

INCIDENCE OF ROOT WEEVIL *Cosmopolites sordidus* GERM. ON DIFFERENT VARIETIES OF BANANA (*Musa paradisiaca*)

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ABSTRACT : Banana is very popular and healthy fruit of India. Its utilities and usefulness in our dietary requirement does not need any explanation due to its caloric value (67 of -137 of calories per 100 gms). The area under banana cultivation in India is about 4,00,000 hectares with an annual production of 13.5 million tonnes. Out of various insect pests of banana, root Weevil cosmopolites Sordidus Germ is the most serious insect pest in Bihar varietal susceptibility in respect of your commonly grown varieties of banana viz. Malbhog, Champa, Harichhal and Alpan against the root weevil was recorded in order Malbhog, Harichhal, Champ and Alpan.

Keywords: Banana, Pest, Weevil, Varietal resistance.

INTRODUCTION :

Banana is a very popular and healthy fruit of our country of 40 Million tonnes of fruit produced in India, banana stands first in production. According to Padmanabhan et. al. 2001 and Kumar et.al. 2009, the area under banana cultivation in India is about 4,00,000 hectares with an annual production of about 13.5 million tonnes. Banana is the second important fruit crop of Bihar as is grown in about 29,000 hectares with an annual production of about 0.58 million tonnes. Banana is susceptible to various insect pests. Banana root weevil *cosmopolites sordidus* however is the most serious insect pest. As a result of heavy pest infestation, plants weaken and yield decreases. In view of the seriousness of the problem, present investigations were carried out to know the varietal resistance of four common Varieties of banana against the weevil.

MATERIAL AND METHODS

For determining the susceptibility of the common varieties of banana, grown in Bihar to the incidence of root weevil, *cosmopolites sordidus* different trials in randomised block design were carried out with four varieties (Malbhog, Alpan, Chanipa and Harichhal) and four replications. Twenty five plants of banana were kept in each treatment. Incidence records on these varieties were made taking the ovipositional slits on the outer leaf sheath on banana pseudostem above 20 cms from the ground level in case of root weevil. Observations on the incidence of weevil were recorded four times i.e. Premonsoon (March-May) Monsoon (June-Sept), Post monsoon (Oct.-Nov.) and winter (Dec.-Feb) seasons).

RESULT

Observations on the basis of ovipositional slits or holes on the outer sheath of banana pseudostem upto a height 20 cms from the base were taken as the index of the incidence and recorded during different periods of 2010-2014. Percentage of incidence was transformed in the angular values and the results of the observations on the incidence have been presented in table-1.

Table - 1

Incidence of *C.Sordicky* in different varieties of banana during different periods

Vanities	Damage in Percentage			
	Pre-monsoon	Monsoon	Past-monsoon	Winter
Malbhog	5.25 (13.17)	7.20 (15.50)	6.50 (14.72)	4.75 (12.50)
Harichhal	2.50 (9.05)	5.00 (12.80)	3.20 (10.20)	2.00 (5.95)
Champa	1.00 (4.90)	0.75 (4.30)	0.50 (2.87)	0.75 (4.30)
Alpan	0.75 (4.30)	1.00 (4.90)	0.75 (4.30)	0.50 (2.87)
SEM	2.16	1.65	1.98	2.32
C.V.%	19.80	16.41	14.90	14.30
C.D.at 5 %	4.02	3.80	4.51	5.30

From the data of the table it is evident that "Malbhog" had the highest infestation percentage in all the four periods of observations as compared to other rest varieties. In monsoon period, this percentage of infestation was highest in all the varieties as compared to the respective rest periods except "champa" Variety in which highest infestation percentage (4.8) occurred during pre-monsoon period. "Malbhog" was significantly superior to other varieties in respect of infestation percentage followed by "Harichhal". From the data of the table, it is also evident that "Alpan" and "Champa" Varieties were least susceptible.

DISCUSSION

Roof weevil *cosmopolites sordidus* has been found to cause serious damage to banana in different parts of India (Lai, 1950, 1952) Shukla and Kumar, 1969 Singh, 1969). Froggott (1928) reported that two curculionidae i.e. *cosmopolites sordidus* germ. and *odioporous longicollis* attacked apparently ril varieties of banana in Java. Feakin (1972) reported the habits of *odioporous longicollis* very similar to *cosmopolites sordidus* and a tremble some pest in South East Asia. A comparative study of the incidence of *C.Sordidus* on different common varieties of banana revealed that "Malbhog" was most susceptible to the pest followed by "Harichhal". The damage percentage of "Malbhog" during monsoon period was highest (15.50) followed by "hariallar (12.80)

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