

Abstract

The potential enhancement of *Candida sake* (CPA-1) by ammonium molybdate to control blue and gray mold caused by *Penicillium expansum* and *Botrytis cinerea*, respectively, on Blanquilla pears was investigated. In laboratory trials, improved control of blue and gray molds was obtained with the application of ammonium molybdate (1, 5, 10, and 15 mM) alone or in combination with *C. sake* at 2×10^6 or 2×10^7 CFU ml⁻¹ on Blanquilla pears stored at 20°C. In semicommercial trials at 1°C for 5 months, the efficacy of *C. sake* at 2×10^6 CFU ml⁻¹ on reducing *P. expansum* and *B. cinerea* decay was enhanced more than 88% with the addition of ammonium molybdate 5 mM in the 1999-2000 season. In two seasons, the performance *C. sake* at 2×10^6 CFU ml⁻¹ plus ammonium molybdate was similar to or greater than that of *C. sake* at 2×10^7 CFU ml⁻¹. Similar control of blue mold was obtained on pears stored under low oxygen conditions. The preharvest application of ammonium molybdate did not reduce postharvest blue mold decay. The population of *C. sake* on pear wounds significantly decreased in the presence of ammonium molybdate 1 and 5 mM at 20 and 1°C.