Title Combination of *Pichia membranifaciens* and ammonium molybdate for controlling blue mould caused by *Penicillium expansum* in peach fruit

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Abstract

The potential enhancement of *Pichia membranifaciens* by ammonium molybdate (NH_4Mo) to control blue mould caused by *Penicillium expansum* on peach fruit was investigated. Combining *P. membranifaciens* at 1×10^8 cell/ml with 1 mM NH_4Mo provided a more effective control of blue mould rot than applying the yeast or NH_4Mo alone. Addition of 1 mM NH_4Mo significantly increased the growth of *P. membranifaciens* in peach wounds, but did not affect the population in nutrient yeast dextrose broth medium. The *in vitro* experiment showed that the combined treatment inhibited spore germination and germ tube elongation of *P. expansum* in comparison with the treatment of *P. membranifaciens* or NH_4Mo alone. Moreover, *P. membranifaciens*, NH_4Mo, and the combination of them did not impair the quality parameters including fruit firmness and content of total soluble solids, titratable acidity and vitamin C of peach fruit after 6 days of storage at 20 °C. These results suggested that the use of NH_4Mo is a useful approach to improve the efficacy of *P. membranifaciens* for postharvest disease control in peach fruit.