

EASTERN MICHIGAN APPLE HARVEST REPORT

REPORT #3 – September 8, 2010

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APPLE HARVEST SUMMARY

With the early harvest season and short apple crop at many farms this season, it is making for a difficult harvest. We have had a very early and warm growing season that accumulated a great number of growing degree days. This has had a tendency to move harvest forward. Remember that our harvest dates are running close to two weeks ahead of normal, so be prepared and be thinking down the road as you move forward. There continues to be a great deal of variability this year in apple maturity that is being affected by crop load and drought stress. The pressure test results and brix levels seem to be lower this year than most. I encourage growers to stay on top of harvest and to have the flexibility of skipping over varieties for others that are maturing early. As I looked at McIntosh drops late last week and over the weekend, it appears that most of that fruit that dropped had a low seed count, and therefore was not in the best of shape to make it through to full maturity. Strong winds of yesterday caused more fruit to drop. Some light amounts of bitter pit continue to show up in Honeycrisp. Greater amounts of black rot continue to be seen in Honeycrisp, Empire, Idared and Northern Spy. Pick-your-own fruit farms are going to have a difficult time having apples for pick-your-own in October, due in part to a short crop and strong demand. Growers need to consider the many options of Retain rates and timing in order to have fruit available in October.

Gala harvest is pretty well wrapped up across the region. The exception would be where Retain was used in blocks that are being held for pick-your-own. Gala at many farms are starting to feel greasy, an indication of over maturity. Honeycrisp are being picked for the second time at most farms. McIntosh harvest is underway at many farms and is just now getting underway at others. Besides testing Gala, Honeycrisp and McIntosh, I also tested four varieties to look “down the road” for two weeks as varieties begin to ripen. Other varieties tested included Empire, Jonathon, Jonagold and Golden Delicious. In looking at the results of extensive sampling on Monday and Tuesday, it appears that Jonagold and Jonathon are fairly close to being ready to harvest, about a week away for long term storage. Empire and Golden Delicious are running at about the same pace of maturity at this time, and are most likely two weeks away from being ready. More details are in this week’s report on all four of these varieties. Stay tuned for details in next week’s report.

Table 1 Apple Maturity at a glance

Variety	Color (Range)	Firmness (Range)	Starch (Range)	Brix
Gala	89% (85-95%)	14.2 lbs (11.2-17.6)	8.0 (8.0-8.0)	13.3%
Honeycrisp	66% (57-78%)	14.1 lbs (13.4-14.9)	6.4 (5.5-7.1)	12.7%

McIntosh	68% (57-76%)	15.0 lbs (14.1-16.5)	6.4 (6.3-6.5)	12.6%
Empire	71% (52-80%)	17.4 lbs (16.8-18.0)	2.2 (2.1-2.3)	12.0%
Jonathon	79% (62-96%)	17.1 lbs (17.0-17.1)	3.3 (3.3-3.3)	13.8%
Jonagold	57% (33-76%)	17.2 lbs (16.0-18.3)	3.9 (2.1-6.5)	13.3%
Golden Delicious	7% (3-12%)	17.5 lbs (16.4-18.4)	2.2 (1.1-2.7)	13.4%

INDIVIDUAL VARIETY RESULTS

Gala were sampled for the second time of the season. I took one sample to confirm where I thought Gala are at in terms of maturity. Gala were mature at most farms mid to late last week, and for the most part have been harvested across the region. This week several strains of Gala are starting to feel greasy. The starch index was a solid 8.0 this week, jumping from 5.6 last week. The color remains good at 89%. All of the fruit (100%) showed internal ethylene levels greater than 0.2 parts per million (ppm). Fruit firmness dropped from 15.5 lbs last week to 14.2 lbs this week, with a brix of 13.3%.

Honeycrisp were sampled for the second week of the apple harvest season. Close to 85% of the fruit showed internal ethylene levels greater than 0.2 ppm. This is an indication that fruit is moving along quickly in the apple maturity window. The color has jumped from 51% last week to 66% this week. The background color has improved from 4.0 last week to 3.0 this week. The pressure is about the same at 14.1 lbs, however the starch index has moved from 5.8 last week to 6.4 this week. The brix has improved from 11.6% last week to 12.9% this week. Most growers did a light first spot picking of Honeycrisp early to mid last week, and are now in the process of going back and doing a second more thorough picking. The fruit that is being left unharvest is generally poorer color and smaller in size and will be left for a third picking. I don't believe that there will be four pickings this year on Honeycrisp as is typical.

McIntosh were sampled for the second week of the season, with a much more extensive sample taken this week than last week. Most growers are picking McIntosh on early maturing strains and sites. While the color has improved on Mac's, for the most part they are still a bit on the green side with some poor background color. While they don't eat the greatest at this point in time, I feel that physiologically Mac's are mature and ready for harvest for fruit destined for long term storage. More specifically, just over half the Mac's tested showed internal ethylene levels greater than 0.2 ppm. The color was about the same this week as last at 68%. The background color has improved from 5.0 this week to 4.1 this week. More importantly, the pressure has dropped from 16.2 lbs last week to 15.0 lbs this week. Also important is the fact that the starch index has jumped from 3.0 last week to 6.4 this week. This is quite a leap from last week's starch index findings. There is not a great deal of variability in McIntosh as I look over the results of the many blocks tested. The brix tested at 12.6%, which is an improvement from 11.8% last week.

Empire were sampled for the first time of this fall harvest season. The internal ethylene levels are low, and color is fairly good at 71%. The background color is 3.1, and pressure tested at 17.4 lbs. The starch index is 2.2, with a brix of 12.0%. Empire are

quite a long way off, I would say ten days to two weeks. Stay tuned to next week's report for more details.

Jonathon were sampled for the first time of this fall harvest season. Just over 40% of the fruit are showing internal ethylene levels greater than 0.2 ppm. The color is good at 79% and background color of 2.0. Pressure tested at 17.1 lbs, with a starch index of 3.3 and a brix of 13.8%. While Jonathon are not quite ready for harvest at this time, they most likely will be fairly quickly, in the next four to seven days. Jonathon are maturing ahead of Empire this year.

Jonagold were sampled for the first time of the season. Like Jonathon, just over 40% of the fruit showed internal ethylene levels greater than 0.2 ppm. Color is very good for Jonagold at 57%, with the background color of 3.9. The fruit tested at 17.2 lbs pressure with a starch index of 3.9. Some blocks of Jonagold are much further along than others; there is a great deal of variability in the data as I look over the four blocks that were tested. The brix tested at 13.3%. Jonagold are not ready for harvest at this time, I would put them in the same window as Jonathon, most likely four to seven days for harvest for long term storage and a bit longer for shorter term storage and fresh market sales.

Golden Delicious were sampled for the first time of the season, with a good number of samples taken. Only 8% of fruit tested showed internal ethylene levels greater than 0.2 ppm in Golden's. The color or blush is still very green at 7%. The background color tested at 4.0, with a pressure of 17.5 lbs. The starch index tested at 2.2, and a brix of 13.4%. Golden Delicious are not ready for harvest at this time, and I would estimate that they are close to two weeks away. Stay tuned for more 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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