

Evaluation Report for Category B, Subcategory 3.2, 3.4, 3.9, 3.11, 3.12 Application

Application Number: 2012-0706
Application: New Pests, Site, Application Timing, Method and Level of Control
Product: Serenade Soil
Registration Number: 30647
Active ingredients (a.i.): *Bacillus subtilis* (Strain QST 713)
PMRA Document Number: 2213384

Purpose of Application

The purpose of this application was to register a biofungicide, Serenade Soil, containing *Bacillus subtilis* QST 713. Serenade Soil is for use on various crops, including seven crop groups and four individual crops, to suppress important soil-borne plant diseases.

With the exception of tobacco, three currently registered products containing *Bacillus subtilis* strain QST 713 (Serenade ASO (Reg. No. 28626), Rhapsody ASO (Reg. No. 28627) and Serenade Garden Concentrate (Reg. No. 28628)) are registered for use as a foliar spray on the same crops as those for Serenade Soil. In the case of Serenade ASO, the registered rates of use are higher than those for Serenade Soil.

The application methods for Serenade Soil are designed to concentrate the product in the seed, root or transplant zone by direct application to the soil. Rhapsody ASO is registered for soil applications on greenhouse and outdoor ornamentals. There are currently no registered soil applications of Serenade ASO, Rhapsody ASO or Serenade Garden Concentrate to food crops.

Environmental and Chemistry Assessment

Environmental and chemistry assessments were not required for this application.

Health Assessments

The toxicological database for *B. subtilis* strain QST 713 is complete and there are no outstanding toxicological concerns for this active ingredient. The active ingredient and formulants in Serenade Soil pose a minimal risk to human health and safety.

As the application method, application rates and label statements are consistent with those already registered for other *B. subtilis* strain QST 713 containing products, there are no additional occupational exposure concerns due to the uses of Serenade Soil.

The uses and application rates for Serenade Soil are consistent with currently registered uses for Serenade ASO, Rhapsody ASO and/or Serenade Garden Concentrate. The use of Serenade Soil for soil applications to agricultural crops is not expected to pose any additional dietary exposure concerns.

Value Assessment

Serenade Soil is a product for the management of soil-borne pathogens causing root diseases on various crops. It can be used as an in-furrow, drench, or banded applications. A total of 44 efficacy trials and a scientific rationale were reviewed to support the claims. Serenade Soil suppressed *Rhizoctonia*, *Pythium*, *Fusarium* and *Phytophthora* infection under low to moderate disease pressure in the trials. Serenade Soil improved stand establishment and crop yield. This product is an additional option for disease management in these crops for both conventional and organic production.

The label claims are supported for suppression of various soil-borne diseases on seven crop groups (root and tuber vegetables, bulb vegetables, leafy vegetables, Brassica leafy vegetables, legume vegetables, fruiting vegetables and cucurbits) and four individual crops (asparagus, peanut, strawberry and tobacco).

Conclusion

The PMRA has reviewed the information provided in support of the registration of Serenade Soil and has determined the product is acceptable for full registration.

References

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