



# Rootless corn syndrome

## Overview

Like a house with a poorly prepared foundation, corn plants with rootless corn syndrome (or floppy corn syndrome) between the V3 and V8 growth stages can topple at any moment, leading to stunted growth and even plant death.

## What you should know

- Corn plants produce two root systems: seminal and nodal. Seminal roots anchor and nourish seedlings through coleoptile emergence. Between V2 and V4, the nodal roots take over, supporting the plant's developing structure and providing for water and nutrient uptake.
- Available moisture is critical during the transition from seminal root support to nodal root support, as well as for subsequent nodal root development. Severe droughts can end the development of nodal roots altogether. The remaining seminal roots can't deliver enough nutrients to keep up with the growing plant's demands.

## Action steps

1. **Watch for wilting corn:** On hot and dry afternoons, this can be an alert to rootless corn syndrome.
2. **Plant in the right soil conditions and at the right depth:** Planting into fields with wet soil can lead to restricted nodal root growth from sidewall compaction. Hot and dry weather following wet planting conditions can fracture soil furrows, leading to a loss of available soil moisture supply. Seeding at 1½ – 2 inches optimizes seed-to-soil contact and promotes nodal root system development.
3. **Welcome the rain:** Dry soil conditions can severely hamper recovery of—and even kill—plants with rootless corn syndrome. If your plants are leaning over, rainfall can help, encouraging root growth and establishment.



*Nodal roots unequipped to handle the heavy nutrient demands of young plants cause stalk lodging, leading to rootless corn syndrome.*



## 30-Second Summary

- Rootless corn syndrome results when nodal roots don't develop properly.
- This can be caused by drought conditions or planting into wet soils.
- Ongoing dry conditions can make it difficult for plants with rootless corn syndrome to recover.
- Timely and consistent rains can help minimize potential damage and yield loss.

## NOTES:

For more information, contact:



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