

SW MICHIGAN APPLE MATURITY REPORT

ISSUE 2 – August 31, 2010

Bill Shane, Diane Brown-Rytlewski, and Mark Longstroth
Michigan State University

This is the first of weekly apple maturity report for SW Michigan from now until mid October. The samples for these reports are collected primarily in Berrien and Van Buren counties—the maturity is only a broad indication of trends for this area. Contact Bill Shane at SWMREC 269-944-1477 x 205 if you would like to have samples from your farm tested for maturity. See the Michigan State University apple web site (apples.msu.edu) for more information, including reports from other regions, past season reports, and much more information about apple maturity and apples in general.

General comments

The most important factor that should drive harvest decisions is fruit firmness. If fruit are firm, regardless of the starch, skin color, and brix levels, harvest can be delayed. If fruit firmness is dropping toward the dividing line between excellent longterm and midterm controlled atmosphere levels, scheduling harvest should be the upmost thought on the growers mind. The grower should be clear on how the fruit will be stored and sold. Starch conversion gives an indication of apple maturation, but often is an indication of the ongoing temperatures, and not necessarily drives the harvest timing decision. Warm temperatures, especially nighttime temperatures in the last weeks before harvest, can cause depletion of the starch that the iodine solution turns blue. Increased internal ethylene content as measured in a laboratory, conversion of skin background to a ripe color, and a ripe taste/smell are good indicators of fruit maturation and are more reliable than the starch conversion index or brix.

Early strain Fuji were not included in this week's samples in SW and should be scrutinized for maturity. They will be included next week.

Gala (11 sample sites)

Gala are still testing relatively firm, but are now testing 19.5 compared to last week' average of 21.4. Starch removal index readings have jumped considerably with an average of 6 compared to last week's 3.4. Brix are slightly higher with this week's average of 12.6 compared to last week's value of 12. Background color has lost green hue for most samples. Skin color has improved. No skin cracking was detected. Gala firmness is still in the recommended zone for longterm controlled atmosphere storage, however background skin color indicates that maturity has been reached. The general predicted Gala harvest date for SW Michigan for 2010 is August 26th

Honeycrisp (6 sites sampled) Fruit firmness has dropped 1.5 since last week and now is averaging 15.9 lb. Starch removal average is now 4.9, a big jump over last week's 1.5. Brix is averaging 12.9 compared to last week's 12.2. Skin color has again improved markedly over the past week. Honeycrisp are generally testing mature according to starch conversion tests and firmness is now in the medium duration controlled atmosphere (CA) range. The generalized predicted harvest date for Honeycrisp for Berrien County for 2010 is September 3rd, compared to

last year's predicted date of September 20, and the longterm normal date of September 13th. So Honeycrisp is moving slightly ahead of the 2010 prediction and about 2 weeks ahead of normal.

Empire (5 sites sampled) Many Empires have already been harvested over the last two weeks for taffy apples. Background color is improving but still relatively green. First tests were done this week for maturity of this variety. Firmness is averaging 20.6 lb, starch conversion is 2.3, and brix is 10.3. Based on firmness harvest can be delayed for Empire apples that test similar to our samples, whether destined for CA storage or for local sales. The 2010 predicted harvest date for Berrien County is September 9, compared to the predicted date of September 29th for 2009 and the longterm predicted date of September 22nd.

Jonathan (8 sites sampled) This is the first sample week. Flesh firmness average is 19.3 lb, starch conversion is 2.7, and brix average is 11.1. The 2010 predicted peak longterm CA harvest date for Berrien County is Sept 15 and the normal date is September 22. All sites tested in the immature range for firmness and starch conversion. Harvest can be delayed, according to these samples.

Jonagold (5 sites sampled) This is the first week for sampling this variety. Flesh firmness is averaging 19.5 lb, starch conversion average is 2.8, and brix is averaging 11.4. Fruit firmness is excellent, in the longterm CA range. Starch conversion was in the mature range for one out of four sites. Harvest can be delayed, according to these samples. The 2010 predicted date for Berrien County is Sept 15 and the longterm normal is Sept 22. Like other varieties this year, fruit maturity may run ahead of the predicted value

Golden Delicious (13 sites sampled). This is the first week of sampling. Flesh firmness is averaging 19.5 lb, starch conversion average is 2.4, and brix is averaging 11.6. Twelve out of 13 sites are in the immature range for longterm CA storage for fresh market consumption. The one site showing advanced maturity is suffering from herbicide damage to the trunk. The 2010 predicted date for peak harvest for longterm CA storage is September 19th.

This report and project is made possible by the support of our sponsors which include Valent Biosciences, Michigan Apple Committee, Michigan State Horticultural Society, Michigan Agricultural Experiment Station, and Michigan State University Extension. SW growers providing apples include Grandview Orchards, Mammoth Farms, Oak Hill, Bixby Orchards, Weber Farms, Meachum Farms, Kevin Winkel Farms, Weckwerth Farms, Willmeng Farms, and Czuba Farms.

*The SW Michigan Apple Maturity Report is produced by: **Bill Shane**, Michigan State University District Extension Educator for Fruit and Marketing, Benton Harbor, 269-944-1477 (ext 205), fax 269-944-3106, **Diane Brown-Rytlewski**, Berrien County Extension Educator, Benton Harbor, 269-944-4126 and **Mark Longstroth**, District Extension Educator for Fruit and Marketing, Paw Paw, 269-657-8213 x3, tollfree 888-SWFRUIT, fax 269-657-6678, recorded message phone 269-657-8217;*

Figures 1 & 2. Apple maturity trends for SW Michigan. Each dot is the average for an orchard based on a 10 apple sample. Samples were taken in Berrien and Van Buren counties.



