

Performance of Newer Apple Varieties in New York

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In New York State there has been a real need for improved varieties to replace some of the older varieties which are gradually disappearing from commercial plantings due to certain horticultural weaknesses.

Baldwin, Northern Spy, Ben Davis and King, at one time were very important varieties in Western New York but are no longer being planted in any quantity. These varieties all possess horticultural faults which precludes recommending them for modern plantings. Baldwin, although a good processing variety, is not too winter hardy and has a strong tendency toward biennial bearing. Northern Spy and King, although both high quality varieties, are not sufficiently productive and Ben Davis has been discarded because of its low quality.

In recent years there has been a tremendous interest in new apple varieties for New York State. Western New York growers have been particularly anxious to find a suitable replacement for Baldwin and Northern Spy, while Hudson Valley growers have been on the lookout for McIntosh type apples which mature earlier or later than McIntosh, the dominating variety in the Hudson Valley.

In addition to needing new varieties as replacements for older ones, new varieties are also needed for various specific uses, such as for the baby food industry. Early processing varieties are also needed to compete with southern grown apples (particularly the York Imperial) which are canned and shipped into New York State while

most New York processing varieties are still on the trees.

Although we are always looking for still greater improvements, the variety situation in this state is much better than it was a few years ago. New varieties have appeared either from our own breeding program or from other stations, which will satisfactorily meet most of the needs of the industry, from both the grower's and processor's point of view. Our own pilot plant and the New York State Canners and Freezers Association have been of immeasurable help in evaluating the processing qualities of the numerous new varieties and seedlings under test.

Some of the more promising newer processing and dual purpose varieties for New York State, listed in order of maturity are as follows:

Wellington (Cortland x Crimson Beauty). Named in 1955 after many years of testing, *Wellington* was introduced primarily to meet the need for an early commercial sauce variety. It is large, annually productive and attractively red-striped. It ripens a few days ahead of *Melba*, hangs to the tree well and may be picked with one picking as it ripens very evenly. The dessert quality of *Wellington* is acceptable, although not as good as *Melba*. We feel that this variety has an excellent chance of becoming our most important early apple. The sauce is rated excellent for consistency and good for grain, flavor and processor's yield. It does, however, have a high rate of darkening which necessitates rapid processing.

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Beacon (Malinda x open). An early variety from Minnesota which ripens about a week after Wellington. Beacon is a dark red-striped variety with firm flesh. It has rated as an acceptable sauce variety, although not as good as Wellington. Its dessert quality would be rated at least as good and perhaps somewhat better than Wellington. Its chief faults, as it performs at Geneva are its tendency to run somewhat small, its uneven ripening and a very strong tendency toward biennial bearing.

Webster (Ben Davis x Jonathan) x (Ben Davis x Jonathan). Introduced in 1938, Webster is just now being recognized as an outstanding processing variety, particularly for frozen slices, pies, baking and as a "blender" variety to impart flavor in commercial sauce production. It does, however, lack the desirable consistency of Monroe and would best be used in a blend with varieties of firm texture and coarse grain such as Monroe, Baldwin and Wellington.

Webster is a large, handsome red-striped variety which is outstanding in its ability to produce large annual crops of fruit which average over 3" in diameter. It ripens about with McIntosh, although it hangs well and may be picked after McIntosh, or if it is to be used in processing it could be picked just ahead of McIntosh. Its storage season is not long and it should be used before January. Webster is a triploid and as such is of no value as a pollinator, hence if it is included in a planting at least two other good pollinating varieties should be present. We would rate Webster as the outstanding fall processing variety. Its large size and attractive appearance will enhance its value for fresh sales, although it should be sold only for culinary purposes as it is too acid for eating out of hand.

Graham—a Northern Spy type from

Michigan which was originally introduced as a whole tree sport from Northern Spy. From its performance at Geneva we are of the opinion that it is probably a seedling of Northern Spy rather than a sport of that variety. This opinion was arrived at after noting the many differences between the two varieties. Mutations in the apple, and with other similar species usually involves only one character, such as color or date of maturity. A mutation involving two major changes such as color and maturity would indeed be uncommon.

Graham blooms earlier and has pinker blossoms than Northern Spy; it also matures 4 to 5 weeks earlier, ripens its fruit unevenly and has a shorter storage life. It does, however, have good quality and may have value where an early maturing Spy type is wanted. We have as yet seen no "Bitter Pit" on Graham. It does, however, scald in storage, hence it should be handled as a fall or early winter variety.

Monroe (Rome Beauty x Jonathan). Introduced in 1949 as a possible replacement for Baldwin, it is now assuming commercial importance in Western New York. In tests here and in commercial plants, Monroe has compared very favorably with Baldwin as a processing variety for both frozen slices and sauce. Although a very desirable sauce variety, it does not have the high flavor of Webster or Northern Spy and should perhaps be used in blends with varieties which will impart good flavor. In addition to this, Monroe has quite acceptable dessert quality and should perhaps be classified as a dual purpose type.

Unlike Baldwin, Monroe is a very dependable heavy annual cropper and is a good pollinator for other mid-season to late midseason blooming varieties. In size, Monroe averages 2¾ to 3" and the fruit is very sym-

metrical in shape which is important for machine peeling. Horticulturally the variety is practically free of faults although it is susceptible to powdery mildew which could become serious in orchards where sulphur is no longer included in the spray program. Our recommendation for all mildew susceptible varieties is to include some sulphur in the spray program up until petal fall.

Monroe matures about two weeks after McIntosh and stores well in refrigerated storages until April. No storage disorders have appeared except one reported case of storage scald which was probably associated with immaturity.

Fyan (Ben Davis x Jonathan). Introduced in 1935 by the Missouri Agricultural Experiment Station. It has performed well at Geneva, producing large annual yields of good size. It is firm fleshed, attractively red-striped and matures about with Baldwin. Our preliminary processing tests indicate that it rates with the best as a sauce variety. On the basis of its orchard performance and the preliminary sauce test it would seem that *Fyan* is worthy of an extended trial.

Idared (Jonathan x Wagener) seems to be well adapted to the Northeast and it is being planted in commercial quantities. Its main attributes are its handsome appearance, productiveness and keeping quality. It is being recommended in New York State as a late dessert or dual purpose type. At Geneva, it matures about a month after McIntosh and it stores well until June. Its dessert quality would rate as good, particularly in late winter and early spring. In processing tests—frozen slices and sauce—it has been quite acceptable, although not as good as Monroe in this respect. It makes a beautifully colored sauce of fairly good grain and consistency. It would, however, rate as only fair in flavor and

if used for commercial sauce production should be blended with varieties of better texture and flavor.

Jerseyred (Gallia Beauty x White Winter Pearmain). We have not as yet fruited this variety at Geneva. We have, however, seen fruits of it which were grown in New Jersey. On the basis of these fruits and from information supplied by the originators, we doubt that *Jerseyred* will be adaptable to New York State. It is a large apple which carries only about 25 per cent color as a dull blush. It matures after Rome Beauty, hence is probably too late for Western New York.



The Jonathan Apple, A Valuable Parent

In reviewing the season's notes on the newer and not-quite-so-new apple introductions, one fact stands out—the number that had Jonathan as one of the parents.

Varieties or seedling selection in the test orchards from seven states have Jonathan as a parent. How many of these will ever attain more than local or passing interest is a question, but it is probably safe to assume that each of these selections, introduced by name or number, has been the culmination of an extensive breeding project. These then are the "cream of the crop", all of which shows the importance placed on Jonathan in breeding work, and is evidence that the results from its use have been better than average.

Varieties such as *Idared*, *Crandall*, *Melrose*, *Monroe* and *Webster*, which are products of controlled breeding, have Jonathan parentage. It will be of interest to watch the performance of other progeny of this variety.—*George H. Dickson, Horticultural Experiment Station, Vineland Station, Ontario.*