

Effect of Chemical Spray on Insect Pests and Yield Quality of Food Grain Legumes

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Abstract: Effectiveness of dimethoate 40 EC and copper oxychloride mixture in the management of legume pests and diseases was tested in field experiments during 2005 growing seasons. Grain legumes used were the common bean (*Phaseolus vulgaris* L. var. GLP 2), the lima bean (*Phaseolus lunatus* L.), the green gram (*Vigna radiate* L.), the lablab (*Lablab purpureus* L.) and the chickpea (*Cicer arietinum*). The experimental design was a randomized complete block design in a split plot replicated thrice. The parameters observed were insect pest incidence, number of pods per plant, percent seed damage and total grain yield. Pesticides spray significantly reduced the incidence of insect pest species like; the flower thrips (*Megalurothrips sjosdetji* Trybom), the African bollworm (*Helicoverpa armigera* Hubner) and the legume pod borer (*Maruca testulalis* Geyer). Pod and seed damage were significantly reduced in lablab, chickpea and green gram. Only lablab, chickpea and green gram showed significant increase in number of pods per plant and total seed yield resulting from pesticide spray. In addition, the quality of yield increased through reduction of shrivelled and discoloured seeds due to diseases. The study showed that the use of dimethoate and copper oxychloride was beneficial for the management of the common insect pests and diseases in legumes. However, studies on the optimum number of sprays, time of application and use of other control measures that are ecologically viable for the management of the pests ought to be done.

Key words: Grain legumes, insect pests, diseases, pesticides, yield
