Title Biological control of grey mould of apple by yeast isolates

Author F. Alavifard, H.R. Etebarian, N. Sahebany and H. Aminian.

Citation Journal of Plant Pathology Volume 90 (2, Supplement) August 2008, Book of Abstract, 9th International Congress of Plant Pathology, August 24-29, 2008 Torino,Italy,. 507 pages.

Keywords biocontrol; apple; grey mould

Abstract

Yeast isolates A2, A4 and A5 (*Candida membranifaciens*), A1 and A3 (*Rhodotorula mucilaginosa*) and A6 (*Pichia guilliermondii*) obtained from the surface of healthy apples were evaluated as potential biological control agents for apple grey mould caused by *Botrytis mali*. The isolates inhibited *B. mali* mycelial growth in dual culture tests by 17.45 to 35.16 %. Volatile metabolites emitted from all isolates inhibited growth of *B. mali*, with A3 (*R. mucilaginosa*) and A6 (*P. guilliermondii*) being the most inhibitory. Cell-free metabolites of A1 (*R. mucilaginosa*), A2 and A5 (*C. membranifaciens*) and A6 (*P. guilliermondii*) inhibited the pathogen 3.23, 5.68, 3.23 and 3.8%, respectively. *In vivo* the antagonists significantly reduced decay area caused by *B. mali* at 4°C and 20°C. Isolate A2 (*C. membranifaciens*) at 20°C and isolate A5 (*C. membranifaciens*) at 4°C had the most effect on decay suppression. The population of A2 (*C. membranifaciens*) and A6 (*P. guilliermondii*) increased in wounds of apples during the experiment at 4°C.