

ABSTRACT

CHARACTERIZATION OF *PHYTOPHTHORA CAPSICI* ISOLATES ON PEPPER FOR VIRULENCE, METALAXYL RESISTANCE, AND MATING TYPE

Phytophthora capsici is the cause of *Phytophthora* root rot disease in pepper. In this study, a set of 34 *P. capsici* isolates from California, New Mexico, North Carolina, and Turkey were screened against a set of 11 pepper varieties for virulence. These same isolates were also characterized for mating type and levels of metalaxyl resistance in order to develop a profile of each isolate. Sixteen races were found to exist in the collected isolates. Various levels of metalaxyl resistance, in terms of mycelial growth and zoospore production, were also found. This information will aid future experiments to elucidate the inheritance of *P. capsici* resistance, to detect genomic locations of resistance genes in pepper, and to reveal the inheritance of virulence and the location of virulence or avirulence genes in the *P. capsici* genome. This will help facilitate the development of resistant commercial pepper varieties for farmers.

Bonnie Renee Glosier
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