



# Imbibitional Chilling

## Overview

Corn has a small optimum planting window, making many farmers impatient to plant. However, planting too early can damage yield through imbibitional chilling injury, which occurs when the soil temperature drops below 50°F during the first 24–36 hours after planting.

## What you should know

- Planting timing is crucial to a high-yield crop. Planting corn before the soil temperature remains above 50°F may lead to imbibitional chilling damage, which happens when seeds absorb, or “imbibe”, water to begin germination.
- Imbibitional chilling of corn typically occurs when cool soil temperatures are paired with a cool rain in the first 24–36 hours after planting.
- Growers need to check the soil temperature and upcoming weather patterns before planting to ensure conditions are right for proper seedling germination. The soil temperature should be 50°F or warmer at the depth of planting.
- Ideally, weather should be dry for a week to 10 days following planting. This allows the corn to begin germination.

## Action steps

1. **Watch soil and weather conditions:** Check the soil temperature at planting depth, not the surface temperature. If cold rain is predicted, hold off planting.
2. **Scout fields:** After a cold snap within two weeks of planting, scout fields for any imbibitional chilling injury. Look for irregular elongation or “corkscrewing” of the mesocotyl, or “leafing-out” underground with delayed or failed seedling emergence.
3. **Consider replanting:** If imbibitional chilling injury occurs, replanting as soon as possible is the only way to avoid yield loss. The earlier you replant, the more promising the yield.



*If imbibitional chilling injury occurs, replant to avoid yield loss.*



## 30-Second Summary

- Imbibitional chilling occurs when the soil temperature drops below 50°F during the first 24–36 hours after planting.
- To prevent seedling injury, monitor soil temperatures and weather forecasts before planting.
- If a cold snap hits soon after seed is in the ground, scout early and decide if damage warrants replanting.

## NOTES:

For more information, contact:



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