

# Evaluation of Pigeon Pea (*Cajanus cajan* L. Millsp) Genotypes to bud Weevil Resistance

B.D. Gite<sup>1</sup>, P.V. Patil<sup>2</sup> and R.M. Ambenagre<sup>3</sup>

*Agriculture Research Station, Dr. PDKV., Washim, M.S., India*

(Received 17 August, 2021; Accepted 28 September, 2021)

## ABSTRACT

An experiment was conducted to evaluate 14 new genotypes and released varieties of Pigeon Pea for their resistance or tolerance to bud Weevil *Indoza cladustheresiae* (Dolla Torre) under natural infestation in pesticide free field about one month prior to observation. In order to assess the degree of infestation 50 buds were randomly picked up from each replication. Bud weevil incidence was recorded with actual larvae inside the buds with the help of magnifying lens and digital USB microscope. On the basis of mean infestation among 14 treatments (4 checks and 10 genotypes) the genotype PT 0911-5-1-1 (5.67 %) and AKTE-1905 (5.67 %) followed by Rajeshwari (10.67 %), BDN 2013-41 (10.67 %) and BDN 2018-2 (10.67 %) were found to be less susceptible whereas genotype BDN-711 (40.67%) and BDN-716 (50.00%) were found to be most susceptible genotypes to bud weevil incidence released varieties

**Key words :** Bud weevil, Pigeon pea, Infestation.

## Introduction

Pigeon pea (*Cajanus cajan* L. millsp) is grown extensively in the world and occupies an area of about 4.57 million ha. (Majumdar and Singh 2005). India occupies an area of about 36.3 lakh hectare and the productivity is 760.33 kg/ha. Maharashtra has an area of 11.75 lakh ha. and productivity is 921.70 kg/ha. (Anonymous 2011). It is a drought tolerant crop and could give better yield under rainfed condition. Hence, it is a major crop grown in Vidarbha as well as in Maharashtra. Incidence of insect/pests is major factor which reduces yield of Pigeon Pea which is becoming serious over the years (Kumar and Nath, 2002). Losses due to insect pests in India extending about 78 percent (Lateef and Reed, 1983). Since last 2-3 years Pigeon Pea bud weevil incidence is observing severely in the growing areas in Vidarbha region. The female of this pest lay egg inside the bud, the leg less, small, white maggot come

out inside the bud from the egg. This maggot feeds floral parts inside the bud; consequently buds could not develop into flower and flower into pods. It observes to be causing severe losses to Pigeon Pea crop in Vidarbha.

In view to this, the present study has been carried out to evaluate Pigeon Pea genotypes/varieties for bud weevil resistance.

## Materials and Methods

Ten varieties/Genotypes along with three check varieties of Pigeon Pea were evaluated under natural field conditions against bud weevil incidence at Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Agriculture Research Station, Washim (MS) during *kharif* 2019-20. The experiment was conducted using RBD design.

The crop was kept free from insecticidal spraying about one month prior to the observations. Recom-



Bud weevil Adult



Bud weevil Maggot / Larvae inside bud

Percent Incidence of bud weevil on various Pigeon Pea Genotypes.

Sr. No.	Genotypes	% Incidence of bud weevil
1	AKTE-8811 (Ch)	26.33
2	BDN-711 (Ch)	40.67
3	BDN-716 (Ch)	50.00
4	Rajeshwari (Ch)	10.67
5	AKTE 16-12	26.33
6	AKTE-1604	30.67
7	AKTE 12-04	26.33
8	BDN 2013-41	10.67
9	BDN 2018-2	10.67
10	BDN 2018-12	20.67
11	PT-10-1-1-2	20.00
12	PT-11-4-4-1	12.00
13	PT 0911-5-1-1	5.67
14	AKTE-1905	5.67
	<b>SE(m±)</b>	<b>0.80</b>
	CD 5%	2.28
	CV %	13.01

mended Agronomical practices were followed to raise the crop. During flowering to pod formation stage 50 buds from each replication were randomly selected for observations. Bud weevil incidence was recorded with observing actual larva/maggot inside the buds with the help of magnifying lense and USB digital microscope. The data converted into percent damaged buds by bus weevil.

## Results and Discussion

In the present study bud weevil incidence among

the treatments ranged from 5.67 % (PT 0911-5-1-1 & AKTE-1905) to 50.00% (BDN 716). Among 10 Genotypes and Varieties PT 0911-5-1-1 (5.67 %) and AKTE-1905 (5.67 %) followed by Rajeshwari (10.67 %), BDN 2013-41 (10.67 %) and BDN 2018-2 (10.67 %) found to be less susceptible whereas genotype BDN-711 (40.67%) and BDN-716 (50.00%) found to be most susceptible genotypes to bud weevil incidence. Anonymous 2013, reported bud weevil of Pigeon Pea is a common pest in South India more particularly Karnataka and Tamil Nadu where, it usually found in large numbers and occasionally serious.

## References

- Anonymous, 2011. Area production and productivity of major pulses. ZPDK15/09/2011, 20-35. *Economia Gen-eric crop India 11 PR English production and productivity Pulses Department Scheme ZPD Kanpur.*
- Anonymous 2013. ICAR – National Bureau of Agricultural Recourses. NBAIR,8.12.15.
- Kumar, A. and Nath, P. 2002. Effect of insecticides on loss in seed mass and yield of Pigeon Pea by pod borer. *International Chick Pea and Pigeon Pea. Newsletter* 10: 50-51.
- Lateef, S.S. and Reed, W. 1983. Insect pests of Pigeon Pea. *Insect pests of Tropical Food legumes*, ed. S.R. Singh, P.P. 193-242. Chichester UK : Wiley. PP 451.
- Majumdar, N.D. and Singh, F. 2005. Pigeon Pea improvement in India. *Souvenir, 4<sup>th</sup> International Food Legume Research Conference on Food Legumes for Nutritional Security and Sustainable Agriculture*, Oct. 18-22, 2005 New Delhi, India. PP. 53-65.