

# BASF Fungicides

IR-4 Environmental Horticulture Workshop

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September 26, 2019





# Serifel® NG Biological Fungicide

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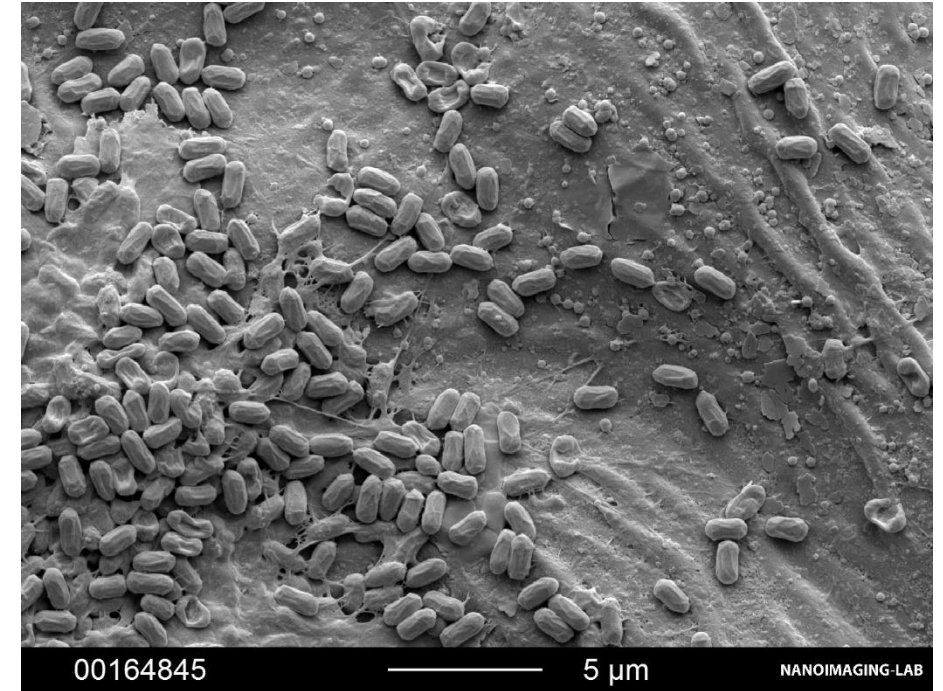




# Serifel® NG Biological Fungicide

## *Bacillus amyloliquefaciens* strain MBI 600

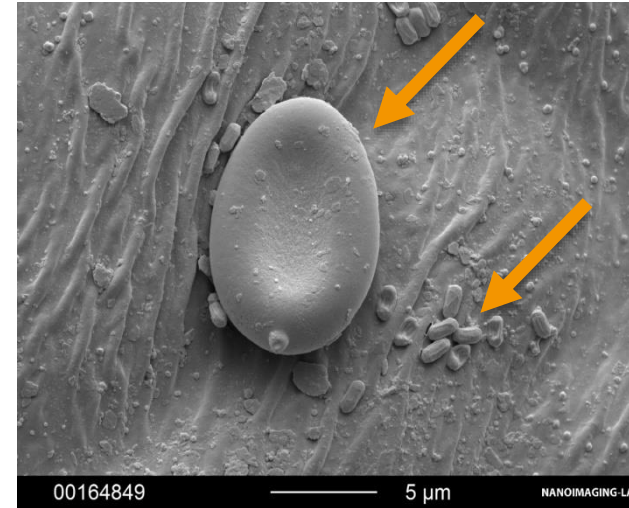
- *B. amyloliquefaciens* is found globally and occurs naturally in the soil
- Manages disease via several mechanisms, formation of physical barriers, competition for nutrients, and production of –cidal metabolites
- Used to suppress root and foliar diseases caused by fungi and some bacteria, *such as*:
  - *Fusarium*
  - *Pythium*
  - *Phytophthora*\*
  - *Rhizoctonia*
  - *Botrytis*
  - Powdery Mildew
  - *Xanthomonas*\*



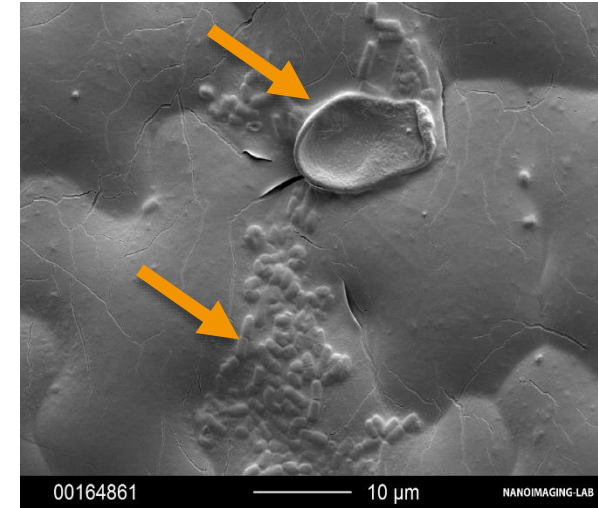
The spores of *Bacillus amyloliquefaciens* strain MBI 600 colonizing the plant surface to form a shield of protection against several types of disease

# Serifel® NG Biological Fungicide Building a Label for 2020

- BASF has funded work towards label:
  - ▶ Rates adjusted for drench applications  
4-16 oz/100 gal
  - ▶ Rates adjusted for foliar applications
  - ▶ Adding plant dips to the label to control diseases common seen on cuttings/plugs/transplants
  - ▶ Additional plant safety, plant residue data needed
  - ▶ Addition of new pathogens



The spores of *Bacillus amyloliquefaciens* strain MBI 600 and a single **healthy** *Botrytis cinerea* spore



The spores of *Bacillus amyloliquefaciens* strain MBI 600 and a single **disrupted** *Botrytis cinerea* spore

*\*\*BASF would support additional work on all areas listed above and provide background on rates and diseases tested to date.*





# Velifer™ Fungal Contact Insecticide/Miticide

IR-4 Environmental Horticulture Workshop  
Renee Keese, Ph.D.  
BASF Corporation, RTP, NC

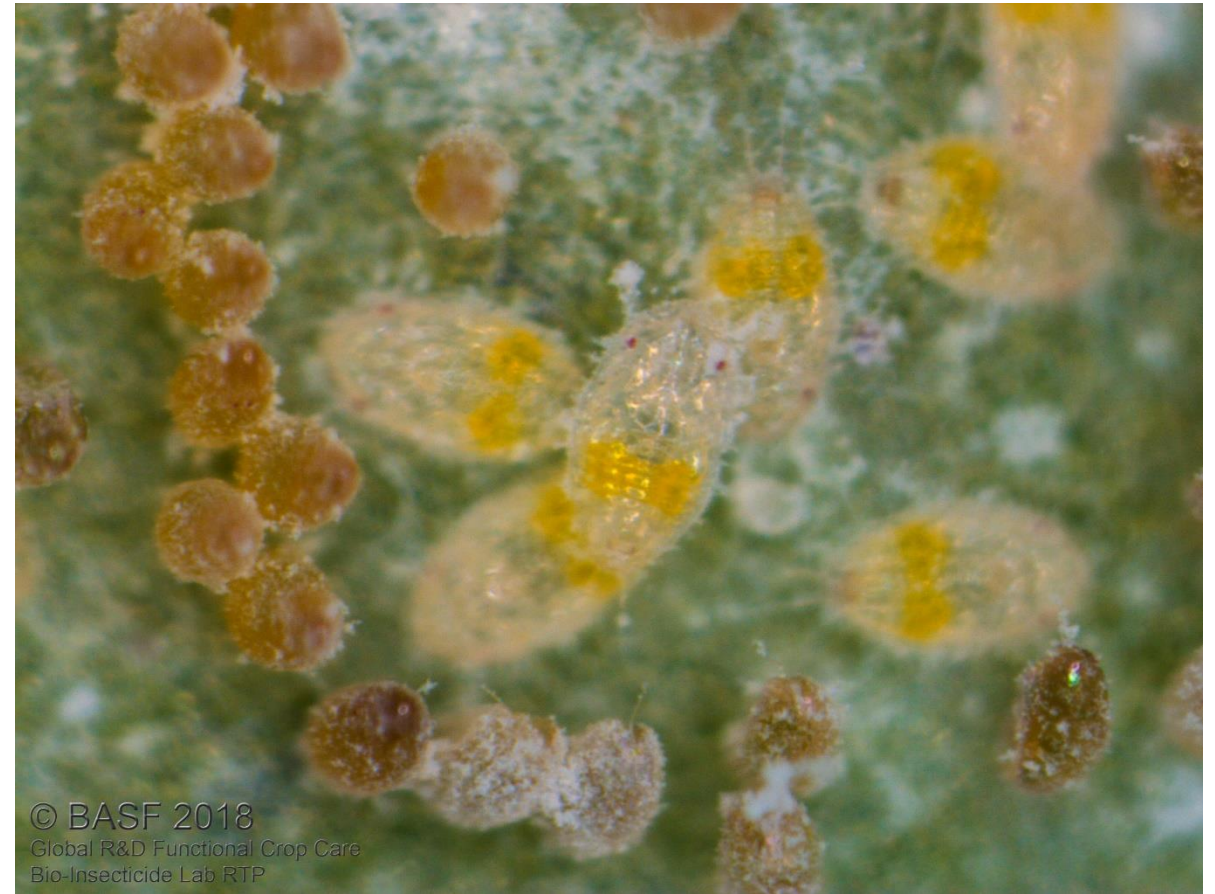


# Velifer™ Fungal Contact Insecticide/Miticide

*Beauveria bassiana* strain PPRI 5339

## New Fungal Contact Insecticide from BASF

- Strain PPRI 5339 is proprietary to BASF
- Direct contact insecticide containing fungal spores that control pest targets via direct application
- Velifer™ fungal contact insecticide/miticide manages insect organisms *such as*:
  - ▶ Aphids
  - ▶ Mealybugs
  - ▶ Two-spotted Spider Mites
  - ▶ Thrips
  - ▶ Whiteflies



© BASF 2018  
Global R&D Functional Crop Care  
Bio-Insecticide Lab RTP

# Velifer™ Fungal Contact Insecticide/Miticide

## Product Profile



The spores of *Beauveria bassiana* strain PPRI5339

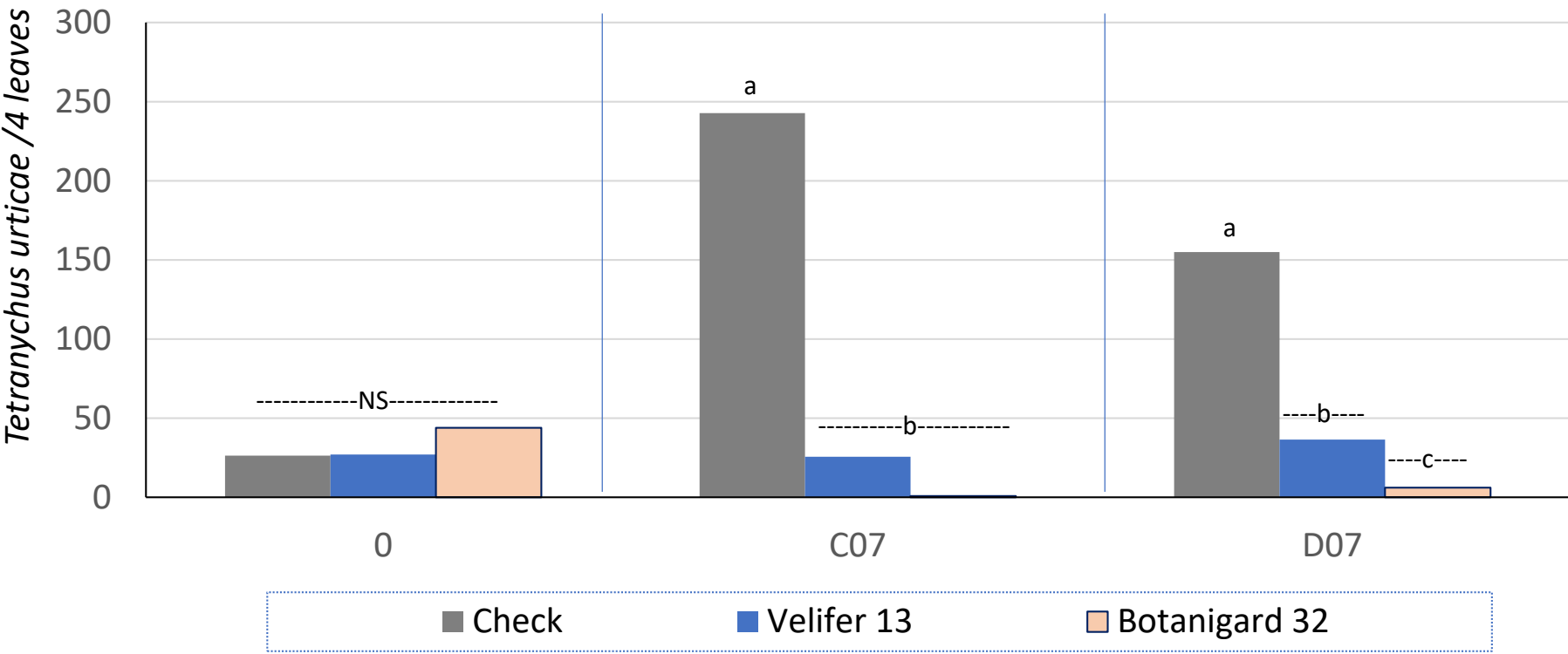


Spider mite infected with Velifer®

Active ingredient	<i>Beauveria bassiana</i> strain PPRI 5339
Mode of action	Contact (germination → penetration → infection)
Formulation	<b>Oil Dispersion (OD) formulation (min 8 x 10<sup>9</sup> CFU/ml)</b> Oil is plant-based, not a petroleum-distillate
Crops	Ornamentals, fruits, vegetables, herbs and spices, including transplants for the home consumer market and agriculture
Target Pests	Whiteflies, thrips, mites, mealybugs, aphids
Application rate	<b>3-13 fl oz/100 gallons H<sub>2</sub>O</b>
Number of applications	3 to 5 applications, depending on pest
Spray interval	Dependent on pest pressure and thresholds 3-day minimum retreatment interval
PHI	0 days

# Velifer™ Fungal Contact Insecticide/Miticide Control of Mites

Gilrein, Cornell 2017



Treatments made on 7-day interval

C07 = 7 days after 3<sup>rd</sup> application

D07 = 7 days after 4<sup>th</sup> application

Rates fl oz/100 gal





# Velifer™ Fungal Contact Insecticide/Miticide

## Application Information

- 3 – 13 fl oz/100 gallons: Additional rate of 21 fl oz to be tested
- Thorough and uniform coverage of the leaf surface
- For Velifer to be most effective, apply at the first sign of insect pests and before the build-up of heavy pressure
- **DO NOT** use thermal application equipment, such as heated foggers
- Avoid making applications in the presence of beneficial insects, such as bumblebees and parasitoids
- **Velifer is for greenhouse use only**
- *BASF has a list of plants previously tested*
  - **More plant safety** trials are needed at 21 fl oz, 2x and 4x
  - **More efficacy trials** needed for spider mites and mealybugs at all rates

# Ventigra™ Insecticide

Registered Q4 2018  
Launched in Q2 2019  
Pending in CA



Whitefly species



Aphid species



Mealybug species  
suspension only



Scale species  
suspension only

- Growers report control with mealybug and scale species at crawler stages – early populations
- Growers have reported some control of thrips – not currently on label
- *BASF would support continued efficacy work in these areas*





# BASF's Herbicides

BASF herbicides: Preemergence= Pendulum, Tower, Freehand 1.75 G, Postemergence= Segment II (*former Segment and Vantage herbicides*), Basagran T & O, and Finale herbicide.

Liquid and granular choices for nursery managers and landscapes

- BASF supports work on plant tolerance to support any additional species to the labels
- BASF is providing funded work to demonstrate to growers best stewardship of our products, with other companies' products, in rotational programs for resistance management.
- **Finale nonselective contact herbicide has been added to BASF this year.** This product can be used in specific use patterns in nurseries and landscapes. Finale can be used in greenhouse structures.

*Thank you to IR-4 for supporting work with BASF herbicides.*



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