

EASTERN MICHIGAN APPLE HARVEST REPORT

REPORT #4 – September 15, 2010

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APPLE HARVEST SUMMARY

Harvest continues to march along fairly quickly, however not quite in the same “marching order” as in typical years. In other words, varieties are not ripening in the same order as most years and I am concerned as I have visited too many farms where growers are not making adjustments in their harvest to accommodate this unusual season. Remember that our harvest dates are running between 10 days and two weeks ahead of normal. There continues to be a great deal of variability in apple maturity this year. Apples generally have high levels of internal ethylene this year, pressure test results and brix levels seem to be lower this year than most and some varieties seem like they are just slow to ripen and others are moving along at their normal pace.

McIntosh harvest is just wrapping up or is nearly complete at most farms across the region. Growers have also done their last picking of Honeycrisp. Jonathon and Jonagold are continuing to move along and are getting close to being mature, Empire, Golden Delicious and Cortlands are a week or so away. I have sampled four new varieties for the first time this season this week; these include Cortland, Red Delicious, Northern Spy and Idared. While none of these varieties are ready for harvest, I always like to get a couple weeks jump to be able to watch them move through the maturity window. In summarizing the maturity of these four varieties, they are further along than what I had anticipated, so ‘stay tuned’ for details.

Table 1 Apple Maturity at a glance

Variety	Color (Range)	Firmness (Range)	Starch (Range)	Brix
Honeycrisp	67% (65-68%)	15.4 lbs (15.3-15.4)	6.0 (5.7-6.3)	13.2%
McIntosh	82% (82-82%)	13.8 lbs (13.1-14.5)	7.0 (6.7-7.2)	11.8%
Cortland	71% (60-82%)	16.9 lbs (16.8-17.0)	2.3 (1.9-2.6)	11.5%
Empire	77% (67-85%)	16.3 lbs (15.7-17.2)	3.9 (2.2-7.0)	12.3%
Jonathon	70% (49-91%)	16.5 lbs (16.0-17.0)	4.2 (3.6-4.8)	12.8%
Jonagold	73% (65-84%)	17.1 lbs (15.9-18.0)	3.6 (2.6-5.8)	13.8%
Golden Delicious	8% (5-12%)	16.5 lbs (16.2-17.1)	3.3 (1.3-4.6)	13.4%
Red Delicious	88% (83-91%)	16.4 lbs (15.4-17.8)	2.9 (2.1-3.9)	11.0%
Northern Spy	54% (45-63%)	19.6 lbs (19.1-20.0)	2.2 (2.0-3.0)	11.6%
Idared	62% (48-81%)	17.3 lbs (16.9-17.0)	1.6 (1.0-2.6)	12.3%

INDIVIDUAL VARIETY RESULTS

Honeycrisp were sampled for the third week of the apple harvest season, and at most farms growers were just finishing their final picking of three that they have done this

season. Last week's report said that Honeycrisp were ready for harvest. Understand that in sampling this week's apples they were the least mature and so it's hard to compare this week's data to last week's. There continues to be a high percentage (95%) of fruit showing internal ethylene levels greater than 0.2 parts per million (ppm). Color is good at 67% and background remains the same at about 3.0. The flesh firmness remains good at 15.4 lbs and the starch index a solid 6.0. The brix is 13.2%. In the second picking and third picking there was more bitter pit showing up in Honeycrisp, and black rot continued to be an issue in many blocks.

McIntosh were sampled for the third week of the season with a limited sample, because many blocks have been harvested. The percentage of apples showing internal ethylene levels greater than 0.2 ppm doubled to 100% this week. The color has improved to 82%, up from 68% last week. The background color has also improved and the pressure has dropped considerably from 15.0 lbs last week to 13.8 lbs this week. The starch removal index has also moved from 6.4 last week to 7.0 this week, with a brix of only 11.8%. Many growers have been waiting for Mac's to color and eat a little bit better, they have improved considerably over the last week. McIntosh are starting to drop and I would say that those apples remaining on the tree are fairly loose. Many growers are working hard at finishing McIntosh harvest.

Cortland were sampled for the first time of the season. They had a fair amount of internal ethylene, at 80%. The color is good at 71% and background color is still green at 4.5. The pressure was much lower than I had expected, at 16.9 lbs with a starch index of 2.3. The brix is 11.5%. Cortland are most likely almost two weeks away from being ready for harvest this year.

Empire were sampled for the second week of this fall harvest season. The internal ethylene levels on Empire remain low at 15% greater than 0.2 ppm. The color has improved slightly to 77% and background color has also improved to 2.9. The fruit remains firm at 16.3 lbs, although they dropped a little over a pound of pressure in the last week. The starch index has moved from 2.2 last week to 3.9 this week, with a brix of 12.3%. Empire are not quite ready for harvest, but will most likely be ready in five to seven days. Stay tuned for details in next week's report.

Jonathon were sampled for the second week of the fall harvest. Almost all the fruit (95%) are showing internal ethylene levels greater than 0.2 ppm. Color has remained the same at about 70% and background color is still fairly good at 3.5. This pressure has dropped over half of a pound to 16.5 lbs with a starch index moving from 3.3 last week to 4.2 this week, and a brix of 12.8%. Jonathon are ready for long term storage at this time and several blocks are ready for fresh market sales as well.

Jonagold were sampled for the second week of the fall season, and maturity varies with the strain and degree of pruning. Trees that are pruned better generally have more color and maturity is advanced. Almost all the fruit (90%) is showing internal ethylene levels greater than 0.2 ppm. The color has improved from 57% last week to 73% this week. The fruit remain firm at 17.1 lbs and a starch index averaging 3.6, however there

is a wide spread of starch indexes from 2.6 at the low end to 5.8 at the high end. The brix is very good at 13.8%. For early maturing strains and well pruned trees, Jonagold are ready for harvest for long term storage at this time, other blocks will require another four or five more days of maturity before they are ready.

Golden Delicious were sampled for the second week this harvest season with a good number of samples being taken. Very little (16%) fruit are showing internal ethylene levels greater than 0.2 ppm. The color is still very poor at 8% with little to no blush showing, and background color is still testing green. The fruit remains firm at 16.5 lbs, a drop of one pound pressure from last week. The starch index has moved from 2.2 last week, to 3.3 this week with a brix of 13.4%. Golden's are moving through their maturity window on a fairly typical basis this year and are at least a week away from being ready for harvest, stay tuned for details in next week's report.

Red Delicious were sampled for the first time this season. Just over half (52%) of the fruit are showing internal ethylene levels greater than 0.2 ppm, with color food at 88%. The background color remains green and pressure was a surprisingly low at 16.4 lbs. The starch index was a surprisingly high number of 2.9, with a brix of only 11.0%. Red Delicious are not ready for harvest, I expect that they will be ready in ten days to two weeks. The Red Delicious predicted harvest dates for Deerfield are September 26th and for Romeo September 24th. I think that we will be fairly close with those dates.

Northern Spy were sampled for the first time this season. There is a fair amount of internal ethylene at 65%. The color is good at 54% and background color is still very green at 4.0, the pressure remains firm at 19.6 lbs. The starch index was only 2.2. We are two weeks plus away from beginning of harvest of Northern Spy.

Idared were also sampled for the first time of the season, with 17% of the fruit showing internal ethylene levels greater than 0.2 ppm. The color is good at 62% and background color at 3.3. The fruit remain firm at 17.3 lbs, with a starch index of 1.6, and a brix of 12.3%. I would estimate that Idared will be ready for harvest in two and a half weeks or so. Here again, stay tuned for details in next week's report.

The predicted apple harvest dates table will continue to be included in this update.

Table 2. 2010 Predicted peak harvest dates

Full bloom date				Predicted harvest date			
Station	McIntosh	Jons	Reds	McIntosh	Jons	Reds	Observer
SWMREC	24-Apr	28-Apr	29-Apr	30-Aug	16-Sep	21-Sep	Shane
Deerfield	26-Apr	29-Apr	30-Apr	31-Aug	19-Sep	26-Sep	Tritten
Romeo	29-Apr	30-Apr	1-May	1-Sep	18-Sep	24-Sep	Tritten
Peach Ridge	28-May	30-May	30-May	2-Sep	16-Sep	22-Sep	Schwallier
Ludington	1-May	1-May	3-May	4-Sep	14-Sep	21-Sep	Danilovich
NWMHRS	3-May	4-May	4-May	4-Sep	17-Sep	23-Sep	Rothwell

If you have any questions regarding this Apple Maturity Report or apple harvest, don't hesitate to email me at tritten@msu.edu or call (810-732-2177). If you would like this information sent to you via email instead of fax or vice versa, please let me know and this can be accomplished very quickly. This same harvest information is also available on the East Michigan Fruit Pest Management Code-A-Phone (810-732-1005).

This Southeast Michigan Apple Harvest Report is produced by Bob Tritten and Debbie Clark, with the great support of Dr. Randy Beaudry and his staff from the Postharvest Laboratory at Michigan State University.

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