

Bacterial bio fungicide for fungal control phytopathogens

DESCRIPTION

This invention describes a new environmentally friendly bio fungicide whose active ingredient is the wild bacterial strain *Serratia plymuthica* CCGG2742 that protects from gray rot in table vines of the Thompson seedless variety up to 90%. In addition to being safe for the environment and for people, this bio fungicide selectively attacks the fungus *Botrytis cinerea* without causing any harm to the fruit and without risk of contamination of the same in postharvest.

This product has been originally tested to control the fungus causing gray rot in vines, however, because of its mechanism of action it could be used to control this disease in other fruits of economic importance such as tomatoes, strawberries and others.

It can be used as botricide exclusively or together with virtually any of the commercial chemical fungicides in an integrated pest management system.

APPLICATIONS

- Preventive control of gray rot in vines caused by *Botrytis cinerea*
- Preventive control of gray rot in other fruit trees (raspberries, strawberries, peaches, kiwi, etc.) caused by *Botrytis cinerea*
- Preventive control of other phytopathogenic fungi

MARKET

The agrochemical industry is expected to continue to grow, given the high demand for food and the decrease of arable land. In this scenario, the fungicide market is constantly looking for new molecules for the control of phytopathogenic fungi, particularly *Botrytis cinerea* that has a high economic impact at a global level. The new demands of the reduction of chemical controllers in agriculture, predict that the demand for natural products that control pests and diseases will be increasingly important. This product in field tests have proven to be as or more effective than Gold standard and at lower costs.



▲ *B. cinerea* is the causante agent of gray rot in vineyards, table grapes and in hundreds of other plants



▲ This biofungicide selectively attacks the fungus *Botrytis cinerea* without causing any damage to the fruit and without risk of contamination in the postharvest.

ADVANTAGES

1. High efficiency
2. High stability of the formulated product
3. Product safe for humans, animals and vegetables
4. Low production cost

INTELLECTUAL PROPERTY

- There are patents granted in some countries of the European Union, United States, South Africa and China.
- In Chile, the request for patent is filed since 2009.

DEVELOPMENT

The product is formulated in a prototype stage which has turned out to be effective in controlling *Botrytis cinerea* in 2 agro climatic zones in Chile on table vine (Thompson seedless). The actual formulation has proven stable for more than 12 months to 4 degrees Celsius or at room temperature stored in a fresh and dry place. Toxicological evaluations of the product confirm that it is safe for animals in oral toxicity, dermal tests and acute inhalation. Additionally, *S. plymuthica* CCGG2742 presented antifungal activity against other types of phytopathogenic fungi of the following genera: *Fusarium*, *Monilinia*, *Penicillium*, *Alternaria*, *Cladosporium*, *Aplosporella*, *Lasiodiplodia*, *Trichoderma*, *Schizophyllum* and *Cylindrobasidium*.

INVENTOR



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- ▶ Due to its mechanism of action, it could be used to control this disease in other fruits of economic importance such as tomatoes, strawberries and others.

FOR MORE INFORMATION



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