



# Botano Health

**Next generation protection  
for super organic farming**

Safe and efficient  
organic crop protection  
for the entire food chain





## KEY HIGHLIGHTS

**UNIQUE SELLING  
POINT**

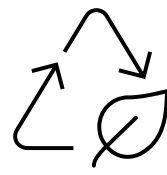
**SCALABLE  
TECHNOLOGY**

**TAM  
MASSIVE TOTAL  
AVAILABLE MARKET**

**HIGHLY  
DIFFERENTIATED &  
TESTED PRODUCT  
MARKET FIT**

**RAPID GROWTH &  
SCALE**

The opportunity:



How to control and prevent destructive fungus, molds and insects from reducing crop loss along the food chain  
**More than 1 Trillion US\$ yield unnecessary loss!**



**The unnecessary yield loss is 40%!**

**Fungus and insects develop resistance to chemical pesticides**

**Use BHB and avoid toxic chemicals**

**Safe "A to Z" food chain**

**Unique pre and post harvest protection**

**ZERO pesticide and fungus residues allowed in cannabis**

**30% higher returns for the same investment**

**Innovative technology with low cost**



# KEY HIGHLIGHTS

**UNIQUE  
SELLING  
POINT**



# The solution: Holistic approach to the safe food chain

**Botanohealth develops next  
generation efficient solutions  
to increase yields in super  
organic farming**

Destructive fungus and insects infest plants  
throughout the food chain **from the seed stage to the  
consumer's dining table**



# The solution:

## Botanohealth next generation products

Plant-based ingredients

Patented innovative formulation

Increasing the efficacy by 20 times

Slow evaporation

Preserving the active ingredient on the plant

Reducing cost and phytotoxicity

Proven efficacy in field trials

Simple to apply

USA

OMRI organic certified



Regulatory approved in the US

Prevents and Cures



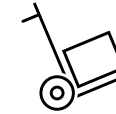
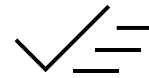
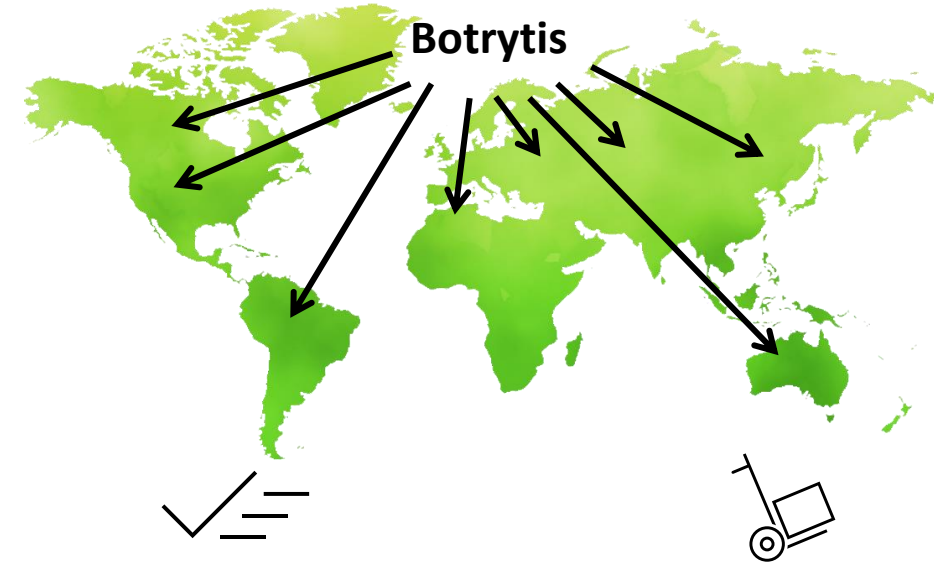
Botanohealth products are efficient eco – friendly and safe solutions for crop protection: reduce toxic product application in farming, improve sustainability, protect environment, improve food safety



# The solution: How it works

Market demonstration of **one fungus: Botrytis**. The estimated damage yield caused by **Botrytis** is close to 20 Bn\$ worldwide

Data driven development approach  
High end research laboratories  
**Patented innovative formulation**



**The need:  
Fungicide**

**Active organic  
ingredients:  
Thyme oil**

**Patented innovative  
formulation**

**BHB  
Prevention & control of  
Botrytis**



**BHB  
Initial  
global  
sales**



**Botanohealth BHB Controls Botrytis, Root Aphids, Black Spots, Powdery**

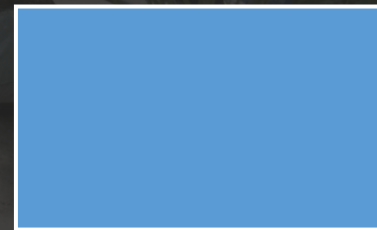
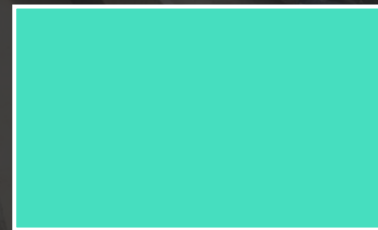
**Mildew, Sigatoka, Bugs, Gnats, Blight, Spider Mites**



## KEY HIGHLIGHTS



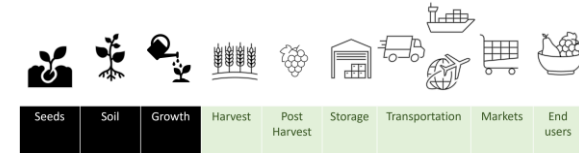
**SCALABLE  
TECHNOLOGY**



# R&D and Technology

Pipeline of innovative products for super organic farming

## The need in the food chain:



**Fungicide**

**Insecticide**

**Control of soil diseases**

**Post harvest**

**Organic Sterilization**

**Active organic ingredients**

**Thyme oil**

**Organic essential oil A**

**Organic essential oil B**

**Organic essential oil C**

**Thyme oil**



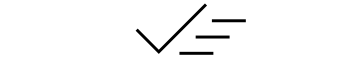
**Patented innovative formulation**

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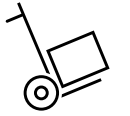


**BHB Prevention & control of Botrytis**

**R&D**

**R&D**

**R&D**





## KEY HIGHLIGHTS



**TAM**  
**MASSIVE TOTAL**  
**AVAILABLE MARKET**



# The Cannabis Market:

Botanohealth products are **very effective** in **control of cannabis pests and fungus**

**Passing bioassay tests:**  
Reduction of germs and yeasts below permitted levels

The products started **revenue stage in 2021** with repeat sales and good traction

Botanohealth products are **already registered in 17 states**, others in process

Comply with the **EPA and OMRI** standards



## World Cannabis Market

**2028  
forecast  
70 B US\$**

**Annual  
growth rate  
27%**

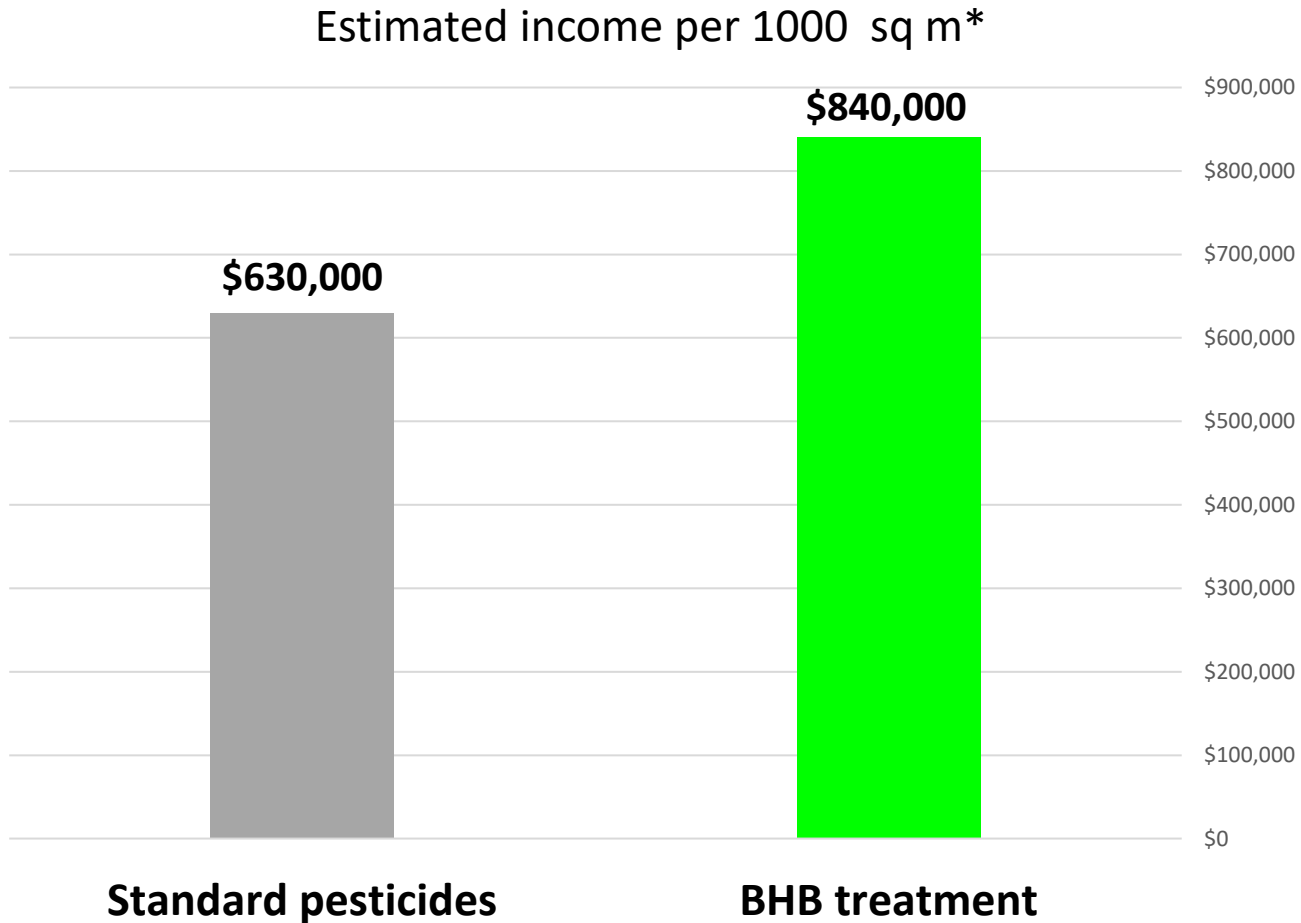
**USA:  
79% of global  
market**



# The Estimated Cost-Benefit of BHB in Cannabis

BHB yearly cost of application: \$ 1000

**Increases yield and income by 33%**



Oct 2021

“Great results... microbial test 100% pass rate”

**Daniel Reis, PharmaCann, Ohio**

# High Efficacy in Cannabis

pre and post harvest:



Field trial:

**BHB reduces Powdery Mildew damage to cannabis by 80%**

	Date	Control	BHB 1%
Averages of powdery mildew infestations from 10 plants per treatment	5 Jan 2021	6.6	3
	10 Jan 2021	9.6	2

Oct 2021

"It came as I was about to spray. So I used it. I've used thyme oil before just not your brand. I was very happy with the product."

**Bill Carrmch A&B Growers LLC Massachusetts**

**The product has been approved and is among the only ones available to growers in Israel**



# High Efficacy in Cannabis pre and post harvest:



100% of Cannabis produce is required to undergo chemical analysis

ZERO chemical residues of toxic pesticides in Cannabis

ZERO presence of fungus and molds in Cannabis flowers

## Laboratory tests: Cannabis inflorescences application by fogger

	Permitted	Control	BHB
Yeast and Molds	2000	4000 Not permitted for sale	80 Good for sale
Germs	2000	Germs>100,000 Not permitted for sale	1000<Germs Good for sale

Jun 2021

"The product works well to keep molds n mildews off the cannabis plants. The plants also seem to like it. It does not seem to leave too much behind on the leaf which is also desirable."

**Stephen G. a US Cannabis expert**


# Vertical farming :

Botanohealth products are directly developed for vertical farming in pre harvest & post harvest use



- Vertical farming requires continual harvesting
- BHB enables continuous entry of workers for treatments and harvesting
- BHB enables production in high yield farming systems
- Only organic products are permitted in farming in closed spaces

## Vertical farming market

3 B\$ 2021  17.6 B\$ 2028

Annual growth rate

25.2%

North America dominant in global market  
Increasing demand for organic food



# Field Trial Results: lettuce, Spain 2021

BHB increases yield by 33% compared to control  
BHB improves quality - lettuce is 33% larger than the control



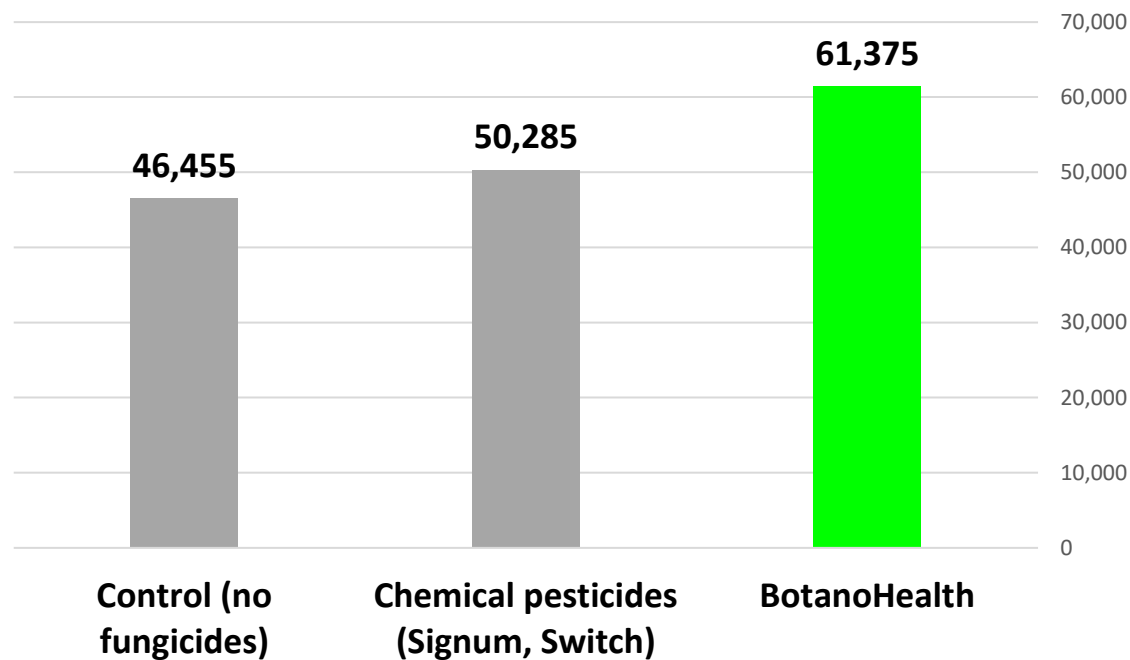
## Lettuce market

US: 2 Bn \$ ↗

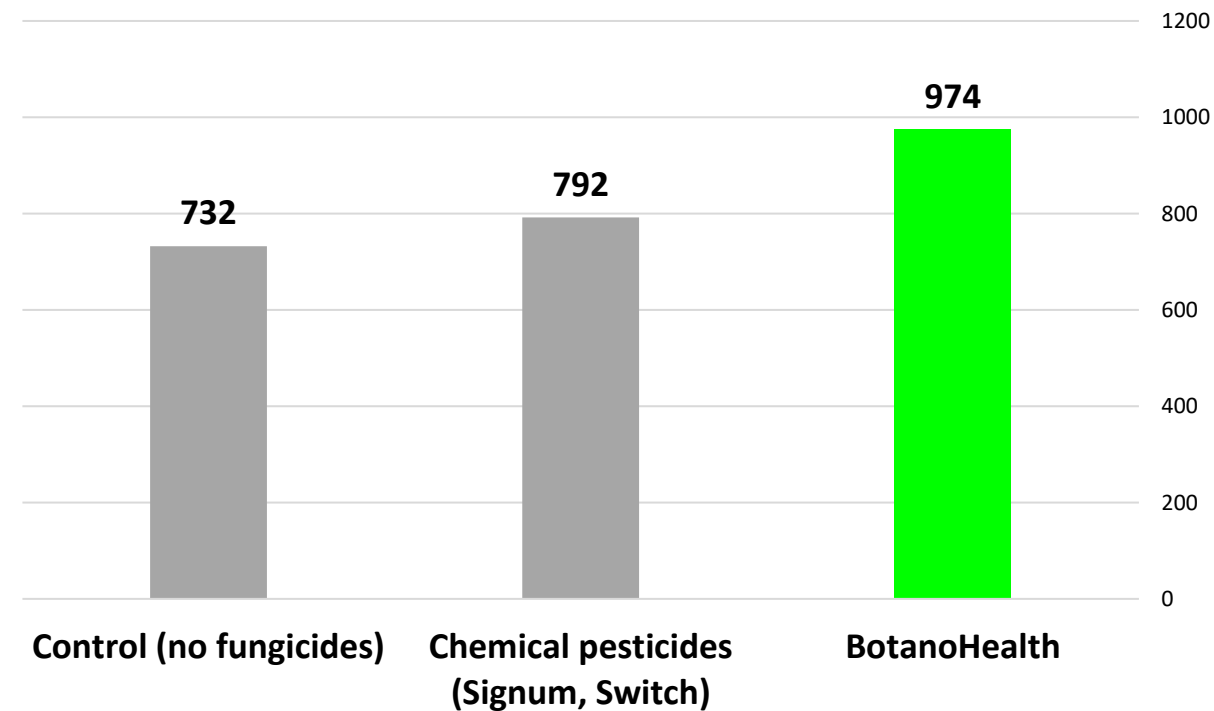
Spain: 0.75 Bn \$ ↗



Total Production (Kg/HA)  
(excluding rotted lettuce)



Average weight per unit (gr/unit)



# The Biopesticides market:



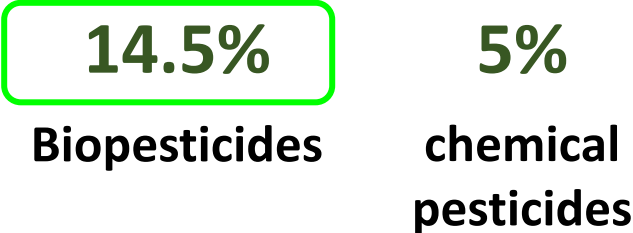
## World biopesticides market



## US dominates biopesticides market

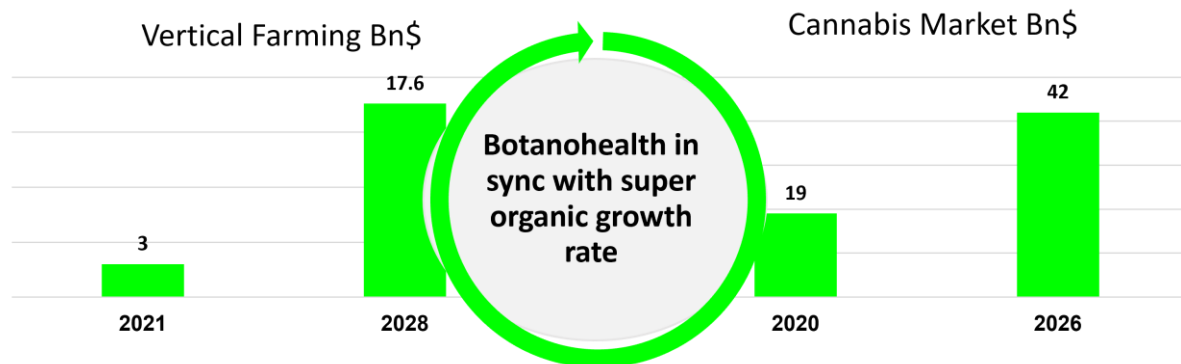


## Annual growth rate

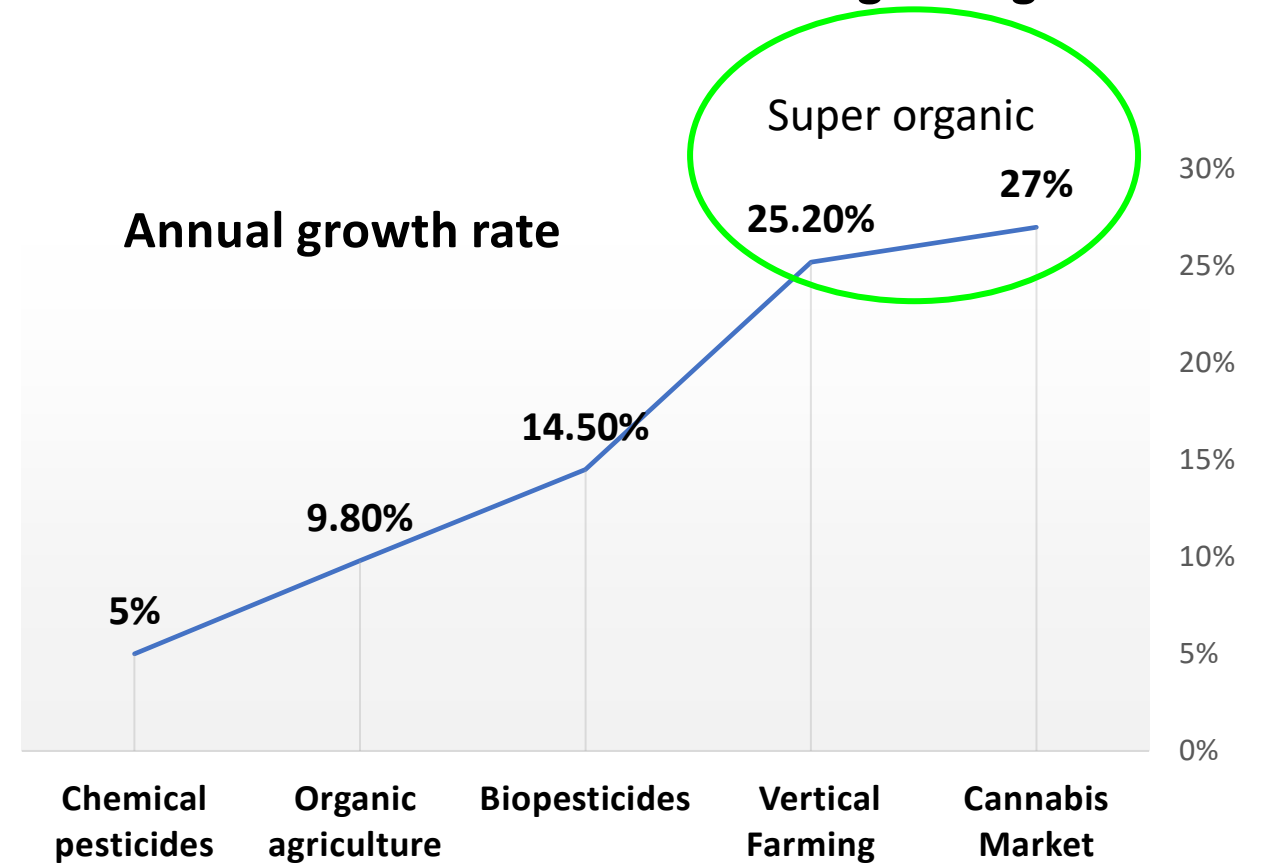


# The right solution in the right time

Botanohealth products assure high yields and returns for growers in the highest growth segments in agriculture and food



Botanohealth is part of the two fastest growing markets





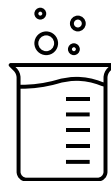
## KEY HIGHLIGHTS



**HIGHLY  
DIFFERENTIATED &  
TESTED PRODUCT  
MARKET FIT**



# Highly differentiated product



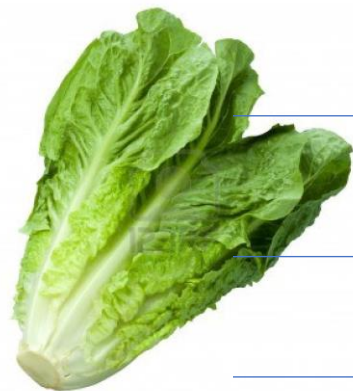
	<b>Botanohealth BH-B</b>	<b>Bio-Pesticides</b>	<b>Chemical Pesticides</b>
<b>Toxicity</b>	<b>None</b>	<b>Medium</b>	<b>High</b>
<b>Costs</b>	<b>Low</b>	<b>High</b>	<b>Medium</b>
<b>Fungus resistance to pesticides</b>	<b>Low</b>	<b>Medium</b>	<b>High</b>
<b>Pre harvest &amp; post harvest use</b>	<b>Yes</b>	<b>Yes</b>	<b>Not legal</b>
<b>Application by foliar spray and drip irrigation</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
<b>Multifunctional: fungus, insects</b>	<b>Yes</b>	<b>Not all products</b>	<b>Not all products</b>
<b>USA market - OMRI listed for organic use</b>	<b>Yes</b>	<b>Not all products</b>	<b>No</b>

“Our company, GrowBIG Commercial Grower's Supply is a US Distributor based in NorCal. We and our clients have validated these results including bioassay tests and many large scale farm applications. It is the best fungicide we have found for use on cannabis/hemp where regulations prohibit use of myclobutanil and other EPA pesticides. [www.growbigogh.com](http://www.growbigogh.com) for US contact info, or DM me.”

**Chris McGrowin** GrowBIG CEO



# Highly differentiated product



Crop	Destructive fungus	Botanohealth- BHB results	Chemical pesticide results
Lettuce	Botrytis, Sclerotina	60 ton/ Ha yield ✓	Signum, Switch 50 ton/Ha yield
Grapes	Botrytis	10% decay ✓	Mythos (Pyrimethanil) 37% decay
Strawberries	spider mites	90% control ✓	like industry standard ✓
Bananas	Sigatoka disease	86% control ✓	like industry standard ✓
Roses	Powdery Mildew	Eliminated after 2 applications ✓	Impulse (Spiroxamin) Eliminated after 2 applications ✓
Strawberries	Powdery Mildew	Significantly reduced after 1 application ✓	Impact (Flutriafol) Significantly reduced after 1 application ✓
Herbs(Sage)	Powdery Mildew	Significantly reduced after 3 application ✓	Impulse (Spiroxamin) Significantly reduced after 3 application ✓

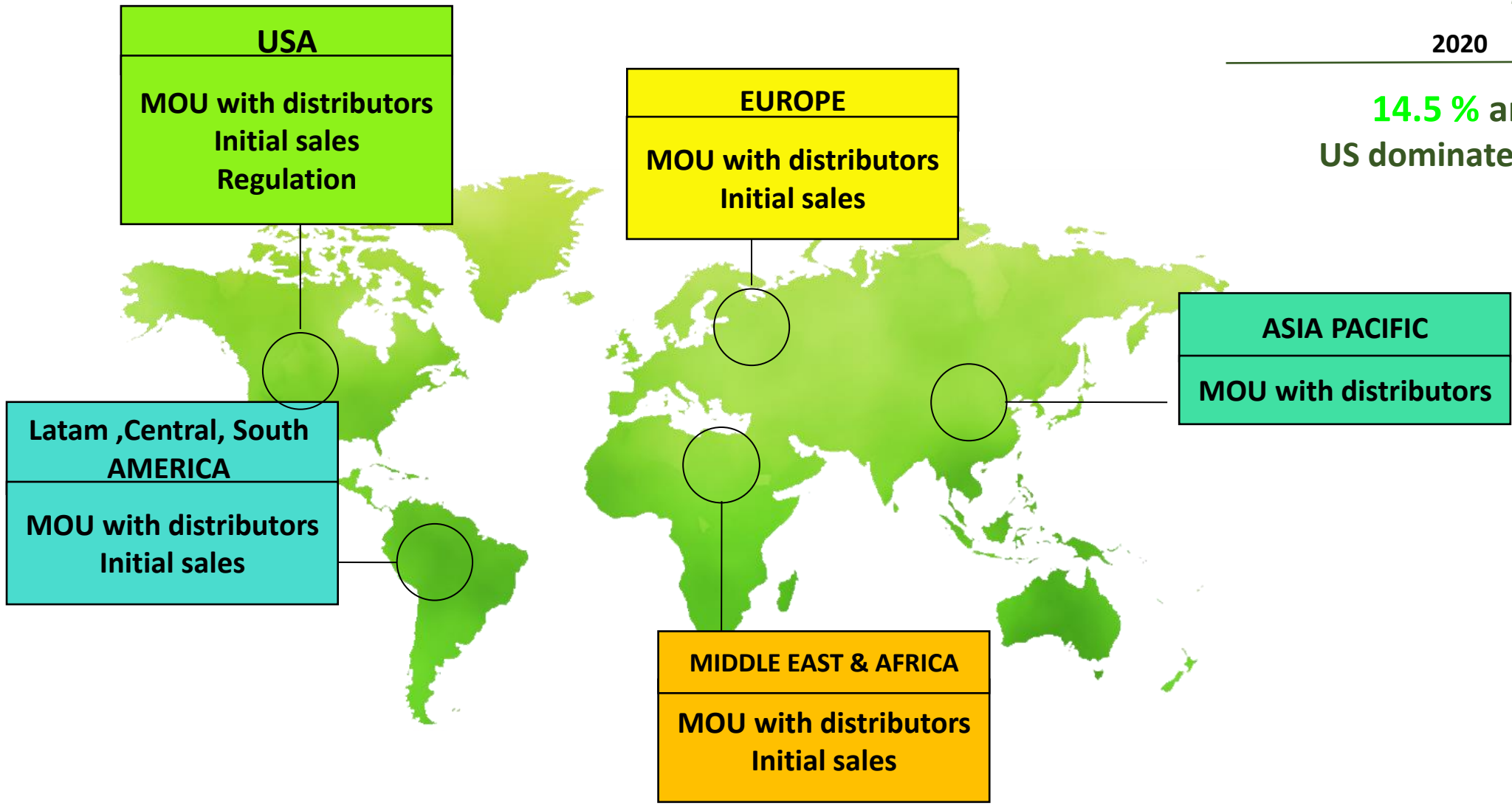


## KEY HIGHLIGHTS



**RAPID  
GROWTH &  
SCALE**

# Go to market



World Biopesticides market

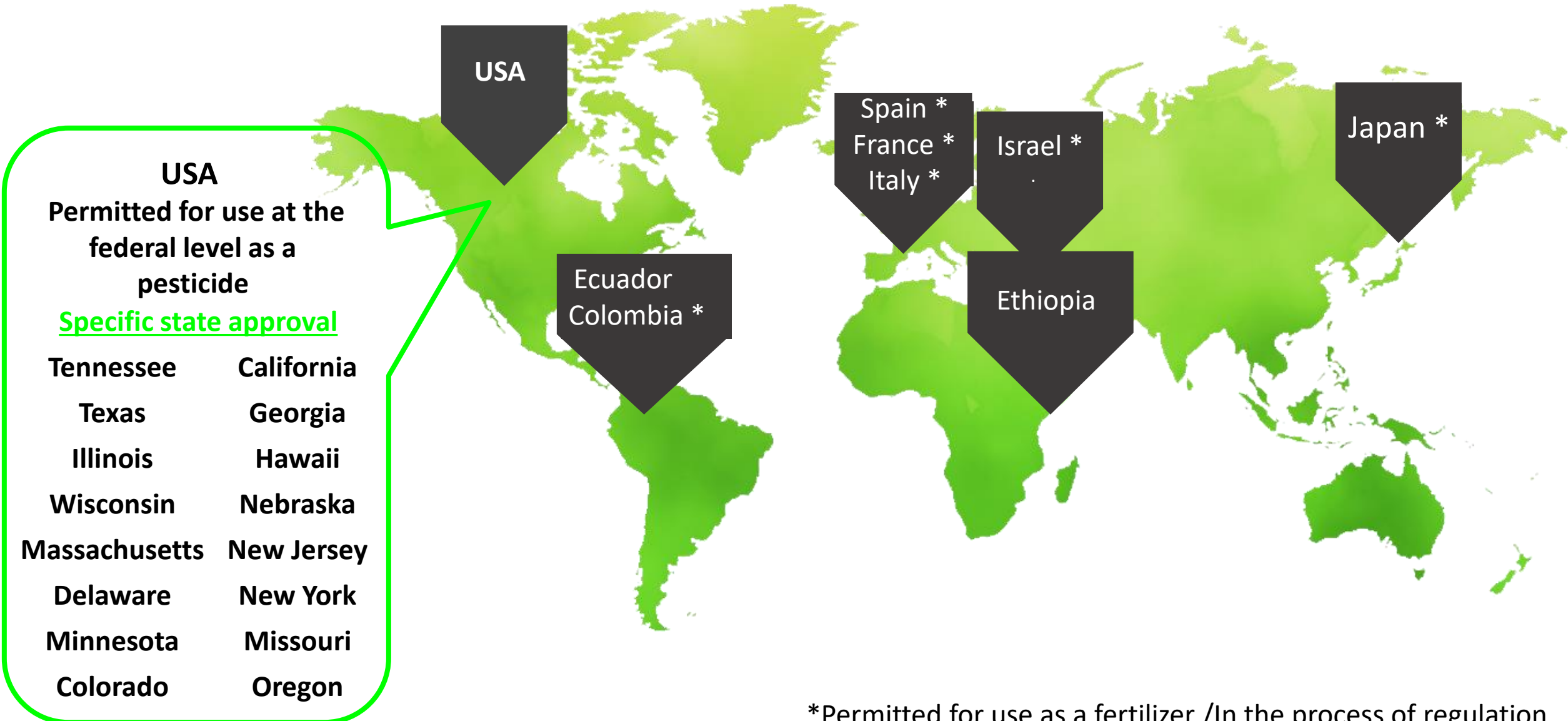
5.1 B\$ → 11.4 B\$

2020

2026

14.5 % annual growth rate  
US dominates biopesticides market

# Regulation / Exemption from regulation (minimum risk pesticide)



\*Permitted for use as a fertilizer /In the process of regulation

# Factory: Licensed and certified

Herbs of kedem Ltd  
(TGE) - sub contractor  
of Botanohealth

GMP  
(Good Manufacturing  
Practice)

Licensed to produce  
pesticides

Ability of yearly  
production capacity  
5,000,000 liter  
(US\$ 50 million sales)

Ability to establish a  
production line  
worldwide



The production process is scalable, raw materials are available in large quantities,  
production units will be installed in main territories **reducing by 90% logistics costs!**



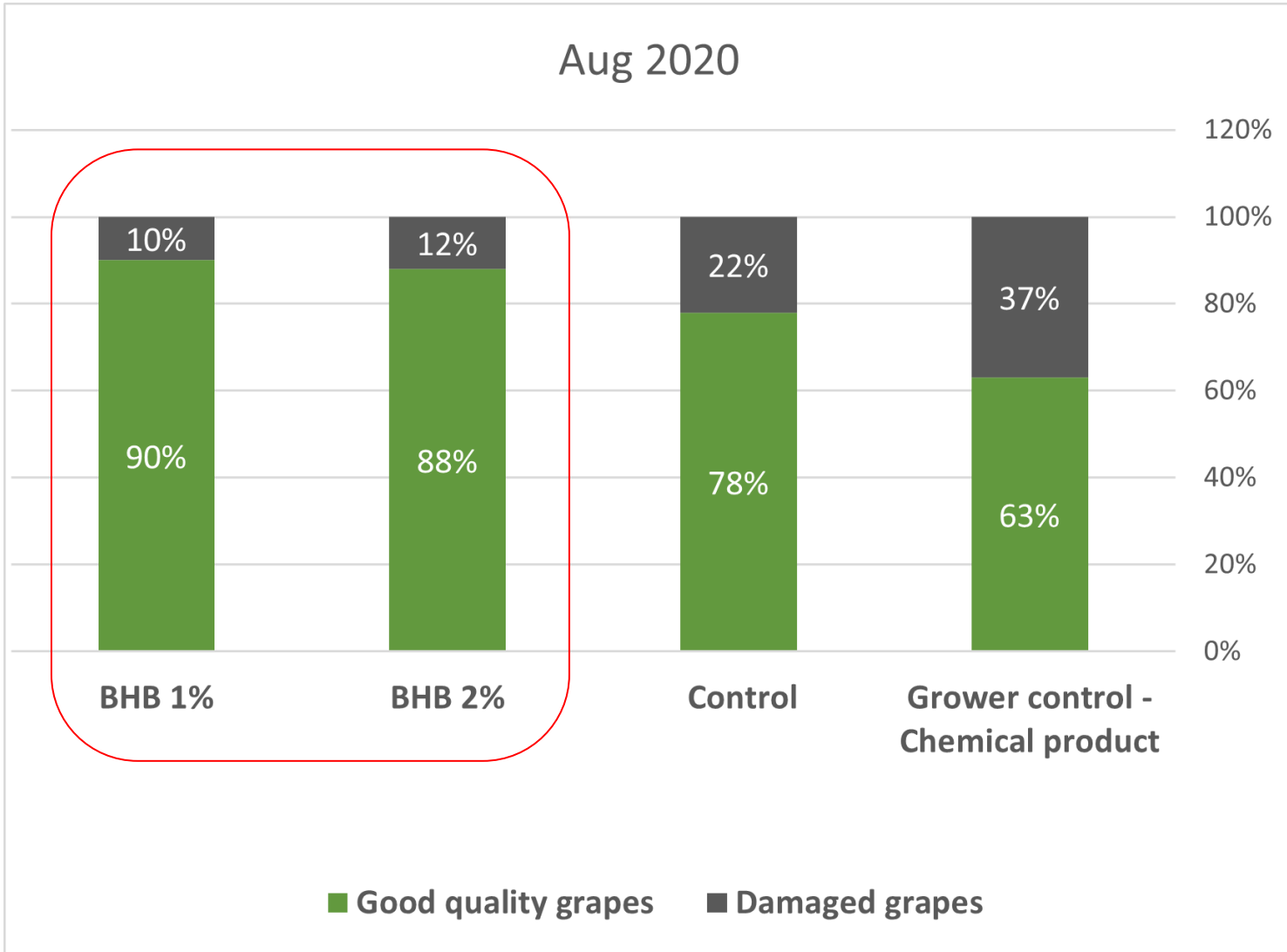
Proof of concept



# Trial Results: Grapes, Volcani Center, Israel, Aug 2020

## Three weeks pre-harvest + Three weeks post-harvest

### BH-B treatment reduced infection of Botrytis





Field trials : Aspergillus  
Grapes, Aug 2020, Israel



Aspergillus infestation after application					
The product	Concentration %	Spray 1+10 Days		Spray 2+8 Days	
		Frequency	Severity	Frequency	Severity
BHB	1%	10.2	0.1	36.6	0.3
Control		35.6	0.5	58.6	0.9



Field trials: Powdery mildew  
Mango, May 2020, Israel



Infestation of mango after application					
The product	Concentration	Inflorescences infected with powdery mildew		% Powdery mildew coverage in inflorescences	
		15 Days	22 Days	15 Days	22 Days
		BHB	2%	67.5	92.5
Control		92.5	100	8.2	21.9



Trial Results: Botrytis  
Tomatoes , Volcani Center, Israel

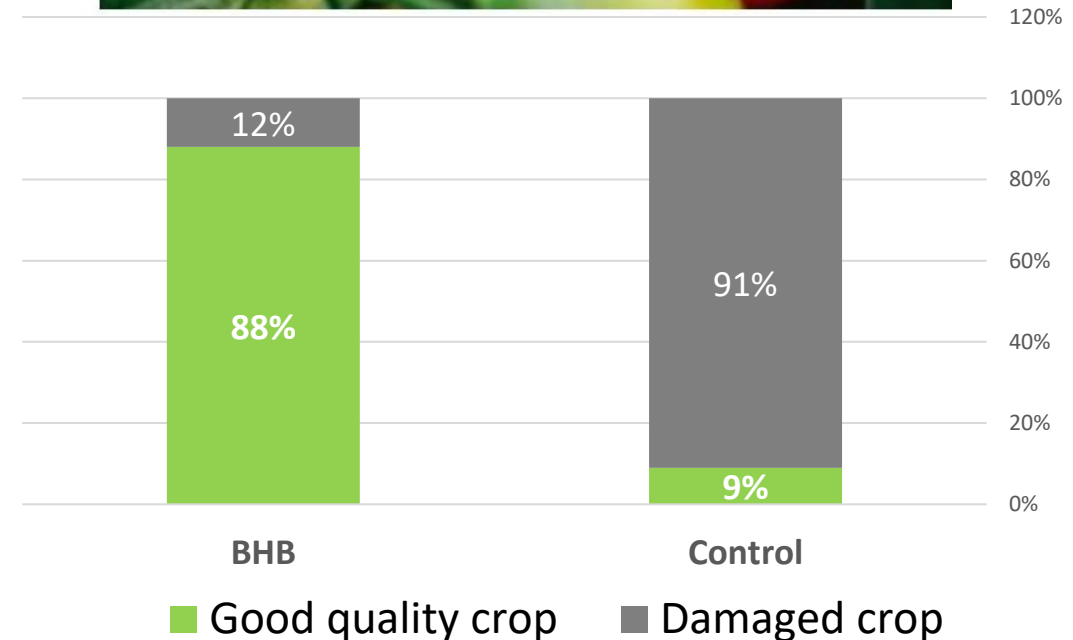
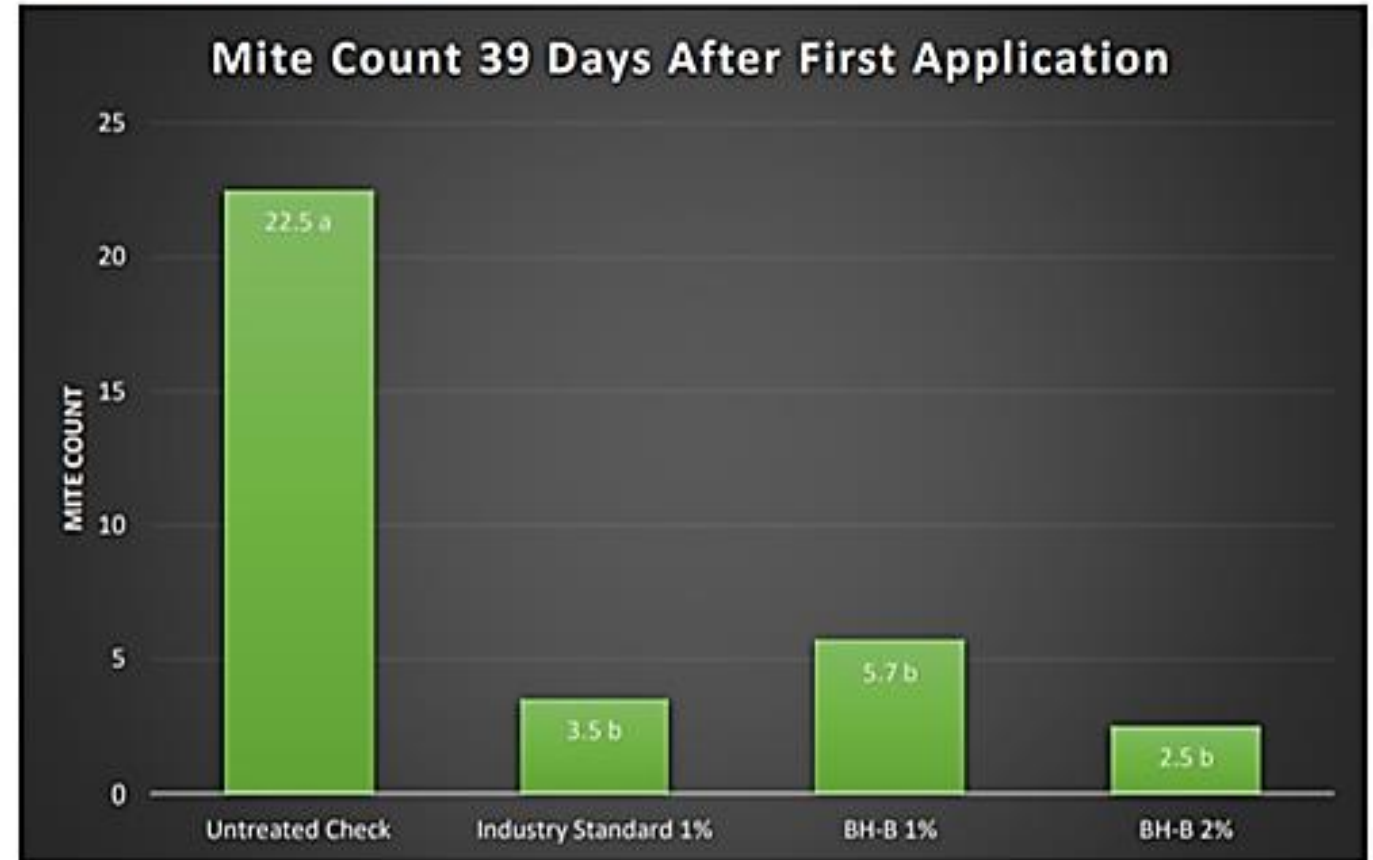




Image by Jason Goh from pixabay

## Trial Goal – Determine the effectiveness of BH-B on the control of spider mites in field grown strawberry 2021

Results Graph – arcsine transformed



Crop	Strawberry
Variety	Valley Sunset
Location	Ontario Canada - Outdoor Field
Pest	Two-Spotted Spider Mite
Trial Design	Randomized Complete Block
Application Dates	6/7/2021
	6/17/2021
	6/29/2021
	7/13/2021
Application Method	Foliar Spray
Soil Type	Fine Silty Clay Loam
Weather Conditions	Very Dry

Treatment	Rate
Untreated Check	-
Industry Standard	1% V/V
BH-B	1% V/V
BH-B	2% V/V

## Roses, strawberries, and herbs

### Field trials, May-June 2020, Ethiopia + 2021

The director of the Ethiopian farm's reports:

“We did 4 trials: roses, strawberries, and herbs, on powdery mildew and spider mites. We got good results in all experiments, at a dose of 2%. The material is good and does the job.”





## Trial Results: organic almonds and olives Spain, 2021

Our product BHB was applied through drip irrigation in a single treatment of 4 litres per hectare.

The grower reports that trees that had symptoms of stress because of the fungus recuperated very well. Other treatments such as Trichoderma were not successful.

The following fungus were present in the soil:

Agrobacterium tumefaciens, Alternaria spp,  
Fusarium spp, Fusarium oxysporum, Pythium spp,  
Rhizoctonia solani, Rosellinia necatrix, Verticillium  
dahliae

# Japan, 2021



## Hachiya persimmon (home garden)

Falling fruit

Spraying time: July (1 time)

In previous years, we could not harvest persimmons due to unexplained fruit drop before ripening, but this year after spraying BH-B, no fruit drop has been observed.

We plan to continue spraying.

Control



BHB



## Unshu Mikan - cold hardy mandarin (home garden)

Sclerotinia fungus

Spraying period: July (one time)

There was a clear difference in efficacy between the areas where BH-B was sprayed and those where it was not.

Plan to continue spraying.

Control



BHB





Control



Steam + BHB

Treatment	Rots Sweet Potatoes Total
control	10
7 sec steam	4
<b>Steam + BHB</b>	<b>0</b>

Sep 2020

# Sweet potato

Post-harvest, Volcani Center, Israel

After 52 days in refrigeration No Fusarium fungus in steam + BH-B treatment



Sep 2020

# Dates

Post-harvest, Jordan Valley, Israel

## Ecuador, Philippines - Bananas, July 2021

### Sigatoka Disease in Bananas

- Major worldwide problem
- Yield reduction up to 50%
- Requires up to 50 applications per year

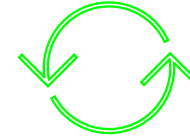


**Ecuador** -First order after trial stage

**Philippines** - in trial stage



# Impact



**Botanohealth** adopts the principles of SDG and works to achieve its goals:

- **BH-B** Improves the health of farmers environment by reducing toxic substance use in farms.
- **BH-B** Improves food safety by reducing toxic residues in produce.
- **BH-B** Increases the income of farmers reducing crop loss due to plant pathogens

**Botanohealth - Participation in Impact Programs:**

- **2019 - TOV/ Tikkun Olam Ventures Innovation Journey to Ethiopia with The Pears Program for Global Innovation**

# Botanohealth - Our Team



**Yaniv Kitron, CEO**

Chemical engineer  
25 years of international executive-level in business development for advanced agricultural markets

**Amir Kitron, CTO**

PhD in Chemical Engineering, 30 years experience as executive in botanic products, R&D and commercialization



**Itamar Highkin, CFO**

15 years experience in financing and product management in large public companies and startups

**Shay Jean, BD**

27 years in the Prime Minister's Office in senior executive positions (brigadier general)





**BotanoHealth**  
organic crop protection

Thank You!

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