

Abstract

Post-harvest potato diseases are responsible for significant economic loss. Tuber infection may occur naturally through lenticels and eyes or mechanically through wounds incurred during harvest. There are few fungicides approved for use on human foodstuffs and there is a necessity to evaluate and screen the efficacy of alternative compounds against pathogens responsible for post-harvest disease in potatoes. In vitro trials were conducted to evaluate the effect of several organic and inorganic salt compounds and two commercial fungicides on mycelial growth, sporulation and spore germination of *Alternaria alternata*, *Botrytis cinerea*, *Fusarium solani* var. *coeruleum*, *Phytophthora erythroseptica*, *P. infestans*, *Verticillium albo-atrum*, and *V. dahliae*. The effects of various salt compounds on these fungi were evaluated at three concentrations: 0.002, 0.02 and 0.2 M. Overall, mycelium growth and spore germination of all pathogens were strongly inhibited by sodium metabisulfite and propyl-paraben. Spore germination in most pathogens was consistently inhibited by the aluminum compounds (aluminum chloride, aluminum acetate and alum) and the commercial fungicides mancozeb and copper sulfate. Information gathered from this study provides an important basis for further study into the uses of salt compounds for control of post-harvest diseases of potato.