

# BORON ACTS AS A CATALYZER FOR MOST OTHER PLANT NUTRIENTS

## ANTAGONISM

Decreases availability for plants due to the action of the other nutrient

## SYNERGISM

Increases availability for plants because the nutrient increases at the right level with respect to the other nutrient

### N

Urease enzyme is inhibited by boric acid. B stabilizes the inner membrane of glycolipids in the heterocyst's covering and delays the O<sub>2</sub> diffusion.

HIGH DOSE: B ← N  
LOW DOSE: B → N  
SUITABLE DOSE: B → N

### P

B has an important role in the transport of P through the membranes

LOW DOSE: B → P  
LOW DOSE: B ← P  
SUITABLE DOSE: B ← P

### K

Absorption of K increases in the presence of B and it hardly occurs in its absence  
Optimal level of boron increases potassium permeability in the cell membrane

HIGH DOSE: B ← K  
LOW DOSE: B → K  
SUITABLE DOSE: B → K

### Mg

Mg Interacts with B, Ca, and P to enable photosynthesis

HIGH DOSE: B ← Mg  
LOW DOSE: B → Mg  
SUITABLE DOSE: B → Mg

### Al

B decreases toxicity caused by aluminum

LOW DOSE: B → Al  
SUITABLE DOSE: B → Al

# B

## Boron

### Ca

Ca and B play an important role in cell wall metabolism and are required for auxin transport process. Boron protects Ca in cell wall

HIGH DOSE: B ← Ca  
SUITABLE DOSE: B → Ca

### Fe

B levels influence Fe absorption and translocation paralleling the dry matter production

HIGH DOSE: B ↔ Fe  
SUITABLE DOSE: B → Fe

### Mn

B deficiency reduces Mn uptake and limits root growth

HIGH DOSE: B ↔ Mn  
SUITABLE DOSE: B → Mn

### Zn

Together with B play an optimal functioning in the ATPase and the plasmatic membrane redox systems

LOW DOSE: B ← Zn  
HIGH DOSE: B ↔ Zn  
SUITABLE DOSE: B → Zn

