In delayed planting situations, there are some key concepts to consider when deciding to whether or not to continue as planned with corn, move to an earlier maturity hybrid, or switch to soybeans altogether.

### Heat Unit Accumulation

Corn development is largely based on the accumulation of heat units or Growing Degree Days (GDDs). A given hybrid requires a set number of GDDs to reach pollination and maturity. As corn relative maturity (RM) increases, more GDDs are necessary to reach black layer or physiological maturity. Below is a tool that uses planting date and corn RM to determine the probability of reaching black layer before frost. This tool uses historical weather data at a local level to help you make decisions on maturity selection to determine the likelihood of success in real time.

Disclaimer: This tool does not account for the reduction in necessary GDDs after May 1 and needs to be manually adjusted within the tool to compensate.

Visit [https://mrcc.illinois.edu/U2U/gdd/](https://mrcc.illinois.edu/U2U/gdd/) to create a Growing Degree Day graph for your area.
When to Switch to An Earlier Maturity

As planting is further delayed, the question arises, “Do I need to switch to an earlier maturity?” Often the short answer is “Not just yet,” and here is why:

The warmer environment with later planting dates speeds up corn development through the vegetative growth stages. This translates into only about four additional days to reach maturity with approximately 78 fewer heat units when compared to planting dates from early May to mid-June. This is approximately the average difference between a 101 RM hybrid and a 105 RM hybrid if they are planted at the same time. For more information, visit https://www.agry.purdue.edu/ext/corn/news/timeless/RStagePrediction.html.

Know Before You Switch Maturity

Quick Facts

- Hybrids mature faster (with fewer GDDs) when planted after May 1.

- Research from Purdue University and The Ohio State University has shown that, on average, a hybrid requires 6.8 fewer GDDs per day to reach black layer (R6) when planted after May 1.
  
  • For example, a hybrid planted on April 30 may require 2,500 GDDs to reach R6, but that same hybrid planted on May 31 would only require 2,289 GDDs to reach R6.
  
  • This is approximately equal to the same difference when switching from 105 RM to 90 RM.

- Later planted hybrids effectively shorten the vegetative growth stages.

- The time required to move through the reproductive stages (R1 to R6) remains largely unchanged.

As a general rule, farmers will see the highest rate of success if they stick with their original planting plan with their original hybrids into the later parts of May, even though yields may fall slightly towards the tail end of the month. The yield benefit of later RM hybrids usually outpaces the results of switching to an earlier RM hybrid despite drying costs.

Grain Moisture

- Grain moisture at the end of the season is subject to many factors such as crop management, hybrid characteristics, and weather patterns.

- In general, earlier RM hybrids will be drier in comparison to later RM hybrids if harvested on the same day. This difference diminishes with delayed planting.

- Grain moisture depends on the environment; there is no guarantee that an earlier RM hybrid will be drier in comparison to a later RM hybrid at harvest.

Additional Considerations Before You Switch

- In general, the benefits of planting adapted hybrids for the area more than offset the consequences of delayed planting up to June 1. If planting after June 1, drying costs could outweigh the yield benefit from adapted hybrids.

- You are giving up some yield potential. Later RM hybrids will almost always have more yield potential than earlier maturity hybrids.

- Later planting effectively shortens the vegetative growth stage, regardless of a hybrid’s maturity.

When Should I Switch to Soybeans?

Generally, once June 1 hits, farmers may want to consider switching to soybeans. Here are some important reminders:

- Double check your early-season herbicide programs to see if planting soybeans is possible.

- Pre-plant nitrogen can cause excessive vegetative growth and reduce nodulation.

- Use a quality inoculate to ensure late-season nodule function. Be on the lookout for diseases like White Mold.

- Increase seeding rates to get faster row closure and harvest more sunlight.

- If planting becomes delayed past June, consider moving down 0.5 maturity group in soybeans.