

EAST MICHIGAN APPLE HARVEST REPORT

REPORT #5 – September 30, 2009

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APPLE HARVEST SUMMARY

Most apple growers report that they are around 50% completed with harvest at this time. Growers are adjusting their harvest variety sequence from typical years. Jonathan's and most of the Cortland's have been harvested across the region and about half of the Jonagold have been picked. Some growers have spot picked some early maturing strains of Golden Delicious. Some Empire blocks are also ready for harvest at this time. There is quite a gap this year between Golden Delicious and Red Delicious, and other varieties may fall in line between those two this season. This week I also tested Crispin, Northern Spy, Idared, Fuji, Winesap and Braeburn. While none of these varieties are mature, I was surprised to see that Fuji's are as far along as they are. Look for more details on these later maturing varieties in next week's report.

I may sound like a broken record, but I would like to reiterate that varieties are not maturing in the same sequence or order as what they typically have been in the past. So be on the look out and be prepared to jump ahead and start some varieties earlier than normal.

Growers are scrambling to locate more bins, because most have such a large crop yet to pick. Labor supplies have been more than adequate this year.

The brix level continues to rise on varieties that are nearing harvest. This is an encouraging sign, particularly for cider makers.

Variety	Color (Range)	Firmness (Range)	Starch (Range)	Brix
Gala	74% (50-90%)	15.1 lbs (11.5-18.8)	6.7 (5.0-8.0)	12.4%
Cortland	82% (70-90%)	14.6 lbs (12.3-18.3)	4.0 (4.0-5.0)	13.0%
Empire	69% (43-85%)	15.8 lbs (15.1-16.5)	5.1 (4.2-5.7)	11.2%
Jonagold	63% (44-82%)	15.2 lbs (14.2-16.1)	6.3 (5.2-6.8)	12.7%
Golden Delicious	13% (0-18%)	15.9 lbs (15.2-16.5)	5.7 (4.2-7.5)	13.1%
Red Delicious	91% (81-95%)	16.9 lbs (16.1-17.2)	2.4 (2.1-3.3)	10.6%
Crispin	12% (4-16%)	17.8 lbs (17.5-18.1)	2.8 (2.4-3.2)	11.6%
Crimpsom Crisp	93% (85-100%)	21.2 lbs (19.3-23.7)	6.0 (6.0-6.0)	14.1%
Northern Spy	50% (26-62%)	19.0 lbs (17.8-20.8)	2.7 (2.1-3.5)	11.8%
Idared	70% (48-86%)	14.9 lbs (14.7-15.3)	2.7 (2.0-3.4)	11.2%
Fuji	58% (57-58%)	18.8 lbs (18.6-18.9)	3.6 (3.1-4.0)	12.0%
Winesap	58% (27-89%)	16.4 lbs (16.0-16.7)	1.5 (1.4-1.5)	10.1%
Braeburn	65% (49-81%)	19.5 lbs (18.1-19.8)	1.7 (1.1-2.2)	11.0%

INDIVIDUAL VARIETY RESULTS

Gala were sampled for the sixth week of the season, with only one block being tested this week, as most blocks have been harvested. As indicated in last week's report, Gala's were ready for harvest for the most part at that time. In testing this one block this week pressure has dropped from 17.7 lbs last week to 15.1 lbs this week and the starch removal index has moved from 6.4 last week to 6.7 this week. All of these are indications that Gala continue to march through their maturity window, and now are on the over mature side.

Cortland were sampled for the fourth week of the season, again with a limited number of blocks being sampled this week because many have been harvested. In the one block that I tested this week color is still good at 82%, and pressure has dropped from 14.8 lbs last week to 14.6 lbs this week. Starch removal has moved along quickly from 2.2 last week to 4.0 this week. This one block that I tested is a later maturing site, and is still a bit on the immature side. However most blocks were mature late last week or over the weekend and have now been harvested.

Empire were sampled for the fourth week of the season, with a few less samples being taken this week due to blocks being harvested. The color is still good at 69%, particularly fruit on the outside of the tree are very well colored. The pressure has dropped from 16.2 lbs last week to 15.8 lbs this week. The starch removal index has jumped dramatically from 3.1 last week to 5.1 this week. The brix is 11.2%. Empire indeed have matured a great deal over the last week, and most blocks are now ready for harvest.

Jonagold were sampled for the fourth week of the season, with a broad spread of blocks being sampled this week. There is still very little internal ethylene developing in Jonagold, with 15% of the fruit showing levels greater than 0.2 parts per million (ppm). The color has improved this week to 63%, and the pressure continues to drop from 16.6 lbs last week to 15.2 lbs this week. The starch removal index has moved along dramatically from 4.6 last week to 6.3 this week. The brix is 12.7%. I would say that Jonagold are also ready for harvest at this time.

Golden Delicious were sampled for the third week of the season, with an even wider sample being taken this week than last. Close to 10% of the fruit are showing internal ethylene levels greater than 0.2 ppm. The color or blush has improved this week to 15%. The pressure has dropped from 16.5 lbs last week to 15.9 lbs this week and the starch removal index has jumped from 3.7 last week to 5.7 this week. The brix remains about the same at 13.1%. I would say at almost all farms that Golden Delicious are mature and ready for harvest at this time. Many growers have been waiting for more blush to develop on Golden's.

Red Delicious were sampled for the three week of the season with even more blocks sampled this week than last week. In all my samples I use the Red Chief strain, as this helps in interpreting the data and for greater uniformity. There are strains that mature ahead of Red Chief, but you can use this guide. Just 17% of Red's are showing internal

ethylene levels greater than 0.2 ppm. Color is very good at 91%. The pressure has dropped from 17.4 lbs last week to 16.9 lbs this week. The starch removal index continues to creep along, moving from 1.6 last week to 2.4 this week. The brix is still very low at 10.6%. Red Delicious are still very green at this time and will require at least another week to maybe closer to two weeks before they are ready for harvest.

Crispin was sampled for the second week of the season with a broader sample being taken this week than last week. There is a small number of fruit with internal ethylene being generated as of yet, and the color remains about the same at 12%. The background color is starting to improve, and the pressure has dropped from 18.9 lbs to 17.8 lbs this week. The starch removal index is at 2.8 with a brix of 11.6%. Crispin are not ready for harvest at this time, I would expect that they would be so in about a week or so.

Northern Spy were sampled for the first time of the season, with a broad number of samples being taken. Internal ethylene levels tested fairly high in some blocks of Northern Spy, with an average of 48% showing internal ethylene levels greater than 0.2 ppm. The color is fairly good at 50%, and background color at 3.5. The fruit is still very firm at 19.0 lbs. The starch index is 2.7, with a brix of 11.8%. Northern Spy are not ready for harvest at this time, but they are maturing at about the same rate as Red Delicious.

Idared were sampled for the second week of the season, with a much larger sample being taken this week than last week. There is little to no internal ethylene development as of yet. The color is good at 70%. The background color has improved a bit and the pressure has dropped from 15.3 lbs last week to 14.9 lbs this week. The starch removal is also marching along quite nicely from 1.9 last week to 2.7 this week. The brix is relatively unchanged at 11.2%. Idared are not ready for harvest at this time, but are maturing at about the same rate as Red Delicious and Northern Spy.

Fuji were sampled for the first week of the season. There is no internal ethylene development as of yet, and fruit color is fair at 58%. The pressure is still very firm at 18.8 lbs, and the starch index was a surprisingly 3.6. The brix is currently testing at 12.0%. While Fuji are not ready at this time, they seem to be moving along fairly quickly. I need to look at another week's worth of data to tell exactly where they are at.

Winesap were sampled for the first week of the season. There is only a slight amount of internal ethylene developing. The fruit color is averaging 58% and pressure at 16.4 lbs. Starch removal is only 1.5, and a brix of 10.1%. Winesap are not ready at this time.

Braeburn were also sampled for the first week of the season with three blocks being tested. Color is fairly good at this time at 65%. Background color is 3.2 and pressure at 19.5 lbs. The starch removal is 1.7, with a brix of 11.0%. Braeburn are most likely about two to three weeks away from being ready for harvest, more details to follow.

I will continue to put the predicted apple harvest dates table that was mailed to fruit growers in July. I put this in as a reminder, but I don't have as much confidence in the

predicted harvest dates for east Michigan as I typically do. This lack of confidence is primarily due to the colder growing season that is still running close to two weeks behind normal in terms of degree day totals.

Table 1. 2009 predicted peak harvest dates

Full bloom date				Predicted harvest date			
Station	McIntosh	Jons	Reds	McIntosh	Jons	Reds	Observer
SWMREC	3-May	5-May	6-May	4-Sep	24-Sep	2-Oct	Shane
Deerfield	4-May	9-May	6-May	5-Sep	29-Sep	2-Oct	Tritten
Romeo	9-May	12-May	13-May	12-Sep	3-Oct	8-Oct	Tritten
Peach Ridge	9-May	12-May	12-May	12-Sep	4-Oct	10-Oct	Schwallier
Ludington	17-May	20-May	20-May	21-Sep	11-Oct	17-Oct	Danilovich
NWMHRS	18-May	21-May	22-May	24-Sep	8-Oct	15-Oct	Rothwell

If you have any questions regarding this Apple Maturity Report, don't hesitate to email me (tritten@msu.edu) or call (810-732-2177). If you would like this information sent to you via email instead of fax, please let me know and that 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).

*Project Researchers – Dr. Randy Beaudry MSU Horticulture Department, and Bob Tritten
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