

Sweet Cherry Varieties for the Eastern US: Thoughts on Briner-types

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Sweet cherry profitability was way down in 2002 in the Eastern U.S. due mostly to cold weather during spring. This article is intended to provide some hope about future prospects for this crop. Cornell University's Geneva Experiment Station and Michigan State University's NW Michigan Horticultural Research Station have been collaborating steadily for two decades in testing the world collection of new sweet cherry varieties. The authors have been the project leaders in this effort and have enjoyed the associations with three other North American cherry breeding/variety testing sites: Washington State University's Prosser Station, University of Guelph's Vineland Station, in Ontario, and Agriculture Canada's federal station at Summerland, B.C. Together with Cornell, these four institutions are the only public agencies breeding sweet cherries in North America. Recently, Dr. Greg Lang moved to M.S.U. from Prosser, so the authors look forward to his expertise joining them in future reports.

Unique features of Eastern North American sweet cherry industries

What's unique? In a word, weather. Cold climate deciduous fruit production has always brought challenges that demand knowledge and management skills to remain profitable. Sweet cherries are near the top of the tree fruit crop list for challenges. Early bloom emergence and frost, winter cold hazards, especially to young trees, fruit cracking, and diseases like bacterial canker, brown rot, and cherry leaf spot all factor into site selection, variety & rootstock choices. A host of cultural imperatives must be learned.

Markets differ dramatically for Eastern North American sweet cherries compared to cherries from the arid west. Processing markets have long been the mainstay for Eastern sweet cherry growers, especially in Michigan, due in part to differential freight costs for moving the freezing and canning supplies and the finished processed products. Michigan's central geographic site favors Michigan's processors over western sites. Greater incidence of rain induced cracking in the East has always kept fresh market production limited mainly to roadside markets. New technologies are emerging that could favor Eastern sweet cherry sites. Whether acreage expansion in the East is warranted must remain the decision of individual producers. Certainly Eastern growers must take into consideration the huge impact that is looming in this regard due to acreage expansion in fresh cherries in the arid west. These will produce an on-slot of culls that will be shunted into processing uses.

We will write a series of articles in the months ahead to detail some of the new technologies that can serve to help keep the East more competitive. Chief among them are new varieties, the topic of the rest of this article. We'll focus here on brining-type, sweet cherry varieties this month. Specifically, we will suggest ideas for better pollination of Emperor Francis and Gold, the two mainstays of our Great Lakes Region's brining industry.

Self-fertile varieties - Are they a curse for Eastern growers due to cluster setting and greater brown rot management challenges? Or, are they the key to pollination problems? Remember, all self-fertile varieties not only pollinate themselves they will pollinate all other sweet cherry varieties that bloom at the same time. For non self-fruitful processing sweet cherries in the East, such as Emperor Francis and Gold, plant no more than 67% to 75% of the orchard to a single variety.

Emperor Francis' Problems - This old variety remains as the reliable tree that crops well for Eastern brine cherry growers if they have the right pollenizing variety. Unfortunately it falls into the same pollination group as Napoleon, Ulster, Kristin, Somerset, Bing, and Lambert, so it is incompatible with these varieties. Our suggestion is that the use of self-fertile varieties for pollenizers for new processing blocks of Emperor Francis may make good sense for the Great Lakes Region. Preferably, the pollenizing variety should be chosen so that it will be sprayed and harvested in the same time slots as Emperor Francis.

Geneva's new WhiteGoldT fits these criteria. WhiteGoldT was tested as NY 13688. It is self-fertile. It blooms with Emperor Francis. Its fruit ripening time overlaps or may start a day or two earlier. It is cold hardy in both mid-winter and spring frost situations. It is highly tolerant to cherry leaf spot. It yields heavily. The biggest unknown about it is what level of tolerance that it has to rain cracking. It is known that it is at least average in its level of tolerance.

Choosing WhiteGoldT to be a primary pollenizer for Emperor Francis seems to us to be a good decision. We don't suggest planting solid blocks of WhiteGoldT and dropping Emperor Francis as our primary brining variety. WhiteGoldT is too new to take that risk. We suggest instead that WhiteGoldT could be used as either the single pollenizing variety for Emperor Francis, or one of two pollenizing varieties. The latter strategy reduces the risk associated with planting a new variety, yet it would assure good pollination in a block that could be harvested mostly for brining with Emperor Francis. The other pollenizing variety would be chosen based on pollen compatibility and bloom timing with Emperor Francis.

Having a second pollenizer for Emperor Francis that ripens either earlier or later, in addition to WhiteGoldT, would decrease cracking risks in some seasons. While this strategy may make harvest less convenient, there is merit to selecting pollenizer varieties that ripen either distinctly earlier or later than Emperor Francis and WhiteGoldT.

As of 2003 planting season the authors' tests have not discovered any early ripening brining-type cherry variety(ies) that we feel confident will live and produce heavily in the Great Lakes Region. We are looking for them.

Fortunately we have found one that ripens later -- between Emperor Francis and Gold. It is another new release from Geneva. It will be called BlushingGoldT, and was formerly tested as NY 8182. It blooms at the same time to slightly earlier than Emperor Francis and, although it is not self-fertile, it will pollinate Emperor Francis and visa-versa. We have more experience with BlushingGoldT in the Traverse City region than with WhiteGoldT. We feel confident in stating that BlushingGoldT will be equal in its rain cracking tolerance to that of Emperor Francis. It has excellent crop-set and yield performance at the NW Hort. Station and on some Leelanau County grower trials during the past five years. BlushingGoldT fruit size is slightly smaller than Emperor Francis. It harvests well with stems off. With the use of ethephon it may be possible to harvest Blushing GoldT with Emperor Francis, but this has not been tested.

WhiteGoldT will pollinate BlushingGoldT. If you already have enough Emperor Francis planted you may want to consider planting BlushingGoldT with a minimum of one-fourth of the trees in the new block being WhiteGoldT pollenizers. Since these are both new varieties such blocks should be modest in scope.

Gold's problems - Gold is a corner-stone of Great Lakes sweet cherry brining industry, but it has pollination difficulties in some sites due mostly to its late bloom emergence. Remember, Gold will not effectively pollinate Emperor Francis, or BlushingGoldT because it blooms too late, and visa-versa. Also, WhiteGoldT blooms too early for Gold. We still need to find a better brine-type pollenizer for the late blooming Gold variety. Two test selections on trial seem quite interesting--one from Geneva, and the other from British Columbia.

NY 7855 blooms somewhat later than Emperor Francis, WhiteGoldT and BlushingGoldT. So, it probably will have pollen available for Gold flowers. It is not self-fertile. We have not made the test pollinations to prove whether it is compatible with Gold. We will do so in 2003. NY 7855 has a yellow-white flesh and a blushed skin that has some "freckles". Its tree is naturally dwarfed by about 15 to 20 percent. We have not done pilot tests to check its pitting efficiency. We will do so in 2003. NY 7855 ripens at about the same season as BlushingGoldT (between Emperor Francis and Gold). Over-all, we have less experience with NY 7855 than with the second late- bloom-time, test selection that interests us, Summerland's newly released StardustT which we tested as 13N-07-70.

StardustT both blooms and ripens with Gold. It is self-fertile. It is a blushed skin, yellow-white flesh, large, firm fruited, accession with very good to excellent fresh eating quality. Reports from several sources indicate that it is both frost tolerant in the spring and has a cold hardy tree. It has definite fresh market potential as well as brining potential. We have tested it in the Great Lakes Region and believe it to be well adapted here. We were informed during early November, 2002, that it would be released and protected in Canada by application for their Plant Breeder's Rights. Further, we learned that release for commercial uses in the U.S.A. is also anticipated. It will soon have a U.S. patent application, if it has not already been submitted. Whether this protected variety, known as StardustT, will be sold to all U.S. orchardists or to a restricted group in the U.S. is not yet known.

Next month we'll discuss [dark processing/canner varieties](#). There are several new ones that should make Eastern North American growers more competitive in this important freezing and canning sector.

Please send any comments or suggestions regarding this site to:

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