

IRON FACTOR



Deficiency Symptoms	Yellowing of the young leaf tissue, while the veins remain green. In severe cases, the entire new leaf may become yellow and can turn almost white. Growth is usually stunted. In Grass Sorghum, Corn, and other grasses, the leaves may have a striped appearance covering the entire length of the leaf.
Functions In Plant	Plays a major role in production of Chlorophyll. Involved in respiration of plants. Serves as a catalyst in cell division and growth processes.
Mobility In Plant	<u>Very immobile</u> . (Deficiencies occur on <u>new</u> leaves.)
Mobility In Soil	Immobile
Influence Of Soil ph	Unavailable at high pH's. Deficiencies are closely associated with alkaline soils.
Factors Affecting Level	<ol style="list-style-type: none"> (1) High pH (2) Calcareous soils (3) High organic matter (4) Erosion of land leveling which removes organic iron.
Factors Affecting Utilization	<ol style="list-style-type: none"> (1) Those above (2) Poor aeration (3) Low temperatures (4) Heavy compaction (5) High Phosphate fertilizers in a band may depress Iron (6) Excess Zinc, Manganese, or Copper depress Iron.
Level In Soil	Several hundred pounds per acre, mostly insoluble.
Adequate Level In Plants	Cotton: 40 – 500 ppm Rice: 20 – 200 ppm Grain Sorghum: 40 – 500 ppm.
Correcting Deficiencies	<ol style="list-style-type: none"> (1) Lower the pH by applying heavy rates of Sulfur. (2) Soil applications – side-dress or pre-plant treatments of .50 to 10 lbs. per acre are effective in some cases. Greater efficiency is obtained when Nitrogen is applied at the same time. (3) Sprays- Iron sulfate applications of 1 lb. actual Iron per 100 gallons of water will help generally. In certain cases, chelates are able to give better and more profitable results. Remember, all chelates are <u>not</u> the same.
Sensitive Crops	Tree crops; Grain Sorghum.
Remarks	The ferrous (Fe ⁺⁺) form is generally considered available to the plant, while the ferric (Fe ⁺⁺⁺) is less available.