

Title Effect of boscalid on postharvest decay of strawberry caused by *Botrytis cinerea* and *Rhizopus stolonifer*

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Citation Spanish Journal of Agricultural Research, 5(1) p. 67-78, 2009.

Keywords *Fragaria ananassa*; Strawberries; Postharvest decay; *Botrytis cinerea*; *Rhizopus stolonifer*; Chemical control; Fungicides; Preharvest treatment; Postharvest control; Keeping quality; Chile

Abstract

In Chile, gray mold (*Botrytis cinerea*) and leak (*Rhizopus stolonifer*) are the major storage diseases of strawberry (*Fragaria x ananassa* Duch.) that considerably reduce yields and quality, limiting its international commercialization. The effect of preharvest fungicide treatments and postharvest treatments against storage decays was studied. Based on the results obtained, the incidence of *B. cinerea* and *R. stolonifer* was significantly lower on "Camarosa" strawberry fruits treated with boscalid or boscalid + pyraclostrobin between blossom and harvest. Similarly, incidence of *B. cinerea* and *R. stolonifer* significantly decreased at 5 deg C and 20 deg C after immersion treatments with boscalid (600 to 700 mg LE-1) or cyprodinil + fludioxonil (371 + 250 mg LE-1). These postharvest treatments provided 5 and 15 days protection against these molds when strawberry fruits were stored at 20 deg C and 5 deg C, respectively. Fenhexamid (750 mg LE-1) arrested *B. cinerea*, but it was ineffective against *R. stolonifer*. Variable results were obtained with iprodione (750 mg LE-1). Fungicide treatments had no adverse effect on total soluble content, titrable acidity and firmness. Only boscalid + pyraclostrobin affected the external color of the treated fruits. In conclusion, fungicide treatments using new reduced-risk fungicides can be useful to extend strawberry shelf life for over a 15 day period. However, further research is needed to establish a commercial recommendation.