Sensitivity of recent genotypes of *Phytophthora infestans* (Mont.) de Bary to Oomycete-targeted compounds

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Potato late blight is a disease of potatoes and tomatoes caused by the Oomycete *Phytophthora infestans*. The disease causes millions of dollars of damage worldwide every year, and resistance to fungicides makes control of the disease difficult. The intent of this research is to establish a baseline sensitivity of the most recent US genotypes present in the field to the Oomycete-targeted compounds mefenoxam, fluopicolide, and cyazofamid and examine the effects over time. This research compares isolates collected from three time periods: 2004-2010, 2011, and 2012. A single 5mm diameter agar plug from each isolate was centrally plated on rye-V8 media amended with increasing dosages of fungicide. Mefenoxam and cyazofamid trials used dosages of 0, 0.1, 1, 10, 100, and 1000 mg/L while fluopicolide trials used dosages of 0, 0.1, 0.5, 1, and 10 mg/L. Three plates of each isolate were used at each fungicide level and allowed to grow for two weeks in an incubator in the dark at 18 degrees Celsius. Two perpendicular measurements were taken from each plate and averaged. EC50 values were calculated using a three or four-parameter logistic function using the package *drc* in R. All genotypes remained sensitive to cyazofamid and fluopicolide for all time periods. Isolates identified as genotypes US-8 or US-11 displayed resistance to mefenoxam for all tested time periods (all others remained sensitive). Isolates collected in 2012 will be screened for mefenoxam and will have a second screening for fluopicolide in the coming weeks. These results highlight the importance of genotyping and prompt information dissemination to growers about outbreaks to guide management decisions. The website USAblight (www.usablight.org) has been created to assist in the exchange of information regarding outbreaks between growers, researchers, extension agents, and the general public.