

In vitro effects of some pesticides on pathogenic fungi associated with legumes

¹Dare Michael Olajire and ²Fawole Oluyemisi B

¹Department of Agronomy, University of Ibadan, Ibadan, Nigeria

²Department of Soil Science, University of Ilorin, Ilorin, Nigeria

Abstract

An *in vitro* effect of three pesticides commonly used in the southern Guinea savanna namely Benomyl (fungicide), Galex[®] (herbicide) and Karate[®] (insecticide) on the growth of three pathogenic fungi of legumes, *Fusarium oxysporum*, *Aspergillus flavus* and *Fusarium monilliforme*, was investigated to determine the effectiveness of the pesticides in reducing the growth of these fungi. Each fungicide was assayed with each fungus at 0, 100, 200, 400 and 500 mg L⁻¹ rate in Potato Dextrose Broth (PDB) and incubated at 30°C for five days. Each treatment was replicated four times. Data were collected on the mycelia weights of the fungi under each treatment. Mycelia weights of the three fungi were significantly reduced at 100 mg L⁻¹ by all the pesticides except that of *A. flavus* under Benomyl treatment where some resistance was observed. Significant reduction of mycelia weights of the three fungi was observed at 500 mg L⁻¹ of Galex[®] application compared to other application rate of Galex. Application of Benomyl and Karate[®] significantly reduced mycelia weight of *F. oxysporum* irrespective of the rate applied. Growth of the two *Fusarium* species was completely inhibited by Benomyl at the application rate of 500 mg L⁻¹. Galex[®] and Karate[®] which are herbicide and insecticide respectively, had detrimental effect on the tested pathogenic fungi of legumes and therefore may reduce incidence of diseases caused by these fungi in legume production in the southern Guinea savanna of Nigeria. We suggest that application of Karate or Galex can be effectively used to control some important pathogenic fungi of legumes.

Keywords: *Aspergillus flavus*; fungicide *Fusarium monilliforme*; *Fusarium oxysporum*; herbicide; insecticide; mycelial weight