

TAKE CONTROL OF BOTRYTIS

TripleX is a world first for BioStart. TripleX is the first commercially released bio-fungicide to use *Bacillus Amyloliquefaciens* for the control of *Botrytis cinerea* in grapes, top fruit and vegetables. *Botrytis* is an aggressive and invasive pathogen affecting many crops causing substantial crop losses.

TripleX is powered by a unique dual mode of action, a combination of fermentation extracts and *Bacillus amyloliquefaciens* BS 1b. The fermentation extracts provide the initial knock down, clearing a pathway for the establishment of the *Bacillus amyloliquefaciens*. The *Bacillus amyloliquefaciens* is an aggressive antagonist towards *Botrytis*. It produces a number of enzymes and antimicrobial compounds that kill any Botrytis it comes in contact with.

- Controls *Botrytis Cinerea*
- TripleX has a nil withholding period
- Can be used right up to harvest

TripleX can be applied with most cover and nutritional sprays. Some spreaders may reduce efficacy. For a full compatibility list contact your local BioStart Territory Manager.

Ensure good spray coverage to run-off for optimum disease control. Sprayers should be calibrated before use. For best results spray early morning, early evening or in overcast conditions.

Pack sizes available: 5 and 20 litre

TripleX

BIO-FUNGICIDE



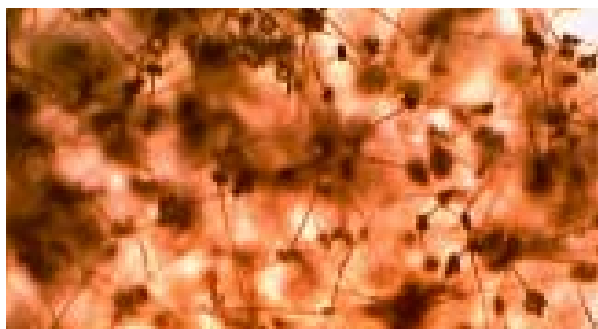
DIRECTIONS FOR USE:

| Crop | Timing | Application rate |
|------------|---------------------------------------|---|
| Grapes | Pre bunch closure | Bunch line at a dilution rate of 1:200 (500ml/100lt) Minimum 1.5lt/ha. |
| | Late season | Bunch line at a dilution rate of 1:200 (500ml/100lt) Minimum 1.5lt/ha. |
| Vegetables | Prior to periods of disease pressure. | Spray onto foliage at a dilution rate of 1:200 (500ml/100lt) Minimum 1.5lt/ha. |

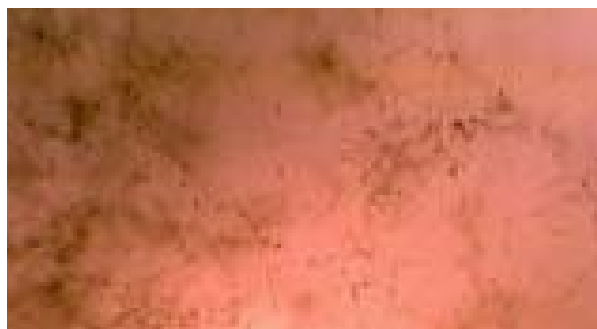


Why TripleX Works

TripleX has a unique dual mode of action. The base fermentation provides the initial knockdown and clears a pathway for the establishment of the *B. amyloliquefaciens*. Once established the *B. amyloliquefaciens* is an aggressive antagonist against *Botrytis*. *B. amyloliquefaciens* produces alkaline protease and other organic molecules that dissolve the protein bonds within the outer cell walls of the *Botrytis*, causing the fungus to collapse.



Botrytis



Dead Botrytis after contact with TripleX

NOTE:

If you need late season control then you should start incorporating TripleX in your spray program early in the growing season: (the following gives you a rough guide), **Grapes:** Pre bunch closure (pea size) **Kiwifruit:** Post flowering, **Black currants:** Post flowering, **Onions:** second leaf, **Lettuces:** Early growth, **Hothouse tomatoes:** After first flower set.

Botrytis inhibition with *Bacillus amyloliquefaciens* BS 1b

Leaf print tests are a simple way of seeing what organisms are populating the leaf. Here the leaves from treated and untreated vines were gently pressed into test plates and incubated. The impression from the treated leaves shows a significant reduction in the population of not only *Botrytis* but a number of pathogens on the leaf. The *Bacillus amyloliquefaciens* BS 1b has inhibited the growth of these organisms by excreting a variety of antimicrobial compounds.

Leaf Print

Photo: 21.10.2008,
7 days after taking leaf prints.



Bacillus
amyloliquefaciens
BS 1b



Untreated
Control