

Wind Damage in VE-V2 Corn: Early Stress Under Cold and Wet Skies

Early-season corn is under pressure from a triple threat: gusty winds, cold rain, and saturated soils. For corn in the VE (emergence) to V2 (first leaf collar) stages, even one of these stressors can create setbacks that may not be immediately visible—particularly strong winds, which can physically damage seedlings and compound the challenges posed by cold and wet conditions.

While the growing point is still below ground, environmental stress can damage critical plant structures. Chilling injury from cold rains (below 50°F) during or soon after planting can injure the mesocotyl, slowing emergence and early growth. Saturated soils compound the problem by causing crusting that restricts emergence or forces leaves to unfurl underground. In wet fields, wind can tip or uproot seedlings, while erosion or water movement may bury plants or wash away soil from root zones, leading to uneven stands.

Scouting Tips After Wind and Rain Events

- Inspect for twisted or corkscrewed seedlings, cracked coleoptiles, bruised mesocotyls, and torn leaves.
- Watch for poor emergence in crusted soils or pooled water in low spots—both reduce oxygen availability and hinder nodal root development.
- Check for dirt and debris lodged in the whorl or leaf axils—an often-overlooked issue that can set the stage for fungal diseases.

Disease Risk and Recovery Outlook

Wet and cool conditions reduce GDU accumulation, delaying regrowth. Stressed tissue is more susceptible to early-season pathogens such as *Pythium* and *Fusarium*. Soil deposited in the whorl creates a moist, shaded microclimate that can elevate risk of stalk rots later in the season, particularly from *Fusarium* and *Anthraxnose*.

Season-Long Management Considerations

- **Scout regularly** for signs of damping-off, stunting, and discoloration early, and revisit affected areas to assess late-season stalk health.
- **Plan fungicide strategies**—a VT-R1 application may be warranted in fields where stress or disease pressure is high.
- **Use tissue sampling** to detect nutrient uptake issues caused by impaired root systems.
- **Prepare for an early harvest** in impacted fields. Begin stalk integrity testing (pinch or push tests) at R5 to reduce lodging risk.

The Silver Lining

If stands remain at or above 75% of the target and new growth is visible within 5–7 days, corn at VE–V2 can make a strong recovery. A stretch of warm, sunny days will accelerate GDU accumulation and help even out variability across the field.



V2 corn plant; Sun Prairie, WI.

Timing Early Post-Emerge Herbicides in Corn and Soybeans: Watchouts and Best Practices

As we move into early post-emerge herbicide season, the window to clean up fields while protecting young corn and soybean plants is open—but not without risk. With many acres in the VE to V3 stage, timing, tank mixes, and environmental conditions must all align to avoid crop injury, especially when using growth regulator herbicides in corn.

Growth regulators like 2,4-D, dicamba, and related active ingredients are common in corn programs, but are particularly sensitive to crop stage and temperature. Applying these too early—especially in cool, wet weather—can result in twisted whorls, brace root malformation, stem cracking, or even plant death. The risk increases when corn is under stress from cold, compaction, or wind, which can reduce the plant's ability to metabolize active ingredients.

In soybeans, herbicide injury risks vary depending on trait system. Each has unique tolerances and label restrictions. When conditions are cloudy, wet, or plants are slow-growing, even labeled post products like glyphosate or glufosinate can cause temporary leaf yellowing or stunting, particularly if applied with crop oil or under high humidity.

Best practices for both crops include scouting for stress symptoms before spraying, following label timing windows, and adjusting carrier volumes and adjuvants based on weather. Avoid spraying within 24 hours of cold fronts or cloudy, humid days. For corn, most growth regulators are safest between V2–V5. For soybeans, target V1–V3 when plants are healthy and actively growing.

Keep in mind that sprayer cleanout is another common injury source—especially when switching between corn and soybean applications. Always triple rinse and use a dedicated tank cleaner, especially after dicamba or HPPD products.



By prioritizing crop stage, environmental conditions, and proper tank hygiene, growers can make the most of their early post-emerge herbicide applications without sacrificing crop safety.

Sources:

- Nielsen, R.L. (2001). *Cold Imbibition Damage in Corn*. Purdue University. <https://www.agry.purdue.edu/ext/corn/news/articles.01/coldimbibition-0509.html>
- Abendroth, L.J., Elmore, R.W., et al. (2011). *Corn Growth and Development*. Iowa State University Extension. <https://store.extension.iastate.edu/Product/Corn-Growth-and-Development>
- Hager, A. (2020). *Postemergence Corn Herbicide Considerations*. University of Illinois Extension. <https://farmdoc.illinois.edu/field-crop-production/herbicide-corn-application>
- Johnson, B., et al. (2023). *Postemergence Applications in Soybeans: Avoiding Injury*. Purdue University Extension. <https://extension.purdue.edu/news/county/whitley/2023/06/postemergence-applications-in-soybeans-avoiding-injury.html>