

Wayne, Niagara, and Spigold Apples*

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The development of superior apple varieties has for many years been one of the important aims of the fruit breeding program of the New York Agricultural Experiment Station at Geneva. In recent years, particular attention has been directed toward the evaluation of selections that seemed to have the attributes necessary to strengthen weak areas in the current variety structure. One glaring weakness has been the lack of a good McIntosh type that matures between Early McIntosh and McIntosh. Niagara, maturing two weeks before McIntosh, will provide a McIntosh type for that season, and it should help eliminate the undesirable practice of picking and marketing some McIntosh too early.

This practice of marketing immature McIntosh is not likely to stimulate repeat sales and could conceivably reduce the total fresh market consumption of this well-known variety. It is also our opinion that the marketing of immature, though well-colored Kendalls as "K-McIntosh" is a practice that has not helped the industry in either total sales or in consumer good will. It is hoped that eventually Niagara will be produced in sufficient quantity to supply the market needs for a high quality McIntosh type before McIntosh has attained acceptable market maturity.

The other two introductions, Wayne and Spigold, are both Northern Spy types that are being introduced primarily to help supply processors with varieties that will

produce a processed product similar to Northern Spy. Northern Spy is recognized as a top quality processing variety, but unfortunately, its many horticultural faults have precluded its inclusion in newer plantings, and the present supply of Northern Spy falls short of the increasing demand for it. It is hoped that Wayne and Spigold will adequately fill the void developing as a result of the gradually diminishing supply of Northern Spy.

Wayne has received a tremendous amount of preintroductory interest by growers and processors alike. It is a 1951 selection from the cross, Northwestern Greening $\times$ Red Spy, and was formerly offered for trial as N. Y. 44420-1. It is a Spy-type dual purpose variety that matures right after McIntosh.

Wayne has proved to be outstanding for canned and frozen slices, and sauce, according to tests run by both the Department of Food Science and Technology at the Geneva Station and by commercial processors. It has the Spy-like processing qualities that the industry has been looking for; and in direct comparison tests, it rated higher than Northern Spy. Unlike Spy, Wayne is precocious, producing commercial crops within 5-6 years. Nor is it subject to bitter pit, a physiological disorder to which Northern Spy is particularly susceptible.

Wayne is a very pretty apple, being solidly blushed and washed light scarlet, with no striping. Its harvest period, right after McIntosh, is a desir-

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able feature from the processors point of view, because it will provide processors with an outstanding variety two to three weeks before Rhode Island Greening has attained acceptable processing maturity. While its fresh eating quality falls slightly below that of a good Northern Spy, its outstanding appearance should enhance its fresh market value.

Wayne is a diploid and blooms late, which indicates that it should be a good pollinator for late blooming varieties.

Niagara was selected in 1950 from the cross, Carlton $\times$ McIntosh, and was formerly tested as N. Y. 50-2. It is a McIntosh type that matures two weeks before McIntosh. There seems to be a real commercial need for a variety of this type and season. Its growth habit, productiveness, appearance, and flavor are also similar to McIntosh. It has a slight tendency to drop as it approaches maturity, and, while this fault is not as serious as with McIntosh, a stop-drop spray would probably prove beneficial in most years. There seems to be considerable grower interest in Niagara,



Fig. 1. The new Spigold apple, a Northern Spy cross of excellent quality that matures a week before Northern Spy.

and it is worthy of extensive trial planting. It is a diploid and reaches full bloom about the same time as McIntosh.

Spigold, the last of the new introductions, is a 1953 selection from the cross, Red Spy $\times$ Golden Delicious. This variety was formerly distributed for test as N. Y. E 6. Like Wayne, Spigold is a selection that has emerged from the search for a Northern Spy replacement. It is a large-fruited apple with exceptionally high fresh fruit quality. Spigold was rated similar to Northern Spy in flavor and flesh color in processing tests conducted by the Department of Food Science and Technology of the Geneva Station. It also has adequate texture as canned or frozen slices. The tests, however, show that its juiciness causes a slight reduction in drained weight in slice processing, and also a reduced yield in sauce production. On the other hand, its high solids content is considered to be an advantage for the dehydrofrozen process. Processing tests in commercial plants have rated Spigold as being comparable to Northern Spy. It reaches picking maturity a week before Northern Spy, and, as yet, there has been no evidence of bitter pit.

Spigold has a slight tendency toward biennial bearing. Consequently, it is advisable to use a chemical thinning spray during heavy bloom years to prevent over-setting. If there is over-setting, it will usually precede a light crop year.

Spigold, being a triploid, is of no value as a pollinator. Therefore, when used in a planting, at least two additional varieties are needed.

Because of its vigorous nature, Spigold might best be propagated on a size-controlling rootstock. Furthermore, since it has outstanding high dessert quality, and is likely to become

a home garden favorite, a smaller tree might be preferred.

While it is hoped that all three of these new varieties will eventually become commercially important, growers would do well to remember that the planting of any new variety

involves an element of risk. Until more orchard evidence is available, only limited commercial trial plantings are recommended. Trees of all three varieties are available from the New York State Fruit Testing Association, Geneva, New York.



Leif Verner

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Dr. Leif Verner, Professor and Horticulturist at the University of Idaho, at Moscow, died on June 14, 1962. The end came unexpectedly, even though he had been in failing health for many months. His role as a teacher, research scientist and friend was an illustrious one. Many orchardists and horticulturists, who never had the pleasure of knowing him, will have benefited through his research.

To recount the more brilliant achievements of such a scientist is not easy. He was interested in all phases of horticulture. He investigated many of them, and treated each as if it were his specialty. The modern age of specialization produces few people of this nature. He was a fruit physiologist, a plant breeder, a botanist, and, above all, a keen observer. The Idared apple, a cross between Jonathan and Wagener, which he introduced several years ago, is proving to be an outstanding commercial variety in many parts of the nation, and, indeed, in other countries. He selected it from thousands of seedlings originating in a fruit breeding program. Sweet cherries, such as Ebony and Spaulding, came from his breeding programs. Further tests of this nature were in progress at the time of his death.

One of his outstanding accomplishments arose from his basic studies of crotch angles in fruit trees, notably apples. By utilization of natural plant hormones, he was able to develop a new and revolutionary method for pruning apple trees. This is outlined in a 1955 publication, "Hormone Relations in the Growth and Training of Apple Trees."

Another Verner achievement destined to change horticultural practices in orchards across the land is a new kind of dendrometer. Use of the dendrometers in a prescribed manner determines accurate irrigation schedules. The major revelation coming from this dendrometer work is that orchardists tend to irrigate at least twice as often as necessary. Such over-irrigating can actually be detrimental, Verner found.

Idaho prune growers will save thousands of dollars worth of prunes through the use of 2,4,5-TP as a foliar spray for prevention of fruit drop, a technique developed by Dr. Verner and his associates. His investigations on fruit cracking, prune storage and chemical thinning of fruits are classic in their respective areas.

Dr. Verner was born at Oakmont, Pennsylvania on May 15, 1900. He

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