

FIELD SCREENING OF SOME LONG DURATION PIGEONPEA GENOTYPES AGAINST POD FLY *MELANAGROMYZA OBTUSA* UNDER NATURAL CONDITIONS

Sunil Verma*, N. N. Singh, Ram Keval and Kalpana Bisht

Department of Entomology, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi - 221 005, India.

*e-mail : sonukhandelwal881991@gmail.com

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ABSTRACT : Thirteen long duration pigeonpea genotypes with two checks Bahar and MAL-13 were screened against pod fly damage for two consecutive years during *kharif* 2017 and 2018 at the Agricultural Research Farm, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi. In order to screen the pigeonpea genotypes the experiment was laid out in Randomized Block Design and replicated thrice and kept free from spray of insecticides. To assess the degree of infestation caused by pod fly, hundred pods were picked out randomly from each replication of each genotype at the time of harvest and the per cent pod and grain damage was assessed. Investigation revealed that none of the entry was found free from incidence of pod fly. On the basis of present study, the genotypes with lowest pod and grain damage may be used in resistant breeding programme for improvement or developing resistant varieties of pigeonpea.

Key words : Pigeonpea, pod damage, grain damage, podfly, genotypes.

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INTRODUCTION

Pigeonpea [*Cajanus cajan* (L) Millsp.] is an important pulse crop grown in India. However, the yield levels of this crop are not very encouraging due several biotic and abiotic factors. Among the biotic factors responsible for low yield, the damage caused by insect pests is one of the major factors in pigeonpea. Pigeonpea attacked by several insect pests from seedling stage till harvesting. More than 200 species of insects have been found feeding on pigeonpea, although only a few of them have been found to cause significant and economic damage to the crop. *Melanagromyza obtusa* (Malloch) (Diptera: Agromyzidae), has emerged as a key pest causing 10.00 per cent to 80.00 per cent damage (Shanower *et al*, 1999; Kumar and Nath, 2003), which is estimated to cause a monetary annual loss of US\$ 256 million [= Rs. 1500.00 Crores approx.] (Sharma *et al*, 2011 and Arbind *et al*, 2013). On an average, one third

of the pigeonpea produced annually in India is lost due to the insect pest infestation and the estimated monetary value (nearly one million tonnes) is approximately Rs. 15,000 million (Srivastava and Joshi, 2011). Pod fly infested pods do not show external evidence of damage until the fully grown larvae chew holes in the pod walls. This hole provides an emergence “window” through which the adults exit the pod. The concealed mode of life within the pod makes it difficult to control, with chemical insecticides (Subharani and Singh, 2010). Farmers are frustrated to manage these insect pests with commonly available insecticides. But dependence on only chemicals lead to the problems like development of resistance, outbreak of secondary pests, pesticide residues, hazards to human and animal life, destruction of natural enemies and as well as environmental pollution. In this context, it becomes very imperative to follow alternate approach which is ecologically viable and socially acceptable. Under such circumstances use of resistant or less susceptible