



2021 Predicted Apple Harvest Dates

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The predicted harvest dates for all [Michigan State University Enviroweather Stations](#) are now available online. This season, warm conditions early in the spring led to advanced bud development. Phenology has been approximately 1-2 weeks earlier than the 30-year average for the duration of the 2021 season. This is the opposite of the past two years, in which cool late winter climate delayed the development of spring buds. Overall, 2021 Predicted Harvest Dates are earlier than normal. Most of the state is a few days early compared to the average and last year.

Challenging spring weather conditions seem to have become part of the new normal, and 2021 was no different. The season began with very warm conditions with heat accumulation and phenology approximately 1-2 weeks early all season. Several hard freezes occurred on April 2, 21, and 22, leading to very site-specific damage: some locations experienced total losses, while others were unimpacted, depending on development stage, variety, and conditions. Most areas rushed into bloom due to hot weather over the weekend of May 2-3. Cool weather immediately afterward led to a prolonged bloom period, lasting over 2 weeks in most places. This has led to wide variation in fruitlet development and sizing, and will likely result in variation in ripening, requiring multiple harvests. Some apple set is from two-year-old and in some places from one-year-old wood that will produce a very mixed maturity at harvest along with the prolonged bloom period. Drought conditions could also play into maturity for 2021.

Predicted harvest dates for specific locations can be determined using the [Apple Maturity Model on the Enviroweather Website](#). These models for McIntosh, Jonathan, and Red Delicious calculate predicted harvest dates based on full bloom date and the temperatures in the 30 days after bloom. The model predicted dates for *McIntosh appear to be much earlier* and for *Jonathan and Red Delicious appear to be a little later* than expected. Given the weather extremes in the 30-day period used to make predictions, this is not unexpected. We have seen this before and it typically ends up being accurate. However, predicted harvest dates could be off a few days, especially due to the extended bloom and the cold weather at bloom time. Harvest dates may need to be adjusted as we get closer to harvest.

Crop load is highly dependent on specific location. In general, return bloom was extremely light to non-existent in some varieties (Honeycrisp and Jonagold) across the Midwest and Northeast this season. Gala crop load is moderate to heavy across the region, while many other varieties, including Fuji are very light. Blocks with light croploads will mature 3 or 4 days sooner than the predicted harvest dates while heavy crop loads will mature 7 days later than the predicted dates.

Conditions during August and September will also affect harvest dates. If hot stressful weather occurs in August or September, apple maturity will be advanced, especially in early to mid-ripening cultivars.

Stop-drop materials. ReTain application should be applied 30 DBH (days before harvest). Harvista can be applied 3 to 7 DBH. Use Table 3, 2021 Predicted Harvest Dates for Other Varieties, to time ReTain applications and adjust for varieties and locations.

The tables below list the normal and predicted harvest dates for varieties across the state. Table 1 lists the predicted harvest dates for locations across the state of Michigan for 2021. Table 2 lists this year's predictions compared to normal and last year. Table 3 lists the normal harvest dates for other varieties for the Grand Rapids area. This year's predicted dates for other non-modeled varieties are a rough estimate based on the McIntosh, Jonathan and Red Delicious predicted dates and historical experience in the Grand Rapids area. Other areas of the state should adjust non-predicted varieties based on their own history.



Table 1. 2021 predicted peak harvest dates

Station	Full bloom date 2021			Predicted harvest date 2021			Observer
	McIntosh	Jons	Reds	McIntosh	Jons	Reds	
SWMREC	28-Apr	2-May	3-May	1-Sep	27-Sep	4-Oct	Shane
Deerfield*	27-Apr	28-Apr	28-Apr	31-Aug	20-Sep	26-Sep	NA
Romeo*	2-May	3-May	3-May	4-Sep	27-Sep	3-Oct	NA
Sparta	2-May	4-May	4-May	4-Sep	1-Oct	7-Oct	Wallis
Hart	12-May	13-May	14-May	13-Sep	27-Sep	3-Oct	Wallis
NWMHRS	16-May	18-May	19-May	14-Sep	1-Oct	8-Oct	Rothwell

*Dates indicated by model, not by actual observation, due to vacancy in MSU Extension personnel in this region.

Table 2. 2021 predicted peak harvest dates compared to normal and

Station	Days +/- normal			Days +/- last year		
	McIntosh	Jons	Reds	McIntosh	Jons	Reds
SWMREC	-12	6	2	-9	3	4
Deerfield*	-10	-1	-12	-9	-3	-9
Romeo*	-9	2	0	-14	-2	-2
Sparta	-12	5	0	-15	1	1
Hart	-3	-6	-7	-11	-8	-9
NWMHRS	-8	-5	-9	-13	-10	-11

*Dates indicated by model, not by actual observation, due to vacancy in MSU Extension personnel in this region.

Table 3. Normal and 2021 peak harvest dates for varieties for the Grand Rapids area

Variety	Normal date*	2021 predicted date
Paulared	24-Aug	20-Aug
Gingergold	26-Aug	22-Aug
Gala	10-Sep	4-Sep
McIntosh	15-Sep	4-Sep
Honeycrisp	18-Sep	15-Sep
Empire	24-Sep	22-Sep
Jonathan	26-Sep	1-Oct
Jonagold	26-Sep	1-Oct
Golden Delicious	2-Oct	1-Oct
Red Delicious	5-Oct	7-Oct
Idared	10-Oct	7-Oct
Rome	15-Oct	14-Oct
Fuji	25-Oct	20-Oct
Braeburn	25-Oct	20-Oct
Goldrush	1-Nov	30-Oct

*Dates in this table were determined from average observations by industry members in the region.



2021 Temperature and Precipitation Summary for the Grand Rapids Area

