Agronomy Profile

GDUs in Corn Production

Overview

Days to emergence is one of the factors that affects corn development early in the growing season. Corn emergence is directly related to soil temperature and soil moisture. Knowing the growing degree units or GDUs can help you monitor when seedlings should emerge.

What you should know

- Planting corn into cool soils can result in variation in emergence, development stages and plant sizes. Variability in plant size—whether from cool temperatures and delayed emergence or from frost or other factors—can affect plant competition and reduce yield.
- Days to emergence varies depending on early versus late planting dates.
- Growing degree days or growing degree units (GDUs) refer to a calculation based on air temperature. For corn, the equation is: GDU = (daily maximum air temperature + daily minimum temperature)/2-50.
- When the maximum air temperature exceeds 86°F, use 86°F, because the growth rate of corn does not increase beyond this temperature. In the same way, when the minimum air temperature is less than 50°F, use 50°F.
- The cumulative GDU for corn emergence is approximately 120.
- If 120 GDUs have accumulated since planting and seedlings haven't emerged, check the condition of the planted seeds and consider whether replanting is necessary.

https://cropwatch.unl.edu/growing-degree-units-and-corn-emergence

Many factors can affect how long it takes for corn to progress from germination to emergence, including moisture and temperature.

30-Second Summary

- Varied plant sizes can affect plant competition and reduce yield.
- Growing degree units (GDUs) can help you determine when corn seedlings should emerge.
- If plants have not emerged at 120 GDUs, check seed health and consider your replanting options.

NOTES:

For more information, contact:

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