

# ***Muscodor albus* QST 20799 (006503) Fact Sheet**

## **Summary**

*Muscodor albus* QST 20799 is a naturally-occurring fungus which was originally isolated from the bark of a cinnamon tree in Honduras. It was imported into the US with appropriate permits issued by the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Services (APHIS). It grows as a white sterile mycelium and does not produce asexual or sexual spores or other reproductive structures such as chlamydospores or sclerotia. When hydrated, *M. albus* Strain QST 20799 produces a number of volatiles, mainly alcohols, acids, and esters, that are claimed to inhibit and kill certain bacteria and other organisms that cause soil-borne and post harvest diseases. It is proposed as a methyl bromide replacement for seed, propagule, soil and post harvest treatments of all food or feed commodities, as well as ornamentals and cut flowers. Products containing this active ingredient can be used in the field, greenhouses, and warehouses.

## **I. Description of the Active Ingredient**

*Muscodor albus* QST 20799 is fungus which does not survive after it uses up its food sources, because it does not produce reproductive bodies. The volatiles the pesticide products produce after rehydration occur naturally as flavors and fragrances in food and beverages. In addition, soil and other application methods are not likely to leave residues of the pesticide on treated food or feed. This pesticide, which disappears rapidly, controls bacteria, fungi and nematodes which cause diseases in the roots of plants, or on seeds, propagules, food, feed and cut flowers after they are harvested.

## **II. Use Sites, Target Pests, and Application Methods**

- **Use Sites:** All food crops, seed and propagules, non-food crops, cut flowers.
- **Target pests:** Bacteria, fungi, and nematodes.
- **Application Methods:** The registered active ingredient is for manufacture into pesticide products which release volatile chemicals when wet. The pesticide is to be incorporated into the soil or is in containers where it does not contact treated commodities. It is to be applied to field, greenhouse, and stored crops, as well as cut flowers.

*- Whether or not a substance poses a risk to humans or other organisms depends on two factors: how toxic the substance is, and how much of it an organism is exposed to. Therefore, the EPA considers both toxicity and exposure data in determining whether to approve a pesticide for use.*

## **III. Assessing Risks to Human Health**

No harmful effects are likely to occur to workers or the public from use of *Muscodor albus* on crops . Laboratory studies indicate that the active ingredient is not toxic or infective following lung, oral, eye or skin exposure in rats. In these studies, the microbe did not survive in rat tissues, indicating that the microbe is unlikely to cause infections in mammals. During laboratory research and field trials, no workers reported adverse effects.

Human exposure to *Muscodor albus* QST 20799 used as a pesticide active ingredient will be minimal with no expected adverse effects. Dietary exposure to the microbe and its volatiles is not expected, because residues of neither remain on treated food or feed. Even if the pesticides remain on the food, the studies done with rats indicate that there is a reasonable certainty that they will not harm mammals. When this granular pesticide product is applied to soils of commercial fields, its low potential for drift minimizes residential and worker exposure. Exposure to workers is further minimized because they are required to wear appropriate personal protective equipment (PPE).

#### **IV. Assessing Risks to the Environment**

No harmful environmental effects are expected from pesticidal uses of this microbial active ingredient. Published literature and submitted studies indicate that the active ingredient will not cause adverse effects to mammals, birds, honeybees, other non-target insects, or plants. Studies show that *Muscodor albus* QST 20799 does not produce spores, and does not survive in the environment after it uses up its food sources. The volatile compounds also dissipate rapidly. Thus, runoff is not expected. Moreover, the pesticide product will not be applied to bodies of water, minimizing adverse effects to aquatic organisms.

**Endangered Species:** There is no evidence of toxicity or pathogenicity for this active ingredient in the literature or in submitted studies on mammals, birds, insects, aquatic organisms, and plants. Consequently, *Muscodor albus* QST 20799 is not expected to harm endangered or threatened species.

#### **V. Registrant Information**

**AgraQuest, Inc.**  
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#### **VI. Additional Contact Information**

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