

Evaluation of Induced Cells of *Rhodococcus Rhodochrous* to Inhibit Fungi.

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Introduction : *Rhodococcus rhodochrous* is an aerobic, non- pathogenic ,gram-positive bacterium that is often used in industries as a bicatalyst.R. rhodochrous DAP 96253 is capable of exhibiting contact independent antifungal properties against selected fungal pathogens.The use of *R. rhodochrous* as a potential biocontrol agent against plant and animal fungi will be examined and the focus of this study will be to employ representative species of fungi from *Botrytis cinerea* and *Pseudogymnoascuc destructans*,and each species will be studied to establish the effect of dose (g/cells) and time of exposure to *R. rhodochrous*.

Method of Study : To develop a standard for the trials, a cell paste was prepared from induced *R.Rhodochrous* fermentation cells. The trials were done with co-cultures at variant temperatures in petri plates, and controls were used.The amount of cell paste used varied from 1-10 grams and the dosing time varied from 1-10 days.The time and g/cells it takes to inhibit each fungi was used to establish the standards ,as some of the species to be tested are quite resistant.Therefore,the grams of cell paste it takes and the dosage time were crucial to the development of a biocontrol agent. This data was then applied to develop a non-contact biocontrol agent that was tested on fruits ,e.g. bananas and tomatoes.

Results : Expositing of *R. rhodochrous* to fruits exhibited control of postharvest fungal spoilage. This fungal control occurred without the fruit ever getting in direct contact with the bacteria. Further investigation of the application and mode of action of *R. rhodochrous* are currently underway. In addition, testing by freezing and thawing cells to create a prolonged catalyst are also being done.

Key words : *R. rhodochrous* , *Rhodococcus rhodochrous* , DAP 96253 , antifungal , biocontrol , *Botrytis cinerea* , *Pseudogymnoascus destructans* . postharvest , fruits , fungal pathogens.