

**Camp, A.R.;** Milgroom, M.G.; Meitz, J.C.; McLeod, A.; Fry, W.E.; McGrath, M.T.; Dillard, H.R.; and Smart, C.D. 2010. *Phytophthora capsici* in New York State: Resistance to mefenoxam and population structure. *Phytopathology* 100:S20.

More than 250 isolates of *Phytophthora capsici* were collected in 2006, 2007, and 2008 from sweet peppers, hot peppers, summer squash, winter squash, pumpkins, zucchini, tomatoes, and eggplants grown at 22 sites in four regions of New York State (western, central, Capital District, and Long Island). Isolates were assayed for mefenoxam resistance and assigned to multilocus genotypes (MLGs) based on mating type and five microsatellite loci. Mefenoxam-resistance was common in the Capital District and on Long Island, but not in western and central New York. Both A1 and A2 mating types were found at 12 of the 22 sites. At seven of the 11 sites from which at least ten isolates were sampled the ratio of A1 to A2 isolates did not differ significantly from 1:1. Of the 126 distinct MLGs identified, 117 were each restricted to only one of the 22 sites, and nine were detected at two or three sites each. From analysis of pairwise comparisons, it was learned that populations at nearly all sites were significantly different ( $P \leq 0.05$ ) from each other. Much of the variation in the state-wide population could be attributed to differences either among regions or among sites. These results indicate that *P. capsici* in New York is highly diverse, but gene flow among different regions and fields is very restricted.