

Research Paper :

Effect of date of planting on the incidence of the potato shoot borer, *Leucinodes orbonalis* Guenee

M. SHOBHARANI AND B.S. NANDIHALLI



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See end of the article for authors' affiliations

Correspondence to :
M. SHOBHARANI
Department of
Agricultural
Entomology, College of
Agriculture, University
of Agricultural
Sciences, DHARWAD
(KARNATAKA)
INDIA
s_rani_ent@yahoo.co.in

SUMMARY

Field investigations were carried out on seasonal incidence and effect of planting dates on the incidence of the potato shoot borer, *Leucinodes orbonalis* Guenee at the Main Agricultural Research Station (MARS), University of Agricultural Sciences, Dharwad under rainfed conditions. The incidence of potato shoot borer in the first planting started from 4th week after planting (31st standard week) and reached its peak during 10th week after planting (37th standard week) with 56.11 % shoot damage and there after the incidence of pest decreased till the harvest. In subsequent three plantings, same trend was followed. With respect to seasonal incidence, during *Khari* the incidence commenced at 30 days after planting and reached its peak on 10th Sept. with 53.27% shoot damage and thereafter decreased. During *Rabi* the incidence commenced at 35 days after planting and reached its peak on 8th January with 33.97% shoot damage and thereafter decreased towards harvesting stage. In general the incidence of *L. orbonalis* was more during *Kharif* season compared to *Rabi* season.

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Potato (*Solanum tuberosum* Linnaeus) is one of the important and widely grown vegetable crops of the world, which is cultivated in 129 countries between 500 latitude on both sides of the equator and from sea level to snow lines upto 4000 m altitude. The cultivated potato originated around lake 'Titicaca' near present borders of Peru and Bolivia and was introduced in to India from Europe by Portuguese in the seventeenth century. It is a highly productive crop. Potato produces more carbohydrate, fibre and vitamins per unit area and time than other major food crops. Potato is used as staple food in other countries and in India, it is used as vegetable rather than the staple food. In Karnataka, Potato is grown in an area of 0.66 lakh ha. with a production of 6.82 lakh tones (Anonymous, 2008).

There are many production constraints in potato cultivation, such as production of healthy seed material, occurrence of many pests and diseases right from sowing to harvesting and even in storage. In recent years, the brinjal shoot borer, *Leucinodes orbonalis*

Guenee (Lepidoptera: Pyralidae) is causing heavy yield losses in potato crop. The pest has been reported from Karnataka as early as 1965 on potato (Nair, 1967). Similarly, the pest was also reported from Ranchi on potato grown during the rainy season and the shoot damage varied from 36 to 42 per cent (Mishra and Mishra, 1996). It was also known to feed on foliage of potato in Africa and South Asia (Hill, 1993).

The larvae of *L. orbonalis* are known to attack potato shoot causing withering and wilting which resulted in retardation of the plant growth (Nair, 1967; Mishra and Chand, 1976). In recent years, it became a serious pest on potato causing 41.87 per cent shoot damage with a yield reduction of 2.25 t/ha (Niranjanamurthy and Nandihalli, 2003). However, not much information is available on its seasonal incidence and influence of date of planting on its incidence. Therefore, field trials were carried out to study the seasonal fluctuation pattern of *L. orbonalis* on potato and determine the influence of different dates of planting on its incidence.

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