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

### 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

### 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)
**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)**

- **Eat**
  - Live microbe grows on/in pest

- **Poison**
  - Biopesticide (or its products) kills the pest directly

- **Keep out**
  - Live microbe grows on plant, leaving no room for pests

- **Turn on resistance**
  - Turns on the plant’s defenses before pest attacks

- **Grow strong plants**
  - Makes plant stronger, healthier, more resilient

- **Repel**
  - Pest avoids plants treated with biopesticide

- **Stop feeding**
  - Stops pest from feeding; pest eventually starves

- **Stop growth**
  - Stops pest from growing or molting; pest eventually dies

- **Stop reproduction**
  - Hampers pests’ ability to find a mate, lay eggs

**Active ingredient may be alive**

**Active ingredient is alive!**

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**LEARN MORE**

**Efficacy of biopesticides**

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

**Biocontrol Bytes blog**

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

**Biocontrol**

[go.nysipm.org/biocontrol](go.nysipm.org/biocontrol)

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