NEWER APPLE VARIETIES

THEIR PERFORMANCE AT GENEVA
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 while Ben Davis has lost favor largely 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 the baby food and frozen slice 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 improvement, 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 varieties for New York State are:

**Processing and Dual Purpose Varieties**

(Listed in order of maturity)

**Lodi** (Montgomery x Yellow Transparent). Introduced in 1924, Lodi has now assumed the position of being one of our most important early varieties. It is being planted heavily in most apple areas and is regarded by growers as a real money-maker. It is picked a few days after Yellow Transparent and because of its larger size, and firmer flesh is largely replacing that variety in commercial plantings. Blossom thinning sprays are necessary to minimize its tendency toward biennial bearing.

**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 good, 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.

**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. Fenton, another new early variety, is reportedly similar, if not identical, to Beacon.

**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, Wellington, Rome Beauty and York Imperial.

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 December. 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 an outstanding fall processing variety and its large size and attractive appearance will enhance its value for fresh sales for culinary purposes. Some growers have referred to Webster as an "Improved Twenty Ounce".

**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 Wayne County, New York 14,000 trees have already been planted. 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 acidity of Webster or Northern Spy and should perhaps be used in blends with varieties which will impart more flavor. Monroe also has good 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 midseason to late midseason blooming varieties. In size, Monroe averages 2½ to 3" and the fruit is very symmetrical 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. Where organic fungicides are being exclusively used for scab control, mildew can become a real problem on susceptible varieties such as Monroe, Idared, Rome Beauty, Jonathan and Cortland. With such varieties it is recommended that some sulphur (1-2 lbs. per 100 gals.) be included with the organic fungicide up until
at least petal fall. Some growers keep a little sulphur in the tank up until
terminal growth has ceased. It is also very important to control mildew on young
non-bearing trees of mildew susceptible varieties. For best mildew control
dilute sprays should be used.

Monroe matures about two weeks after McIntosh and stores well in refrigerated
storages until April.

Fyfan (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 tests indicate that it rates with the best
as a sauce variety.

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. Idared is somewhat susceptible to mildew and the same precautions
as recommended for Monroe, should be followed.

Jerseyred (Gallia Beauty x White Winter Pearmain). We have not as yet fruit-
ed this variety at Geneva. We have, however, seen fruits of it which were grown
in New Jersey. It is a large apple which carries about 50 per cent color as a
dull blush. It matures after Rome Beauty, hence is probably too late for
Western New York.

Promising New Dessert Varieties
(Listed in order of ripening)

Mantet (Tetofsky x open). An early variety from Canada. It is of high
quality and attractively red striped. It matures unevenly, commencing in early
August, a few days ahead of Melba. This looks like an excellent early variety
for roadside stands and local markets.

Puritan (McIntosh x Red Astrachan). A new McIntosh type from the University
of Massachusetts, which matures about with Early McIntosh. Although not as high
in quality as Early Mac it does attain a better size and should be worthy of a
trial planting where an apple of this season and type is needed.

Red Delicious (Vance). This is a fine solid blush Delicious color sport.
It not only colors earlier but also matures 10 days ahead of Starking. In color
it is somewhat lighter than Starking. Grower interest in this variety is very
high.

Red Delicious (Bridgham). This is probably the brightest color sport of
Delicious and for this reason is worthy of commercial consideration. It matures
and colors about with Delicious and except for developing more color would seem
to be identical to Delicious.
Franklin (McIntosh x Delicious). Is a high quality dessert type, originating in Ohio and maturing about 10 days after McIntosh. It sometimes doesn't develop high color at Geneva and it bruises easily. The trees have a tendency toward biennial bearing, although this is minimized through the proper use of blossom thinning sprays.

Spartan (McIntosh x Yellow Newtown). This McIntosh type, which is picked about a week after McIntosh and which handles and keeps better than McIntosh, is finding commercial acceptance in New York State, particularly in the Hudson Valley. Spartan has excellent dessert quality, fine appearance and usually attains adequate dessert size. At Geneva it has been nearly an annual cropper, missing only one crop in ten seasons. It requires a stop drop spray to hold the fruit for best finish and maturity.

Connell Red (Color Sport of Fireside). This new color sport is much more highly colored, but otherwise similar to Fireside from which it mutated. Fireside is a hardy variety, originating in Minnesota, and which apparently is best adapted to cold areas. At Geneva, it fails to develop its reputed high quality but it may be of interest and value for areas where winter hardiness is a prime requisite.

Melrose (Jonathan x Delicious). A good quality, late keeping dessert type from Ohio maturing about 3 weeks after McIntosh. In some seasons it fails to develop good color at Geneva. It may have promise in districts where it will develop good color and finish. In processing tests Melrose rates as a fairly good sauce variety.

Ruby (Gallia Beauty x Starking). Another Ohio variety which shows some promise as a late keeping general purpose type. It is picked about with Rome Beauty and stores well into May. It has been annually productive at Geneva but develops a dark dull color which is not too attractive. In sauce tests it rated good for color, texture and consistency but only fair for flavor.

New Color Sports of Starking and Richared

Recently, several new color sports of Starking and Richared have appeared. Sports of Starking include Red King, Earlyred, Hi Red, Hi Early, Red Queen, Red Spur and Starkrimson. All of these develop color early but do not actually mature earlier than Starking. Red Spur and Starkrimson, in addition to coloring earlier, have acquired a new "spur type" growth habit which has many more lateral fruit spurs than regular Delicious. Such trees are reportedly more precocious and attain only 2/3 - 3/4 the tree size of regular Delicious.

Royal Red is a new early-coloring sport of Richared. These new color sports are recommended for trial planting, particularly in areas which in the past have had difficulty in getting good color on Delicious or its older color sports.

All of these new color sports and many other new varieties are under test at Geneva. Over 300 selections from our own apple breeding program are currently under test. From this program it is hoped that important varieties of the future will emerge.