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AGRONOMY BULLETIN

Sunflower Emergence

Warm and dry weather has finally arrived and will hopefully continue. Some growers will just be getting started, but for others, their sunflowers have been sitting in the cold, wet ground for 14-21 days. We hear about growing degree days (GDD) a lot with corn, but not as much as sunflowers. How many GDD are actually needed from planting to emergence for sunflowers? Are there any concerns for growers that have had their sunflowers sitting in the soil un-emerged?

Here are some key factors to consider for sunflower emergence:

- Emergence can vary from field to field and hybrid to hybrid, but it typically takes 206 GDD for a sunflower plant to emerge.
- Sunflowers can be planted in soils as cool as 45 degrees Fahrenheit, but will not germinate until the soil nears 50 degrees.
- Looking at the various areas around North Dakota that have been planting sunflowers, many growers should start to see those little cotyledons popping through the ground this week. The chart below shows the accumulated GDD if you planted on May 13th.



Figure 1. Sunflower in the VE (emergence) stage with cotyledons

Current accumulated growing degree days (AGDD) for various sunflower locations in ND, May 13th-27th

Locations	AGDD	Normal AGDD	Dep Fr Nml*
Langdon	118	152	-34
Garrison	128	164	-36
Wahpeton	147	226	-79

*Departure from normal



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Action Plan

If you were able to get your sunflowers planted early, make sure to keep an eye on them now as they start emerging to know if there could be any potential stand concerns.

Seed treatments, like the new Plenaris®, can help with issues such as downy mildew. Besides fungal pathogens, there are still other concerns that may arise. Cutworms (especially now that it's warming up), wireworms and soil crusting are just some examples that can contribute to stand loss.



Figure 2. Downy Mildew symptoms apparent by the yellowing of the leaves.

Summary

Warmer weather this week should give the sunflowers that were planted early enough growing degree days to emerge out of the ground. Make sure to check your fields after emergence to ensure that a good stand was established.



Figure 3. Sunflower seedlings cut at the soil surface from cutworms

Resources

<https://ndawn.ndsu.nodak.edu/sunflower-growing-degree-days.html>

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