr)] x (NJ12 = Red Rome x Melba). The first fruits of Jerseymac were seen in 1961. When the late Dr. A. F. Yeager of the University of New Hampshire saw the first fruit he observed that it was just a good early McIntosh that ought to be widely accepted in its season. In 1964 it was introduced for trial as NJ38.

Jerseymac is very similar to McIntosh in many respects. It makes a strong, upright spreading tree. The period of bloom is about the same time as that of McIntosh. Typical fruit of Jerseymac are round and uniform in size, 2 $\frac{3}{4}$ -2 $\frac{1}{8}$ inches in diameter. They are comparable in size to those of McIntosh with a comparable crop load.

Preharvest fruit drop is less severe in Jerseymac than in McIntosh. The fruit of Jerseymac colors well in the southern counties of New Jersey—usually $\frac{1}{2}$ to $\frac{3}{4}$ uniformly washed with bright red over a light green or light straw ground color. Jerseymac fruit produced in the northeastern McIntosh growing regions are usually nearly fully colored with bright red. At the time of harvesting for commercial shipment, the color is brighter and more attractive than that of McIntosh when it is picked commercially. Jerseymac has stored well for a month

*Paper of the journal series, College of Agriculture and Environmental Science, Rutgers—the State University of New Jersey.

**Research Professor and Associate Research Professor in the Department of Horticulture and Forestry, New Brunswick, New Jersey.