World Academy of Science, Engineering and Technology
International Journal of Pharmacological and Pharmaceutical Sciences
Vol:8, No:09, 2014

Characteristics of Phytophthora infestans: The Causal Fungus of Potato Late Blight Disease

Authors : A. E. Elkorany, Eman Elsrgawy

Abstract : Eighty six isolates of Phytophthora infestans dating back to 2006 were recovered from potato tubers that were on sale in Alexandria markets, Egypt. The isolates were characterized for mating type and colony morphology. Both A1 and A2 mating types were detected in the isolate collection, however, the A2 constituted 5.8% of the total isolates made while the A1 mating type isolates constituted 91.9%. The self-fertile phenotype was also detected but at a lower percentage of 2.3% of the total isolates. This indicated that Mexico, the probable origin of the disease, is no longer the only place where A2 mating type ever exists. The lumpy phenotype was the only trait observed linked to the A2 mating type isolates on rye A agar medium. The self-fertile isolates, however, exhibited colonies of a waxy appearance with little aerial hyphae and the culture were backed full with oospores. The A1 mating colonies were of smooth white abundant aerial hyphae. The metalaxyl resistant isolates were also detected among the analyzed isolates and constituted 4.6% of the total (86) isolates investigated. The appearance of the A2 mating type outside Mexico and the variation revealed in the population of Phytophthora infestans investigated supported the hypothesis of a second worldwide migration of the fungus from its origin which could constitute a threat to potato cultivation around the world.

Keywords : Phytophthora infestans, potato, Egypt, fungus
Conference Title : ICMVM 2014 : International Conference on Molecular Virology and Microbiology
Conference Location : London, United Kingdom
Conference Dates : September 26-27, 2014