

Iron deficiency



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What it does

Iron deficiency affects photosynthesis and leads to reduced yield and dry matter production.

Why and where it occurs

Fe deficiency is relatively rare in Assam, especially in irrigated rice systems.



Soils particularly prone to Fe deficiency include:

- Neutral, calcareous, and alkaline upland soils having high pH
- Alkaline and calcareous lowland soils with low organic matter status
- Lowland soils irrigated with alkaline irrigation water
- Coarse-textured soils derived from granite
- Soils having higher percentage of copper, manganese or zinc

How to identify

- Iron is immobile within plant and deficiency appears on the young newly emerging tissue
- Interveneal yellowing and chlorosis of emerging leaves
- Whole leaves become chlorotic and then very pale
- Entire plant becomes chlorotic with stunted growth and dies if deficiency is very severe
- Decreased dry matter production

To confirm iron deficiency, send soil and plant sample to lab for Fe deficiency test.

Why is it important

Fe deficiency is relatively rare especially in irrigated rice systems, but can occur throughout the growth cycle of the plant. It can be a source of yield loss in alkaline or calcareous soils (especially in the uplands).

How to manage

- Grow Fe-efficient varieties. Contact your nearest local agriculture office/extension functionaries for an up-to-date list of available varieties.
- Apply organic matter (e.g., crop residues, manure).
- Apply waste materials from mining and other industrial operations provided that they do not contain other pollutants at toxic concentrations.
- Use acidifying fertilizers (e.g., ammonium sulfate instead of urea) on high-pH soils.
- Use fertilizers containing Fe as a trace element.



Grow Fe- efficient varieties



Fe-deficiency