

BORON FACTOR



Deficiency Symptoms	Cessation of growth of terminal bud. Short internodes. Young leaves turn light green, progressing to yellow color. Deficiencies in cotton include excess shedding of squares and young bolls. Dark internal discoloration at base of boll, half-opened bolls and green leaves until frost. (Older plant parts may have adequate Boron, while young tissues are deficient.)
Functions In Plant	Promotes early maturity. Affects flower set, fruiting quality, and yield. Necessary in conversion of carbohydrates into proteins. Boron affects root growth. It is essential for normal germination of pollen grains and the growth of pollen tubes.
Mobility In Plant	Quite immobile, causing temporary deficiencies in terminal growth.
Mobility In Soil	Mobile; however, topsoils generally contain a higher concentration than subsoils.
Influence Of Soil ph	Availability declines between pH 5.5 and 7.5
Factors Affecting Level	pH and soils with low organic matter are generally low (in borderline case). Drought or liming can induce Boron deficiencies.
Level In Soil	10-100 lbs. total Boron per acre. 1-10 lbs. available Boron per acre.
Adequate Level In Plants	Soybeans: 20-80 ppm Cotton: 20-80 ppm (2-6 lbs. per acre removed annually).
Correcting Deficiencies	For Cotton, apply 0.2 lb. per acre in banded fertilizer or 1 lb. per acre in broadcast fertilizer. For spray applications, use 0.5 lb. per acre as foliar spray.
Sensitive Crops	Alfalfa and Cotton require more. Soybeans and Peanuts least.
Remarks	The range between deficiency and toxicity is narrow. 1 ½ lbs. per acre can reduce Peanut yields while ½ lb. per acre will prevent hollow heart in Peanuts. Boron toxicity is characterized by yellowing of new leaves at the tips. This is followed by a progressive dying of the leaf, which shows a burned or scorched appearance.