BORON SOLUTIONS
FOR SPECIALTY CROPS

B

THE IMPORTANCE OF BORON

Boron is essential for plant production and needed in small amounts. The line between sufficiency and toxicity is narrow, so spoon-feeding the plant throughout the season ensures adequate boron levels without becoming toxic. Boron does not bond tightly with soil particles, making it subject to leaching within the soil profile. The Andersons has several products containing boron available from different categories.

Product & Analysis	Features	Application Method	Use Rate (per acre)	Density (lbs/gal)	Freezing Pt. (°F)
Boron 10% 10.0 B	• Recommended for the prevention and correction of boron deficiency in all crops • Designed for use with liquid fertilizers and Eezy™Cal 10% liquid calcium	2x2	1-2 quarts	11.1	8
		Sidedress	1-2 quarts		
		Foliar	1-2 pints		
Eezy® Moly-B 5-0-0 + 8.0 B, 1.0 Mo	• Features nitrogen, boron, and molybdenum • Stimulates plant development and encourages maturity • Improves absorption and movement of nutrients into the plant • Leguminous crops will receive the most benefit with increased flowering and fruiting of crop	2x2	16-32 ounces	10.7	18
		Sidedress	16-32 ounces		
		Foliar	12-24 ounces		
MicroCarb® 0.1 B, 0.5 Mn, 0.75 Zn	• Only boron product labeled for in-furrow application • Contains fulvic acid • Increases the efficiency of nutrient uptake • Aids in relief of plant stress	In-furrow	1-2 quarts	8.8	23
		2x2	1-2 quarts		
		Foliar	1-2 pints		
OverPass® CF 22-0-2 + 1.0 S, 0.5 B	• Originally designed to address the in-season needs of corn but great for a variety of crops. • Extends absorption and minimizes leaf interaction from the application of nitrogen • Contains slow release nitrogen, providing feeding for 10-14 days	Foliar	1-2 gallons	10.0	0
Super 25B® 25-0-0 + 0.5 B	• Crop-safe foliar nitrogen (N) source with boron • 25% of N is in slow release form, providing feeding for 10-14 days • Great for post-herbicide applications	Foliar	1-2 gallons	10.0	0
Bean Maker 3-0-15 + 1.0 Mn, 0.25 B	• Ideal for leguminous crops requiring potassium and will benefit from boron, manganese, and nitrogen • Little risk of burn to leaf tissue • Totally and immediately available to the plant	Foliar	0.5-1 gallon	10.6	-10
MicroNourish® 4-0-0 + 3.0 S, 0.25 B, 3.0 Mn, 3.0 Zn	• Highly compatible micronutrient package • Improves overall plant health and nutrient efficiency • Provides maintenance levels of boron to the crop	Foliar	1-2 quarts	10.5	0

ALSO AVAILABLE: MicroNourish® Fe

The Andersons®

For more information on these products and other available products, visit **AndersonsPlantNutrient.com**

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CROP RESPONSE TO BORON

High	Broccoli
High	Cabbage
High	Cauliflower
High	Celery
High	Sweet potato
High	Sugar Beets
High	Tomato
High	Turnips
Medium	Carrot
Medium	Lettuce
Medium	Potato
Medium	Radish
Medium	Sweet Corn
Low	Asparagus
Low	Cucumber
Low	Onions
Low	Peas
Low	Peppers
Low	Snap Beans

The above chart represents crop response when zinc is applied. A high crop response indicates that an application of boron will have a significant impact on yield.

ROLES OF BORON

- Seed fruit and development
- Plant growth and cell development
- Development of cell walls to increase plant stability
- Flowering
- Formation of sugar complexes for translocation within plants and in the formation of proteins
- Enhances uptake of Ca, Mg and K
- Enables sugar translocation

BORON DEFICIENCY SYMPTOMS

Symptoms appear first in young leaf tissue. Boron deficiency often manifests itself as nitrogen deficiency because of its role in nitrogen fixation.

Sugar Beets: Leaves turn yellow and necrotic, brown discoloration of internal tissue and crowns

Cauliflower: Younger leaf margins turn reddish or brown. Older leaves are curled downward and Curd development is stunted

*Always tissue test to ensure correct diagnosis of nutrient deficiency.

BORON DEFICIENCIES CONTRIBUTE TO:

- Decreased rate of water absorption
- Reduced number of flowers per plant
- Reduced root growth

Boron deficient sugar beets
Source: Teagasc

Boron deficient cauliflower
The UMass Center for Agriculture
Source: G. Higgins and S. Scheufele

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4R nutrient stewardship