

# NEW YORK STATE INTEGRATED PEST MANAGEMENT Biopesticide Profile

## Stargus

### Active ingredient

*Bacillus amyloliquefaciens* strain F727 (alive)

This information is not meant to be a substitute for reading the label. Always read and follow all pesticide labels. Ensure the pesticide is currently registered in your state.

## PRODUCT

**Formulations:** NA

**Pests:** Plant diseases

**FRAC Code (Fungicide Resistance Action Committee):** BM 02

**Mode of Action (see next page):** Poison; Keep out; Turn on resistance

## APPLICATION

**Where to apply:** Agricultural (field or greenhouse); Soil, pre-plant root dip, above ground parts of plant

**When to start applying:** Before disease appears or in very early stages

**How to apply:** Use nozzle screens > 50-mesh; keep tank mix pH 5.5-8

**Tank mix & application compatibility:** Use with pH neutral spreader-sticker; can be tank mixed with coppers (low-metallic copper formulations preferred, but not necessary; bacterial spores survive and will germinate after application even if active bacteria do not survive)

## ENVIRONMENT

**Temperature tolerance in field:** Any temperatures typical of NY growing season

**Rainfastness:** Must be applied with a (pH-neutral) sticker; rainfast when it has dried on the plant with this sticker

**UV tolerance:** Tolerates UV light exposure well

## STORAGE

**How to store:** Cool dry place; avoid freezing

**Shelf life:** 30 months

## RISK

**Signal word:** Caution

**REI (Restricted-entry interval):** 4 hrs

**PHI (Pre-harvest interval):** 0 days

**Impacts on beneficial insects:** No known toxicity concerns for bees or other tested beneficial insects (lacewing, ladybugs, rove beetles); only honey bee testing was required by EPA

**Cornell  
Cooperative  
Extension**

**IPM** New York State  
Integrated Pest Management  
Program

About biopesticides

# About biopesticides





















## USING BIOPESTICIDES

- Apply preventatively.
- Use as part of an IPM strategy, including cultural management practices, other pesticides, etc.
- Mix only what you need; don't leave in spray tank overnight.
- Don't expose to excessive heat in storage.
- When tank mixing, follow label instructions for all products. Check with company rep or distributor if you have questions. Do a "jar test" to determine physical compatibility if you want to mix two products for which you cannot find information on their compatibility.
- Proper cleaning of spray tanks after any pesticide application is always important. Pay special attention to tank cleaning when a biopesticide is applied after another incompatible product.

## HOW BIOPESTICIDES WORK

### Modes of action (MOAs)



<b>Eat</b>	Live microbe grows on/in pest	 	
<b>Poison</b>	Biopesticide (or its products) kills the pest directly	 	
<b>Keep out</b>	Live microbe grows on plant, leaving no room for pests		
<b>Turn on resistance</b>	Turns on the plant's defenses before pest attacks		
<b>Grow strong plants</b>	Makes plant stronger, healthier, more resilient		
<b>Repel</b>	Pest avoids plants treated with biopesticide		
<b>Stop feeding</b>	Stops pest from feeding; pest eventually starves		
<b>Stop growth</b>	Stops pest from growing or molting; pest eventually dies		
<b>Stop reproduction</b>	Hampers pests' ability to find a mate, lay eggs		

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## LEARN MORE

### Efficacy of biopesticides

[go.nysipm.org/biopesticide-efficacy](http://go.nysipm.org/biopesticide-efficacy)

### Biocontrol Bytes blog

[blogs.cornell.edu/biocontrolbytes/](http://blogs.cornell.edu/biocontrolbytes/)

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