INSECTICIDE USAGE PATTERN IN KHARIF PIGEON PEA IN CHITTOOR DISTRICT OF ANDHRA PRADESH, INDIA

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ABSTRACT : The survey on insecticide usage patterns in Pigeon pea against pest complex was conducted during kharif 2022. A total of 36 farmers were surveyed from the Chittoor district of Andhra Pradesh. The results from the survey revealed that the farmer’s practices are completely deviating from the normal recommendation as per the ANGRAU. In pigeon pea cropping pattern, 39 per cent of farmers were practicing as sole crops, 56 per cent of them were practicing intercropping with groundnut in the ratio of 10:1, and 5 per cent of the farmers were practicing intercropping with mango. The highest percent of the farmers used organophosphate compounds (57 %) for the management of insect pest complex. About 34 percent of the farmers were spraying only the Neem oil. For insecticide application 31 per cent of the farmers were using Hand operated Knapsack Sprayer, 47 per cent were using petrol-operated knapsack users and the remaining 22 per cent were using power sprayers. About 50 per cent of the farmers had chosen the insecticide selection from the Scientists/Agricultural officers, 25 per cent of the farmers had chosen the insecticides directly from the dealers/salesman, while 14 per cent from the extension workers followed by their own experience (11%). For measuring the chemicals, 11 per cent of them used measuring jars, 56 per cent of them used insecticide bottle caps and the remaining 33 per cent were measuring the spraying chemicals on an average basis. The majority of the respondents (56%) mixed the chemicals by pouring chemicals into the half-filled tank of water and later on, filled the tank with reaming required water, followed by mixing with a wooden stick (33%) and spray lance method (11%).

Key words : Pigeon pea, insecticide, usage pattern, safety, Chittoor, insecticide selection.


INTRODUCTION

Pigeon pea (Cajanus cajan L.) is an important pulse or grain legume crop in semiarid and subtropical regions of the world (Shanower et al., 1999) and a major pulse crop among the pulses grown in India. India ranks first in area and production in the world contributing 80% and 67% of the world’s acreage and production, respectively. However, in Andhra Pradesh, it is cultivated in an area of 2.45 lakh hectares and production of 2.01 lakh tonnes. It contains about 20-30 per cent protein which is three times higher than the protein content in cereals (Singh, 1983). Pigeon pea is consumed in many different forms viz., green seeds and reconstituted dried split seeds and it is an important source of dietary protein for vegetarian societies of South Asia. Among many pulses, for the rural population in India, half of their protein source is met by pigeon pea consumption (Ryan et al., 1984).

It is most susceptible to a large number of insect pests and diseases which cause heavy losses. Most of the pests attack the crop at the reproductive stage causing direct losses. Fletcher (1920) listed a total of 35 insects on redgram like Helicoverpa armigera (Hubner), Etiaella zinckenella (Treitschke), Euchrysos cnejus (Fab.), Odontotermes distans Holmgren & Holmgren, Maruca testulalis (Geyer) and Gryllus bimaculatus De Geer. An alarming pest array of more than 250 insect pests is surely an area of concern in pigeon pea pest management (Sharma et al., 2010). The pigeon pea pod borer complex
the pesticide spray solution, whereas, 33 per cent were found mixing with bare hand. During the spraying operation, none of the farmers had the practice of smoking and most of them didn’t eat or drink (96%). About 76 per cent of farmers didn’t follow any safety measures during pesticide application, whereas, only 24% used masks to cover the face while spraying.

About 61 per cent of the farmers dispose of pesticide bottles in field bunds and 6.00 per cent of the farmers throw the bottles in the water canal. None of the farmers were burying pesticide bottles in fields. About 33.3 per cent of the farmers are using pesticide bottles for their home needs (Fig. 12).

CONCLUSION

The present study revealed that redgram is cultivated either sole crop or intercropping with groundnut in the ratio of 10:1 and intercropping with mango in all the 12 surveyed villages (6 Mandals) of Chittoor district. The farmer’s practices are very diversified than the normal agricultural operation in pigeon pea crop production. Hundred per cent of the farmers were taking up Neem oil as preventive measures against insect pests during the bud and flower initiation stage. Organophosphorous compounds were the next best choice of farmers for the management of insect pest complexes becoming severe at the flowering and pod maturation stage.

The majority of farmers though able to obtain insecticide products from registered companies, but they are not in practice of careful examination of the expiry date. Most of the surveyed farmers were not strictly following the safe handling practices while spraying as per the CIBRC recommendations. The majority of the farmers believe that the use of insecticide helps to improve yield and use of insecticides in excess dosages saves the crop, but there were no proper usage patterns in turn results in an unnecessary increase in crop protection cost. Thus, it is strongly recommended that suitable education and training programs on insecticide handling, application methods and health effects must be implemented in this surveyed area. In addition to this availability of protective equipment and clothing must be provided at low cost so as to enhance their usage and popularity among farm workers. Implementation of strict regulations regarding permitted insecticide dosage and frequency of application should also be ensured. Such efforts are highly required for the safety of human health, environmental protection as well as sustainable agriculture.

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REFERENCES


