



**BRANDT**<sup>®</sup>

**Introducing a New,  
Revolutionary  
Form of Boron**

**BRANDT<sup>®</sup> Smart B<sup>™</sup>**  
**BRANDT<sup>®</sup> Smart B-Mo<sup>™</sup>**

**BRANDT SMART B and BRANDT SMART B-MO are the newest formulations in BRANDT's top-selling BRANDT SMART SYSTEM® foliar micronutrient product line.**

BRANDT "SMART nutrients" are designed for maximum nutrient mobility, performance and tank mix compatibility. These new formulations have many advantages:

- One of the most efficient and user friendly forms of boron
- Provides up to 8x more efficiency and mobility than 10% boron
- Highly soluble and stable across a broad pH range
- Boron will not precipitate when it comes in contact with acidic solutions
- Compatible with other micronutrients, including Zn and Ca
- Compatible with insecticides, herbicides and fungicides that have very specific pH ranges

**Why Boron is Important to Crop Production**

Boron is one of the most common micronutrient deficiencies. Without sufficient levels of boron many plant functions can be impaired. Low B can negatively impact vegetative and reproductive growth, cell and tissue growth and reproductive capacity.

**Applying BRANDT Smart B and BRANDT Smart B-Mo during the growing season results in:**

- Healthy germination and pollination resulting in improved fruit, nut and grain set
- Proper nitrogen assimilation and root nodulation formation, for improved nitrogen uptake and utilization
- Efficient carbohydrate metabolism and sugar translocation
- Better plant health and a stronger plant immune system to fight stress and disease
- Enhanced fruit and vegetable quality and yield
- Enhances cell wall stabilization, structure and integrity, which improves storage and shelf life

**Guaranteed Analysis and Rates**

**BRANDT Smart B**

5.0% B *derived from boric acid*

Foliar	Soil
Field, Row, Vegetable & Vine Crops: 0.5-1 pt/ac	All Crops: 1-3 qts/ac in a minimum of 10 gallons of water
Fruit & Nut Tree Crops: 1-4 pts/ac	
Ornamentals: 1-2 pts per 100 gallons of water	

**BRANDT Smart B-Mo**

5.0% B, 0.5% Mo *derived from boric acid and sodium molybdate*

Foliar	Soil
Field, Row, Vegetable & Vine Crops: 0.5-1 pt/ac	All Crops: 1-3 qts/ac in a minimum of 10 gallons of water



## Boron is Critical in Primary Cell Wall Formation



Plant Cells with Sufficient Boron Levels

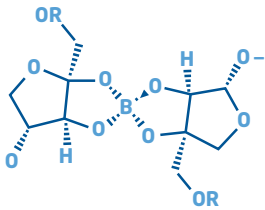


Plant Cells with Insufficient Boron Levels

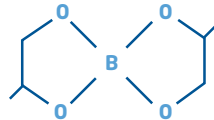
Primary cell walls are the first cell walls to form in new growing and dividing plant cells. Boron provides structural integrity and flexibility to the primary cells walls. Insufficient boron results in the following physiological responses directly related to failures in primary cell wall formation such as:

- Structural damage in vegetative and flowering organs
- Ability for expansion to facilitate cell growth and division
- Control rate and direction of growth
- Protect against pathogens, dehydration, and environmental factors

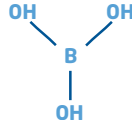
## Molecules Matter: How BRANDT Smart B and BRANDT Smart B-Mo Are Structured for Mobility



boron cross-linked to pectins in the cell wall



BRANDT Smart B mimics natural cross-linking in plants



Boric Acid conventional boron fertilizer

BRANDT's Smart Boron molecule is cross-linked, providing a protective "shield" for the boron that significantly increases foliar applied boron mobility. This allows the Smart Boron molecule(s) access to plant growing points quickly and easily, thereby providing the most benefit.

It also allows the formulations to tank mix with other crop chemicals and fertilizers, including calcium, without any compatibility issues.

In contrast, conventional boron fertilizers are not cross-linked with oxygen which results in less available boron at plant growing points.

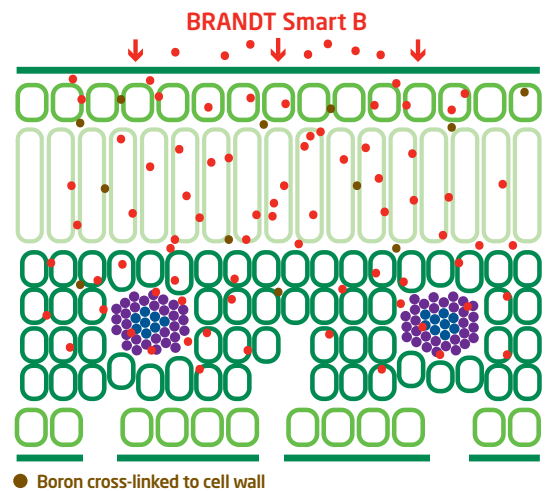
## Tackling the Boron Immobility Issue

Once boron has been absorbed by the plant and incorporated into the primary cell walls structures, disassembly, reorganization and transport of the boron cannot occur resulting in its immobility.

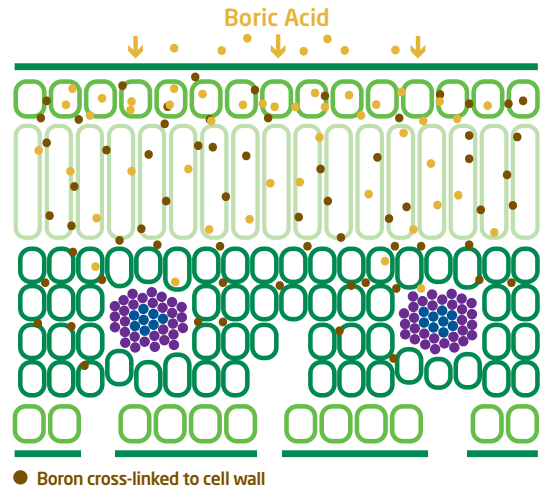
To address this boron mobility issue, BRANDT developed BRANDT Smart B and BRANDT Smart B-Mo to specifically prevent boron from binding with pectins, ensuring that applied boron remains free and mobile for effective travel to plant growth tissues.

## Boron Mobility on the Leaf Surface and in Plant Tissue

### BRANDT Smart B Offers Superior Boron Mobility



### Other Forms of Boron Get Tied Up Inside the Plant



# Proven Results

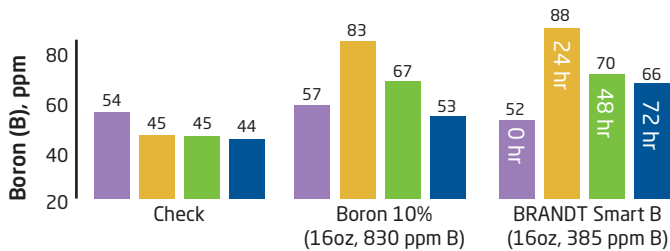
BRANDT conducted numerous studies with independent consultants to evaluate the mobility of BRANDT Smart B and other boron fertilizers.

In tissue tests, even though less boron (PPM) was applied, BRANDT Smart B was much more effective at getting higher levels of boron into plant growth tissues than conventional boron fertilizers.

## BRANDT Smart B Tissue Tests

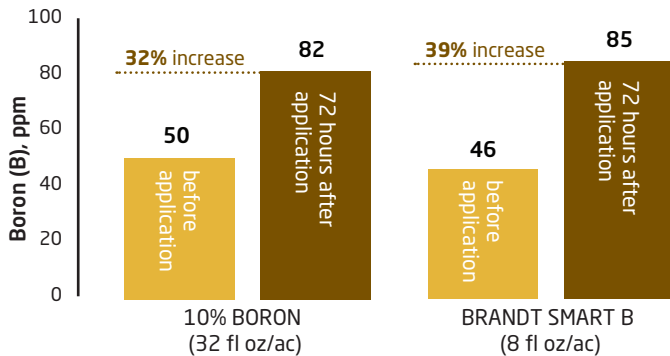
### Soybean Tissue Test

Quitman, GA, 2014, 16 fl oz/ac oz, applied at pre-bloom.



### Tomato Tissue Test

Hobe Sound, FL, 2015, 8 fl oz /ac, applied at pre-bloom.



## BRANDT Smart B and BRANDT Smart B-Mo Field Trials

### Corn

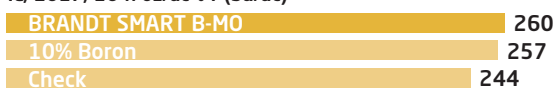
IL, 2014, 14 fl oz/ac at VT with fungicide application (bu/ac)



IL, 2015, 16 fl oz/ac VT (bu/ac)



IL, 2017, 16 fl oz/ac VT (bu/ac)



### Almonds

CA, 2016, 16 fl oz/ac (lb nut meat/ac)



### Soybean

IL, 2014, 16 fl oz/ac at R2 (bu/ac)



GA, 2014, 16 fl oz/ac at R2 (bu/ac)



IL, 2017, 16 fl oz/ac at R3 (bu/ac)



### Lettuce

CA, 2016, 8 fl oz/ac applied at 4 and 2 weeks before harvest (lbs/ac)



### Kale

CA, 2016, 8 fl oz/ac applied at 4 and 2 weeks before harvest (lbs/ac)



### Tomato

FL, 2015, 8 fl oz/ac at pre-bloom (lbs/ac)



### Pepper

FL, 2015, 8 fl oz/ac at pre-bloom (lbs/ac)



### Cotton

TX, 2017, 16 fl oz/ac at match head square, early bloom and boll fill (lbs/ac - lint yield)

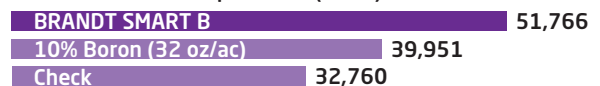


MS, 2017, 16 fl oz/ac at match head square, early bloom and boll fill (lbs/ac - seed cotton yield)



### Watermelon

FL, 2015, 8 fl oz/ac at pre-bloom (lbs/ac)



FL, 2016, 8 fl oz/ac at pre-bloom (lbs/ac)



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