

***Bacillus subtilis* Strain QST 713 (006479) Fact Sheet**

Summary

Bacillus subtilis strain QST 713 is a naturally occurring widespread bacterium that can be used to control plant diseases and fungal pathogens including: blight, scab, gray mold, and several types of mildew. Based on available information, the bacterium appears to have no adverse effects on humans or the environment. However, additional data are needed to ensure that products containing this bacterium are safe for honey bees, wasps, fish, and aquatic invertebrates.

I. Description of the Active Ingredient

Bacillus subtilis strain QST 713 is a widespread bacterium found in soil, water, and air. *Bacillus subtilis* strain QST 713 controls the growth of certain harmful bacteria and fungi, presumably by competing for nutrients, growth sites on plants, and by directly colonizing and attaching to fungal pathogens.

II. Use Sites, Target Pests, and Application Methods

- **Use Sites:** *B. subtilis* strain QST 713 is approved for use on a wide variety of food crops, including cherries, cucurbits, grapes, leafy vegetables, peppers, potatoes, tomatoes, and walnuts.
- **Target Pests:** Fungi and bacteria that cause scab, powdery mildew, sour rot, downy mildew, and early leaf spot, early blight, late blight, bacterial spot, and walnut blight diseases.
- **Application Methods:** *B. subtilis* strain QST 713 is sold as a powder that is mixed with water and sprayed on foliage using ground equipment. The number and timing of applications vary with crop and level of infestation.

III. Assessing Risks to Human Health

No harmful health effects to humans are expected from use of *B. subtilis* strain QST 713. Appropriate tests found no evidence that the bacterium is infectious or significantly toxic to humans. However, contact with *B. subtilis* strain QST 713 products may cause redness or

irritation to the skin. To minimize the risk of adverse reactions in applicators and handlers, EPA is requiring these workers to use appropriate personal protective equipment.

IV. Assessing Risks to the Environment

Available studies show that no adverse effects are expected to non-target organisms, with the possible exception of honey bees, when products containing *B. subtilis* strain QST 713 are used in accordance with label instructions. However, because of some difficulties associated with interpreting the results of these studies, EPA is requiring additional tests to confirm that use of pesticide products with *B. subtilis* strain QST 713 will not infect or otherwise harm honey bees, wasps, shrimp and other aquatic invertebrates. Meanwhile, to minimize the risk to honey bees, applicators are not allowed to spray areas where bees are actively foraging. After the results of the additional studies become available, EPA will decide whether this use restriction can be lifted.

V. Regulatory Information

B. subtilis strain QST 713 was registered (licensed for sale) in June 2000 for a two-year period ending July 1, 2002. At that time, EPA will evaluate the new data that the registrant has submitted, and decide whether to issue a registration without an expiration date.

VI. Producer Information

AgraQuest, Inc.,
1530 Drew Ave.,
Davis, CA 95616

VII. Additional Contact Information

Ombudsman, Biopesticides and Pollution Prevention Division (7511P)
Office of Pesticide Programs
Environmental Protection Agency
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