



Technical Bulletin

A publication of the LG Seeds Agronomy Department

Issue 435: May 2019

Hybrid Maturities and Delayed Planting

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For the second year in a row many parts of the Corn Belt are experiencing cool, wet conditions that have delayed planting. As growers try to patiently wait for better field conditions and improved weather forecast the inevitable questions about how late can they plant their full season hybrids begin to arise.

There are a couple of key points to consider when making that decision.

The first point to consider is that of the yield potential of the full and mid-season corn hybrids. Considering that most full season corn products for a given maturity zone commonly have the highest yield potential, most growers would prefer to plant them. In the last 5-10 years there has been plenty of research surrounding the topic of planting date, relative maturity, and yield potential. The results have shown that even with delayed planting the full and mid-season varieties still yielded better than earlier season varieties in the absence of stresses, such as moisture, temperature, and nutrients. Most of the university data suggest that growers should continue to plant their usual maturity range until May 20-30. The further north you are the closer that date was to May 20th and the further south you are the date falls closer to May 30th. This gives us 2-3 weeks more time yet this year to plant the hybrids you were planning to use for this growing season.

The other key reason you can continue to plant full season varieties that late into May is because of how corn reacts to temperature. We use Growing Degree Units (GDU's) to establish corn relative maturity, which is much like an average temperature for the day as long as it is between 50°F and 86°F. But there is a big difference in the GDU's accumulated in late April versus those in late May, simply because of the amount of time the temperature is between 50°F and 86°F. Research has shown that for every day we delay planting corn we can subtract 0.25 relative maturity days. For example, if your 108-day corn was planted 30 days later than you planned, we would subtract 7.5 days of maturity. This means your 108-day relative maturity corn you were planning to plant on April 25th would act much more like a 100-day corn when you planted it on May 25th.

Despite the cool, wet conditions and very poor looking forecast, there is still time to plant your “normal” hybrid maturities. Research has proven that full and mid-season hybrids still perform better than early season hybrids when planted before the end of May. It has also shown that corn hybrids will adapt to the later planting date despite being a full season hybrid. As we continue into May the best plan is to stick with your original plan for the best yield opportunity.

Sources and additional information:

1. https://www.researchgate.net/publication/317121604_Yield-Based_Corn_Planting_Date_Recommendation_Windows_for_Iowa
2. https://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1582&context=agron_pubs
3. <http://blog.umd.edu/agronomynews/2018/05/24/delayed-corn-planting-should-you-change-hybrid-maturity/>
4. <https://www.agry.purdue.edu/Ext/corn/news/timeless/HybridMaturityDelayedPlant.html>
5. <http://corn.agronomy.wisc.edu/Management/L010.aspx>

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