

# SW MICHIGAN APPLE MATURITY REPORT

## ISSUE 5 – October 3, 2007

**Note: next weeks report will be the last one for the 2007 season from SW Michigan.**

The focus of this series of reports is on timing of harvest for controlled atmosphere storage of fruit. Fruit harvested for more immediate consumption can be picked riper for better color, size, and flavor. See accompanying graphs to see the trends.

The samples for these reports are collected in Berrien County—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.

**Note: diagnosis of circular rot spots**—SE Michigan fruit agent Bob Tritten reports that the majority of fruit rots he submitted for examination at Michigan State University Dept of Plant Pathology (lab of George Sundin) are testing to be the black rot fungus. This rots appear as fingernail to half-dollar sized firm brown spots that develop a concentric ring appearance and tiny black spots (spore-producing pycnidia) as the rot area expands. Black rot is sometimes associated with aborted young fruit that remain on the tree, old fireblight strikes, and other dead wood in the tops of older trees that serve as a place for the black rot fungus to colonize and shower the tree with spores during rain events.

**No more sampling of the following varieties:** Jonathan, Empire, Honeycrisp, Jonagold

**Golden Delicious** (5 samples, 5th week). Firmness this week averages 16.5 lb compared to 17.2 for last week. The starch index for this week averaged 4.9--again a sizeable jump from 4.1 of last week. Brix averaged 15.1 compared to last weeks 14.3. Most Golden's have been harvested from the area. Most blocks are testing mature or somewhat overmature, according to starch conversion, fruit firmness seen range from excellent to acceptable to mid-term storage.

	CA longterm firmness		Firmness	----	Starch removal -----	
Guidelines:	Excellent	Acceptable	short term	immature	mature	overmature
G. Delicious	> 17 lb	17 to 16 lb	< 15	< 3.0	3.0 to 5.0	> 5.0

**Red Delicious** (7 samples, 4th week). Firmness averaged 15.8, compared to 16.6 lbs for last week. Starch conversion index is 4.6, quite a bit higher than last weeks 3.7. Brix is averaging 11.9 compared to 11.1 for last week. All samples tested are below 17 lb, the threshold for acceptable for long term CA. Growers are rapidly harvesting this variety now that Golden Delicious are mostly harvested. Fruit harvested now are expected to have shorter CA harvest lifetime.

Red Delicious matured earlier this year than was projected by the apple maturity predictive model. The light crop and the larger fruit size that results may in part be the reason for this. For example, information from the New York apple maturity program indicates that box size 100 Red Delicious tend to be 0.5 lb less firm than box size 125 fruit at the same starch conversion stage of maturity.

	CA longterm firmness	Firmness	----	Starch removal	-----	
Guidelines:	Excellent	Acceptable	mid term	immature	mature	overmature
Red Delicious	> 18 lb	18 to 17 lb	17 to 16 lb	< 2.5	2.5 to 5.0	> 5.0

**IdaRed** (4 samples, 3rd week). Firmness averaged 15.1, slightly lower than 15.4 lb measured for last week. Starch conversion index is 4 compared to last weeks 3.4, with brix of 12.5 compared to 12 of last week.

	CA longterm firmness	Firmness	----	Starch removal	-----	
Guidelines:	Excellent	Acceptable	mid term	immature	mature	overmature
IdaRed	> 16 lb	15 to 16 lb	14 to 15 lb	< 3.5	3.5 to 6.0	> 6.0

**Fuji** (4 samples, 2nd week). Looking at the standard Fujis (early type Fujis were not included in these samples) fruit firmness averaged 17.6 versus 19.3 lb for last week, starch conversion tested 3.7 about the same as last weeks 3.6, and brix was 14.6 compared to last weeks 14.1. These are testing very similar to this same time in 2006. Fuji are testing in the long term CA zone for firmness with starch removal in the mature zone. Color is still poor on standard Fujis. Good firmness will allow delay of harvest in most orchards to wait for starch conversion, better size, and better skin color. However, since fruit starch removal is in the mature zone, harvesting could proceed.

**Braeburn** (3 samples, 2nd week). Firmness averaged 22.7 compared to last weeks 21.9 lb, starch conversion 3.3 versus 3.1 for last week, and brix of 13 compared to last weeks 11.2. Excellent firmness will allow delay of harvest to wait for better size and better skin color.

Current and past years summaries can be found on the SW Michigan Research and Extension Center web site: [www.maes.msu.edu/swmrec](http://www.maes.msu.edu/swmrec). At this site click on publications and then fruit reports. Reports for all the apple producing regions of Michigan can be found by going to the following web site: [web1.msue.msu.edu/fruit/ripeapple.htm](http://web1.msue.msu.edu/fruit/ripeapple.htm).

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