Title Enzymatic activities of infected and healthy post-harvest tubers of cassava (*Manihot esculenta*)

Author A.O. Salami and A.K. Akintokun.

Citation Journal of Plant Pathology Volume 90 (2, Supplement) August 2008, Book of Abstract, 9th International Congress of Plant Pathology, August 24-29, 2008 Torino,Italy,. 507 pages.

Keywords cassava; enzymatic activity

Abstract

Post-harvest rots of three cultivars, namely TMS 4 (2) 1425 (hybrid cultivar) and two local cultivars Oko-Iyawo and Odongbo, of cassava (*Manihot esculenta* Crantz) were surveyed in southwestern Nigeria. A total of ten fungi were isolated from rotted cassava tubers collected from eight towns in south western Nigeria. The most frequently isolated and pathogenic ones used in this study as test pathogens were *Lasiodiplodia theobromae*, *Macrophomina phaseolina*, *Rhizopus stolonifer* and *Fusarium pallidoroseum*. In all the three cultivars inoculated with each of the test pathogens, enzyme activities were found to increase with incubation period between 6 and 8 days of inoculation and declined at day 10. PME and PG activities were found highest in cultivar TMS 4(2) 1425 and least in Odongbo. The test pathogens also behaved differently when inoculated with the culture filtrates of the different enzyme activities. *M. phaseolina* was found highest while *F. pallidoroseum* was the least in all the enzyme activities cultured except in pectin methyl esterase where *L. theobromae* had the highest activity. Mycelium dry weight of the test pathogens were also found to increase with incubation period with *F. pallidoroseum* having the highest weight of mycelial mats while *L. theobromae* had the least. Enzyme production and activities of the test pathogens in the utilization of carbon sources varied with the different carbon sources and the test pathogens. Generally, enzyme activities reflected the rate of maceration of tissues and the extent of rot disease of cassava tubers as well as the aggressiveness and pathogenic abilities of the test pathogens.