

# Apple Breeding, History



The University of Minnesota fruit breeding program started in 1888. In that era, most families lived on farms and needed a dependable source of fruit to supplement the vegetables, grain crops and livestock they produced. The goal of the fruit breeding program was - and still is - to develop cultivars with high quality fruit. These cultivars must survive and bear fruit regularly at a commercially profitable level. Even in Minnesota's extreme climate!

U of M apple breeding first took place on the St. Paul Campus, where the program is still administered. In 1897 crosses were made in the agronomy-horticulture greenhouses. By 1912 orchards were taking over much of campus, including what is now the mall, so field work shifted to the new Fruit Breeding Farm.

## Timeline: U of M Apple Breeding

- 1878 MN Legislature provides \$2,000 to buy land in Excelsior for a fruit breeding farm, a cooperative program of the Minnesota Horticultural Society and the University of Minnesota. Peter Gideon, superintendent for 12 years. Property sold in 1889.
- 1888 Samuel B. Green, U of M horticulture and forestry professor, begins major fruit breeding program at the U of M, St. Paul Campus. Agricultural Experiment Station funds the breeding program, continuing through today.
- 1907 78 acres purchased for the University's Fruit Breeding Farm, at Zumbro Heights. Charles Haralson is the first superintendent and fruit breeder at the new farm. It became known as the Minnetonka Fruit Farm, now, Horticultural Research Center.
- 1908-21 M. J. Dorsey, fruit breeder. A greenhouse built at the Fruit Breeding Farm.
- 1917-18 Most extreme winter in memory provides a brutal test for future varieties. The survivors' genes can be found in current Minnesota apples.
- 1919-53 W. H. Alderman, fruit breeder. Promising varieties sent to U of M Experiment Stations in Waseca, Grand Rapids, and Morris for testing in other soils and climates.
- 1920 "Minnehaha," first U of M apple variety is released. Experiment Station requests increase in fruit breeding funds, from \$6,000 per year to \$8,000.
- 1931 Additional land is purchased for the Fruit Farm, making a total of 230 acres.
- 1923-63 A. N. Wilcox, fruit breeder. He makes cross that results in Honeycrisp apple.
- 1965-84 Shirley Munson establishes sensory testing protocols, including apple taste testing.
- 1967-80 Cecil Stushnoff, fruit breeder. Implements laboratory freezing tests to assess low-temperature tolerance of xylem tissue.
- 1980-present James Luby, fruit breeder. David Bedford, apple breeder.



1950 scenes at the Fruit Breeding Farm show Leon Snyder and Theodore Weir checking the seedling orchard. Later, Weir and William Alderman looked over potential new varieties.



## U of M Apple Notes & Quotes

July 1, 1897 "The apple orchard produced well (1896) and several varieties fruited for the first time. A new seedling orchard of about 500 trees was set out last spring (1896) and has done well."

July 1, 1899 "To His Excellency, John Lind, Governor of Minnesota..." from John S. Pillsbury, President of the Board of Regents and William Liggell, Director, Minnesota Agricultural Experiment Station. "The crops of apples and other fruits... were very good in 1899, and the outlook for 1899 is exceedingly good, with the exception of apples, which will be a light crop this year."

July 1, 1919 "Thousands of apple seedlings are bearing this year, among them more than 400 selected varieties that will be planted in the orchard for further testing. A few of these have fruited for several years, among the best Nos. 90, 207, 237, 300, and 317...."

The winter of 1918-19 was not so severe as 1917-18, consequently many of the injured trees recovered in part from the severe injury of the previous winter and it was possible to discard the tenderer forms, using the injury of 1917-18 as a measure of hardiness."

