

Baseline sensitivity of *Phytophthora erythroseptica* isolates to oxathiapiprolin

A. K. Stasko, G. Olaya, N. C. Gudmestad, J. S. Pasche

Pink rot of potato, caused by the oomycete pathogen *Phytophthora erythroseptica*, affects tuber yield, quality, and storability each year. Metalaxyl/mefenoxam seed treatments have been used for decades to manage the disease. However, given the presence of mefenoxam insensitive isolates and lack of cultivars with complete resistance, alternative management options are needed. Oxathiapiprolin is shown to be effective against other *Phytophthora* spp. and downy mildew pathogens. To assess whether it could be used to manage pink rot, 56 isolates of *P. erythroseptica* collected from seven states in 2012 or earlier were used to establish the baseline sensitivity. All but two had been previously tested for sensitivity to mefenoxam and ranged from sensitive to highly insensitive. All isolates were pathogenic on tubers following recovery from long-term storage. A mycelial growth assay was conducted using technical grade product from 1×10^{-6} to 1×10^{-1} μg active ingredient (a.i.)/ml. When the colony diameter on the unamended control plate reached approximately 70 mm, mean diameters were used to calculate EC_{50} values. All isolates were sensitive to oxathiapiprolin, with EC_{50} values ranging from 6.21×10^{-5} to 4.7×10^{-4} μg a.i./ml and a mean of 2.66×10^{-4} μg a.i./ml. These results are comparable to reports for other *Phytophthora* spp. and indicate that oxathiapiprolin is a good candidate to use in field studies on pink rot management. These results also establish an important baseline that can be used to monitor pathogen populations for the emergence of oxathiapiprolin insensitivity.