

# BETWEEN THE ROWS®

## Early Spring Planting Considerations

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Early spring planting dates are generally some of the most rewarding, yet most challenging, for corn growers in the Midwest. As most corn growers know, an early planting date is key to capturing maximum yield but it's not without risks. Many questions arise during the early planting windows and it is critical that each be considered to optimize success each growing season.

### Early Season Conditions

Often times early in the season corn growers are dealing with cold and wet conditions. Both of these combined is a recipe for trouble for a young, germinating corn crop. Specifically, here are some conditions to check before you plant.

- ✓ **Soil Conditions – *The most critical factor in deciding when to plant is soil moisture conditions.*** In general, during early spring we are dealing with too much water, or soil that won't dry out. Planting in wet, muddy soil conditions could result in sidewall compaction, reduced stand, uneven emergence, reduced rooting capacity, reduced nutrient uptake, open seed furrow, and potential herbicide injury. Although less typical during early spring, if soils are too dry, plant at deeper depths (2.5-3 inches) to obtain uniform soil moisture for even emergence.



Restricted root development due to sidewall compaction from wet/muddy planting conditions.

- ✓ **Soil Temperature – 50°F and rising** is the optimum target for corn planting. The key here is “rising”. In recent years we've observed good results in fields planted before soil temperatures reach 50°F as long as soil temperatures were trending up and germination wasn't expected to be delayed. **Again, the key is ideal soil conditions and a favorable forecast of rising soil temperatures.**

- ✓ **Weather Forecast –** The first 24-36 hours after planting are critical to successful stand establishment. Corn seedlings imbibe ~30% of their weight in water to germinate. It is critical this occurs without major



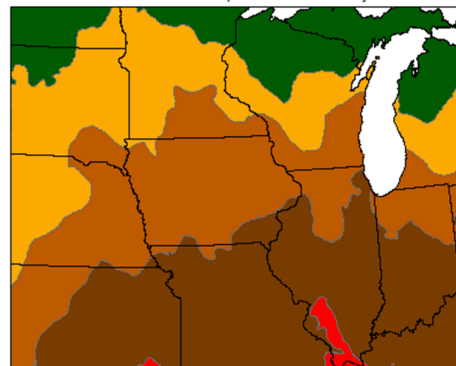
Corkscrew germination can result from imbibitional seed chilling

fluctuations in soil water temperature. A cold rain or rapid cooling of soil water can lead to imbibitional seed chilling which can cause corkscrew seedlings or other seedling abnormalities, ultimately reducing stand.

- ✓ **Frost Potential –** For most of the Midwest, optimum planting dates range from mid-April to mid-May which closely follow average spring final frost dates for the central corn belt (see below). However, year over year the actual final frost date can be earlier or later than the historical average. This highlights the importance of observing local weather forecasts to capitalize on those early planting windows if field conditions allow.

**SPRING FREEZE:** Median date for last 28°F freeze, 1980-2010

● Mar 1 - 10   ● Apr 1 - 10   ● May 1 - 10  
● Mar 11 - 20   ● Apr 11 - 20   ● May 11 - 20  
● Mar 21 - 31   ● Apr 21 - 30   ● May 21 - 31



Median date is determined such that half of all years fall before and half after the median date  
Source: Midwest regional climate center

- ☑ **Prior Field Preparation** – What type of field work and how long ago did it happen prior to planting? In general, we see fewer stand establishment issues when anhydrous is applied a week or more before planting, at an angle, and a minimum of 6-7 inches deep.

Tracks left in fields after fertilizer or herbicide applications can cause compaction or uneven emergence. Spring and previous fall field work during wet conditions can cause compaction that will remain throughout the next growing season.

- ☑ **Planter Preparation** – An ounce of prevention is worth a pound of cure. Regular planter maintenance is key in order to take advantage when optimum planting windows arrive. Every field will be different, planter depth and vacuum settings should be double checked after field and hybrid changes.

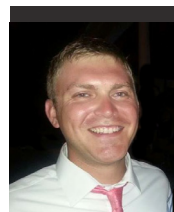
### **No Substitute for Ideal Soil Conditions**

Although all mentioned factors are critical to a successful season, planting into optimal soil conditions is the most important. Once a crop is mudded in, little can be done to reverse the issues in store for the remainder of the season. It sets the stage for a host of early season issues, as well as some that may not show up until harvest.

### **Patiently Aggressive**

Rarely do we get springs where the stars perfectly align and all “boxes” are checked for an ideal planting season. Regardless, decisions still need to be made and corn needs to be planted. Make sure equipment is serviced and fields are prepped so when we start to check the boxes for soil temperature, forecast and most importantly soil conditions, we can be aggressive and capture the benefits of those planting windows.

*From the desk of*



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