

Title Genetic variability of the postharvest pathogen *Gilbertella persicaria*: identification of randomly amplified polymorphic DNA (RAPD) markers correlating with (+) and (–) mating types

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Abstract

Random amplified polymorphic DNA (RAPD) and isoenzyme polymorphisms among 16 isolates of the postharvest pathogen *Gilbertella persicaria* were examined. Six different 10-bp primers were used to determine the extent of intraspecific genetic variability. Nine composite amplification types were identified. RAPD markers were obtained which correlated with the mating types of the *G. persicaria* isolates. The variability of the isoenzyme patterns was very low and no correlation was found between the isoenzyme markers and the mating abilities. When 80 single carbon substrates were tested in utilization assays, most of them were utilized uniformly by the 16 *G. persicaria* strains. However, some compounds elicited differences between the isolates representing the two mating types. b-Alanine (0.2%) has little effect on the germination of the sporangiospores of the (+) isolates, but inhibited the germination of (–) sporangiospores. Glycerol-1-monoacetate supported the growth of both mating types, but at concentrations higher than 4% this was accompanied with a compact (colonial) growth for plus mating type isolates only.