

# Unlock Plant Glucose and Yield Potential

**BRANDT<sup>®</sup> GlucoPro<sup>™</sup>** 

BRANDT GlucoPro is an entirely new Plant Growth Regulator concept and the first technology of its kind in agriculture.

### The Importance of Glucose in Plants

All living cells require a continued source of energy to carry out their biological functions. One of the primary sources of plant energy is glucose, which is created by the plant during photosynthesis. Glucose also plays a role in the formation of starches and cellulose.

## Factors That Limit Glucose Availability

While glucose directly impacts plant development, there are factors that can limit glucose availability inside the plant. One of those factors is the binding of Lectin proteins and glucose molecules. Lectin is a protein that is present in all plants and found in high concentrations in plant seeds and roots. The protein has a natural tendency to bind to glucose. When this occurs, the glucose is fixed to the Lectin and not available to the plant to use. Being able to turn off Lectin's affinity to bind to glucose is the key concept behind BRANDT GLUCOPRO technology.



#### BRANDT GLUCOPRO Unlocks and Releases Glucose That Is Bound to Lectin Proteins

Providing the plant with a flush of glucose to use as an energy source



### **Mechanism of Action**

BRANDT GLUCOPRO is a ground-breaking new technology that disables Lectin proteins to prevent them from binding to glucose. The patented mechanism of action, "unlocks and releases" the glucose that is bound to the Lectins. This frees and releases the glucose into the plant, providing the plant with a flush of energy to carry out its biological functions.

#### **ACTIVE INGREDIENTS:**

Methyl-alpha-D-mannopyranoside (CAS#617-04-9) .	12.15%
OTHER INGREDIENTS:	87.85%
TOTAL:	100.00%

Contains 1.09 lbs of alpha methylmannoside per gallon

#### **Key Advantages**

Applying BRANDT GLUCOPRO at planting and in early plant growth stages releases glucose that is fixed inside plant seeds and roots, which stimulates germination, root growth and tissue growth. Subsequent applications of BRANDT GLUCOPRO during high growth periods provide an additional supply of energy to the plant during fruit and vegetable development. The net result is:

- Increased yield and premium marketable yield
- Increased harvestable weight
- Larger fruit size and fruit count
- Increased quality
- Improved firmness and flavor
- Increased brix at harvest

BRANDT GLUCOPRO has received high praise and accolades from the global science community

# "An elegant scientific advancement in agriculture"

- Russian Academy of Science



BRANDT GLUCOPRO is based on the research and discoveries of Dr. Arthur Nonomura and the late Dr. Andrew Benson. Dr. Benson is one of the most renowned plant scientists of the 20th century and one of the world's top experts on photosynthesis. Dr. Benson's work includes the discovery of the Calvin-Benson cycle and his colleague was awarded a Nobel prize in chemistry for their work. Dr. Benson's research continued under the leadership of Dr. Nonomura and in 2014 a joint venture was formed with BRANDT to develop this revolutionary new technology: BRANDT GLUCOPRO.

The late Dr. Andrew Benson

# **Blueberry Trial**

## **Field Trial**

Year	2017
Treatments	1. Check
	<ol> <li>BRANDT GLUCOPRO 6 fl oz/ac (0,4 l/ha),</li> <li>4 foliar applications at 2 week intervals</li> </ol>

Yield (lb/ac)	26%	
BRANDT GlucoPro	76,2 (t/ha)	67,986.9
Check	60,5 (t/ha) <b>53,981.</b>	L
% Brix		0.2
BRANDT GlucoPro		14.2
Check		14.0
		1

# **26% yield increase** 14,005 lb/ac (15,7 t/ha)

BRANDT GLUCOPRO increased blueberry yield and brix levels. Treated blueberries produced an additional 14,005 lbs/ac (15.7 t/ha) and had a 26% yield advantage over the untreated check. Treated blueberries also had a higher mean brix measurement at first harvest.



## **Application Rates and Timing For Blueberries**

BRANDT GLUCOPRO may be applied as a foliar application on blueberries at a rate of 6-10 fl oz/ac (0,4 - 0,7 l/ha). The first application should be made at green fruit development stage starting at early fruit set. 2-3 additional applications may be made at 2 week intervals as needed until blueberries reach 10% blue stage.



Bloom

Green Fruit

# **Cherry Trial**

# **Field Trial**

Year	2017
Treatments	1. Check
	<ol> <li>BRANDT GLUCOPRO 20 fl oz/ac (1,5 /ha),</li> <li>3 foliar applications</li> </ol>

Yield (ton/ac)		119	6
BRANDT GlucoPro	11,65 (t/ha)		5.2
Check	10,31 (t/ha)	4.6	
Mean Cherry Fruit Weight at First P	ick (g)	2%	
BRANDT GlucoPro		8.6	
Check		8.4	

# **11% yield increase** 0.525 tons/ac (1.17 t/ha)

BRANDT GLUCOPRO increased yield and marketable fruit count in cherry trials. Treated cherries produced an additional 0.525 tons/ac (1.17 t/ha) and had an 11% yield advantage over the untreated check.



## **Application Rates and Timing For Cherries**

BRANDT GLUCOPRO may be applied as a foliar application on cherries at a rate of 10-20 fl oz/ac (0,7 – 1,5 l/ha). The first application should be made at post-bloom. A second application may be made 2 weeks later and a third application may be made at straw color stage.



# Watermelon Trial

## **Field Trial**

Year	2017, Raymondville, TX
Treatments	1. Check
	<ol> <li>BRANDT GLUCOPRO 10 fl oz/ac (0,7 l/ha), 2 applications through drip</li> </ol>

Marketable Yield (lb/ac)		15%
BRANDT GlucoPro	84,95 (t/ha,	75,788
Check	74,13 (t/ha,	66,136
Marketable Fruit (count/ac)		14%
BRANDT GlucoPro		3,167.1
Check		2,780.2
Large Marketable Fruit (Ib/ac)		14%
BRANDT GlucoPro	42,02 (t/ha)	37,488.5
Check	36,81 (t/ha)	32,837.5

# **15% yield increase** 9,652 lb/ac (10.82 t/ha)

BRANDT GLUCOPRO increased marketable yield and fruit count in watermelon trials. Treated watermelon plots produced an additional 9,652 lbs/ac (10.82 t/ha) and had a 15% yield advantage over the untreated check.



## **Application Rates and Timing For Watermelon**

BRANDT GLUCOPRO may be applied as a foliar or soil application on watermelon at a rate of 6-10 fl oz/ac (0,4 - 0,7 l/ha). The first application should be made at early bloom stage. 1-2 additional applications may be made at 2 week intervals as needed until watermelons reach late fruit sizing stage. A final application is recommended 2-3 weeks before harvest.



# **Cantaloupe Trial**

## **Field Trial**

Year	2014, Tonopah, AZ
Treatments	1. Check
	<ol> <li>BRANDT GLUCOPRO 6.6 fl oz/ac (0,5 l/ha), 2 foliar applications</li> </ol>

Fruit Weight (Ib)		12%
BRANDT GlucoPro	2,2 (kg)	4.9
Check	1,9 (kg)	4.3
% Brix		1.1
BRANDT GlucoPro		13.9
Check	1	L2.8

# **12% increase in fruit weight** 0.6 lb (0.27 kg)

BRANDT GLUCOPRO increased cantaloupe fruit weight, size, brix level and yield in cantaloupe trials. Treated cantaloupe weighed 12% more than untreated cantaloupe and had a statistically significant brix increase of 1 point.



## **Application Rates and Timing For Cantaloupe**

BRANDT GLUCOPRO may be applied as a foliar or soil application on cantaloupe at a rate of 6-10 fl oz/ac (0,4 - 0,7 l/ha). The first application should be made at early bloom stage. 1-2 additional applications may be made at 2 week intervals as needed until cantaloupes reach late fruit sizing stage. A final application is recommended 2-3 weeks before harvest.



# **Tomato Trial**

### **Field Trial**

Year	2015
Treatments	1. Check
	<ol> <li>BRANDT GLUCOPRO 10 fl oz/ac (0,7 l/ha), 3 foliar applications</li> </ol>

Marketable Yield (ton/ac)	24%	
BRANDT GlucoPro	172,16 (t/ha)	76.8
Check	139,2 (t/ha) <mark>62.1</mark>	

# **24% yield increase** 14.7 tons/ac (32.95 t/ha)

BRANDT GLUCOPRO increased marketable yield in tomato trials. Treated tomatoes produced an additional 14.7 tons/ ac (32.95 t/ha) and had a 24% yield advantage over the untreated check.



### **Application Rates and Timing For Tomatoes**

BRANDT GLUCOPRO should first be applied on tomato plants as a soil application at transplant or immediately following transplant at a rate of 10-20 fl oz/ac (0,7 - 1,5 l/ha).

#### AND/OR

Apply BRANDT GLUCOPRO as a foliar at first green fruit stage at a rate of 6-12 fl oz/ac (0,4 - 0,9 l/ha). 1-2 additional applications may be made at 2 week intervals as needed.





### **Field Trial**

Year	2017
Treatments	1. Check
	<ol> <li>BRANDT GLUCOPRO 10 fl oz/ac (0,7 l/ha), 2 foliar applications</li> </ol>

Yield (lb/ac)	11%	
BRANDT GlucoPro	19,13 (t/ha) <b>17,065.7</b>	
Check	17,23 (t/ha) <b>15,371.2</b>	

# **11% yield increase** 1,694 lb/ac (1.9 t/ha)

BRANDT GLUCOPRO effectively increased yield in pepper trials. Treated peppers produced an additional 1,694 lbs/ac (1.9 t/ha) and had an 11% yield advantage over the untreated check.



### **Application Rates and Timing For Peppers**

BRANDT GLUCOPRO should first be applied on pepper plants as a soil application at transplant or immediately following transplant at a rate of 10-20 fl oz/ac (0,7 - 1,5 l/ha).

#### AND/OR

Apply BRANDT GLUCOPRO as a foliar at first green fruit stage at a rate of 6-12 fl oz/ac (0,4 - 0,9 l/ha). 1-2 additional applications may be made at 2 week intervals as needed.



# **Romaine Lettuce Trial**

### **Field Trial**

Year	2015
Treatments	1. Check
	<ol> <li>BRANDT GLUCOPRO 10 fl oz/ac (0,7 l/ha), 2 foliar applications</li> </ol>

Yield (lb/ac)	24%	
BRANDT GlucoPro	65,25 (t/ha)	58,216.6
Check	52,56 (t/ha) <b>46,889.3</b>	

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## **Application Rates and Timing For Lettuce**

# **24% yield increase** 11,327.3 lb/ac (12.7 t/ha)

BRANDT GLUCOPRO effectively increased yield in romaine lettuce trials. Treated lettuce produced an additional 11,327 lbs /ac (12.7 lbs/ha) and had a 24% yield advantage over the untreated check.



BRANDT GLUCOPRO may be applied as a foliar application on leafy varieties of lettuce at a rate of 6-10 fl oz/ac (0,4 - 0,7 l/ha). The first application should be made 4 weeks before harvest and a second application should be made 1-2 weeks before harvest.

For head forming varieties of lettuce, a foliar application should be made at a rate of 6-10 fl oz/ac (0,4 - 0,7 l/ha). The first application should be at the head initiation growth stage and a second application should be made 1-2 weeks before harvest.



# **Cabbage Trial**

## **Field Trial**

Year	2017, Chula, GA
Treatments	<ol> <li>Check</li> <li>BRANDT GLUCOPRO 10 fl oz/ac (0,7 l/ha), 2 applications through drip irrigation</li> </ol>
Total Harvost (II	<b>7</b> 0/

TOTAL HALVEST (ID/AC)	/ %	
BRANDT GlucoPro	51,51 (t/ha) 45,953.	5
Check	48,26 (t/ha) <b>43,056</b>	
Premium Yield (lb/ac)	6%	
BRANDT GlucoPro	46,16 (t/ha) 41,181	
Check	43,47 (t/ha) <mark>38,784</mark>	

# **7% yield increase** 2,897 lb/ac (3.25 t/ha)

BRANDT GLUCOPRO increased yield and premium marketable yield in cabbage trials. Treated cabbage produced an additional 2,897 lbs/ac (3.25 lbs/ha) and had a 7% yield advantage over the untreated check.



## **Application Rates and Timing For Cabbage**

BRANDT GLUCOPRO should first be applied on cabbage as a soil application at transplant or immediately following transplant at a rate of 10-20 fl oz/ac (0,7 - 1,5 l/ha).

### AND/OR

BRANDT GLUCOPRO may be applied as a foliar at head initiation stage at a rate of 6-10 fl oz/ac (0,4 - 0,7 l/ha). 1-2 additional applications may be made at 2 week intervals as needed.



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