

Iron Deficiency Chlorosis

Overview

Iron deficiency chlorosis (IDC) in soybeans is a physiological disease caused by iron deficiency. IDC can cause sizable reductions in yield potential. Avoiding IDC in soybeans begins with preparation. If a crop is especially vulnerable, select IDC-tolerant varieties and apply iron chelate fertilizer at planting.

What you should know

- Iron is an essential nutrient for soybean plants. It is required for energy and chlorophyll development.
- Limited chlorophyll development leads to yellow leaves in an IDC-infected plant.
- Though it is usually abundant in soil, soybeans take in iron inefficiently, particularly in high-pH soils. However, pH levels do not directly correlate to IDC. Instead, test for high concentrations of calcium carbonate and soluble salts both intensify IDC, particularly in wetter and cooler seasons.
- Minimize nitrate carryover by limiting nitrogen fertilizer applications to the crop preceding soybeans in the rotation. Excess soil nitrates can worsen IDC by further inhibiting iron intake.

Action steps

1. **Select tolerant seed varieties:** Review ratings and select soybean varieties with tolerance to IDC. Some new soybean varieties are increasingly tolerant of IDC-generating conditions.
2. **Consider fertilizer with EDDHA Iron chelates:** Using fertilizer with chelates at planting infuses iron into the seed. While the EDDHA formula is expensive, it is more effective in keeping iron available in the plant long enough to prevent IDC from developing. Foliar application of iron chelate works, but forecasting timelines and quantities is difficult, as research is ongoing. Simply adding iron fertilizer to soil will not correct IDC.



Soybean varieties differ in IDC tolerance.



30-Second Summary

- Iron deficiency chlorosis (IDC) in soybeans is caused by iron deficiency and can lead to reduced yield potential.
- There are an increasing number of IDC-tolerant varieties available for planting.
- Using fertilizer with chelates at planting can help infuse iron into the seed.

NOTES:

For more information, contact:



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