THE EFFICACY OF PLANTAIN INFLORESCENCE ASH IN THE CONTROL OF TRANSLUSCENT LEAFSPOT DISEASE OF *TELFAIRIA OCCIDENTALIS* (HOOK F.)

OSAI E. O[1], AKAN S. O[2] & UDO S. E[3]

[1,2]Department of Crop Science, University of Calabar, Calabar, Cross River State, Nigeria

[3]Department of Biological Sciences, Cross River University of Technology, Calabar, Cross River State, Nigeria

ABSTRACT

Telfairia occidentalis (Hook f.) widely consumed in South-Eastern Nigeria where it is grown for its young vines, leaves and its oil-rich seeds. Its production is often threatened by insect pests and diseases especially leafspot which reduces the quality, market value leaf and pod yields of the crop. Due to their scarcity, high cost and environmental concerns, the use of synthetic fungicides for its control is not often practiced. The use of ash from readily available agricultural by-product (plantain inflorescence) was investigated as a potential control measure for this disease. Different concentrations of plantain rachis ash were tested in-vitro for this effect on the growth, sporulation and spore germination of the causal fungus (Phoma sorghina). In a repeated green house experiment using artificial spray inoculation and field experiments using natural infection, plantain rachis ash consistently suppressed the growth and sporulation of the pathogen and reduced leaf spot disease. Pumpkin plants tested with $6gml^{-1}$ ash after 3HAI had significantly ($P<0.05$) lowest leafspot incidence and severity than 6 and 12 HAI application and 1.5 and $3gml^{-1}$ concentrations. Similarly, $6gml^{-1}$ ash applied at symptom expression significantly ($P<0.05$) suppressed leafspot leafspot incidence and severity and enhanced yield over lower concentration and control; and was statistically ($P<0.05$) comparable with Carbendazim in this parameters. These results suggest the practical use of plantain inflorescence ash in the control of leafspot disease in the production of fluted pumpkin.

KEYWORDS: Plantain Ash, Leafspot, *Phoma sorghina*, *Telfairia occidentalis*