Title Biological control of strawberry gray mold by *Clonostachys rosea* under field conditions

Author Luciano V. Cota, Luiz A. Maffia, Eduardo S.G. Mizubuti, Paulo E.F. Macedo and Ricardo F. Antunes

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Abstract

Gray mold, caused by *Botrytis cinerea*, is an important strawberry disease in Brazil. As a component of a disease management program, we have been evaluating pathogen biological control with *Clonostachys rosea*, and selected four isolates as potential antagonists to *B. cinerea*. In 2006 and 2007, under field conditions, we compared the efficiency of the four *C. rosea* isolates (applied once or twice a week) with a weekly spray of procymidone alternated with captan in controlling gray mold. Following the applications and up to harvest, we evaluated weekly: leaf area colonization by *C. rosea* (LAC), average number of *B. cinerea* conidiophores on leaves (ANC), incidence of gray mold on both flowers (Iflower) and fruits (Ifruit), incidence of latent infections on fruits (Ilat), and yield. The applications of *C. rosea* twice a week provided higher LAC (16.97%), smaller ANC (10.28; 78.22 in the check treatment, sprayed with water), smaller IFlower (10.02%; 50.55% in the check treatment), and smaller IFruit (5.95%; 25.10% in the check treatment). Yield ranged between 3490 and 3750 g plot^{-1} with applications of *C. rosea* twice a week and between 1740 and 1910 g plot^{-1} in the check treatment. Ilat was 20% in the check treatment and less than 10% in the other treatments. Based on this 2-year study, at least two weekly applications of *C. rosea* are required for a successful gray mold management program.