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Assessment of preferred pest control method among cowpea farmers in Guinea-Savannah agro-ecological zone, Nigeria

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Abstract

Cowpea is a major crop consumed by households in Nigeria and sub-Saharan Africa but pest threatens production at economic threshold in both quality and quantity terms. Farmers made frantic and professional efforts to check the menace using different methods but in some cases used combined control method in order to increase cowpea output. The study assessed the preferred pest control methods adopted by cowpea farmers in the Guinea-Savannah agro-ecological zone of Nigeria. A total of 155 respondents were selected using well-structured copies of well-structured and pre-tested copies of questionnaire and multistage sampling procedure. Result of socioeconomic characteristics of the respondents revealed the average age (46.5 years), farming experience (27.3 years), household size (9 members), extension contacts (6 times) and annual revenue (N655, 154) among others. Input and pest statistics revealed mean values of pest control cost (N15, 290), seed used (47.6 kg), agrochemicals (9.8 litres) and number of pests species/farm (2). Multinomial results revealed chemical method with reference to manual method indicated reduction in the use of chemical method as caused by cooperative membership ($p < 0.01$), marital status ($p < 0.05$) and sex ($p < 0.05$) while the use of both methods (manual and chemical) with reference to manual method indicated that cooperative ($p < 0.05$) decreased the use of both methods. High pest incidence was ranked first by cowpea farmers among all highlighted constraints to cowpea in the study area based on the result of Likert scale rating index, while specifically, sucking pod insect was rated highest among the pests attacking cowpea generally on cowpea farms. Hypothesis tested on the relationship between quantity of cowpea output and pest management method was significant at 1% indicating that there is a significant relationship between adopted pest control method and cowpea output among farmers. It was recommended among others that farmers should be exposed to more extension education and also encouraged on cooperative membership for sufficient education on pest control.

Keywords: Control method, cowpea, Guinea Savannah, multinomial logit, pest