Agronomy Profile



Boron

Overview

As corn's fifth micronutrient, boron is often an afterthought. Boron's impact is most felt when it's not available. Deficiencies or a complete absence of boron can cause stalks to become barren, ears to twist and yield to suffer. Monitor your crop for these symptoms and take action if a deficiency is determined to be present.

What you should know

- Boron serves two primary roles. It supports plant cell division, and it helps transfer water and nutrients from the roots up through the plant during silking.
- Researchers estimate that a 150-bushel acre of corn takes in 0.16 pound of boron.
- In most soils, boron is released through organic matter decomposition.
- Growers are doing a better job of maintaining a more neutral soil pH, but this also reduces boron availability.

Action steps

- 1. **Consider moisture conditions:** Drought conditions essentially halt organic matter decomposition and limit boron release. Also, boron is water-soluble, so it can be lost via leaching, particularly in sandier, irrigated soils.
- 2. **Monitor plants:** Twisted ears and barren stalks are preliminary indicators of a boron deficiency, but deficiency should be confirmed with both soil tests and plant tissue sampling. To conduct a plant tissue analysis during pollination, examine the leaf opposite the ear. Refer to the charts to determine if boron amounts are adequate.
- 3. **Use foliar application of boron if needed:** After corn has reached the V5 stage, boron can be incorporated with other products like fungicides or a micronutrient blend product. To prevent toxicity, spray at a rate of 0.1 to 0.5 pound of boron per acre.

Condition
Low
Adequate
Excessive

PLANT TISSUE ANALYSIS	
Parts per million	Condition
< 2	Deficient
2 to 5	Low
6 to 40	Sufficient
41 to 55	High



- Many growers fail to recognize the importance of boron to healthy corn plants.
- Particularly in dry years, boron deficiency appears in poor ear formation.
- Soil and tissue tests can determine if you have a boron deficiency.
- Boron can be applied through foliar application to correct deficiency.

NOTES:

For more information, contact:



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