

Pests of Pea in Rajasthan

Pea (*Pisum sativum* L.) is one of the important pulse crops of Rajasthan and grown almost throughout the State. As reviewed by Srivastava (1964) various insect pests of this crop are on record from different parts of the country. But as the available literature shows, no systematic survey has so far been made from this State. Casual reports on the occurrence of some specific pests of pea are available from Rajasthan. The systematic survey of the pea pests reported in this, was made from the year 1966-1968. The insects collected from the different areas were reared in the laboratory and sent for identification. The present paper embodies the information regarding the pests attacking pea from seedling to the harvest of the crop along with the descriptions of some major and the minor pests.

Major Pests: (a) *Leaf eating*: (1) *Laphygma exigua* Hub. (Lepidoptera: Noctuidae) (2) *Heliothis obsoleta* F. (Lepidoptera: Noctuidae) and (3) *Phytomyza atriconis* M. (Diptera: Agromyzidae)

(b) *Leaf sucking*: 4. *Acyrtosiphon pisum* and 5. *Myzus persicae* Sulz. (Homoptera: Aphididae);

(c) *Stem boring*: 6. *Melanagromyza phaseoli* Coq. (Diptera: Agromyzidae);

(d) *Pod boring*: 7. *Etiella zinckenella* T. (Lepidoptera: Pyralidae) 8. *Heliothis obsoleta* F. (Lepidoptera: Noctuidae) and 9. *Euchrysops* (Lepidoptera: Lycaenidae);

(e) *Root damaging*: 10. *Euxoa segetum* Schiff and 11. *Euxoa spinifera* Hubner (Lepidoptera: Noctuidae) and 12. Bugs (Unidentified).

Minor Pests: 13. *Prodenia litura* F. 14. *Pseudaletia separata* Haw. 15. *Sesamia inferens* Walker 16. *Plusia orichalcea* F. 17. *Plusia nigrisigna* Walker (all belong to Lepidoptera: Noctuidae) 18. *Psalis pennatula* F. (Lepidoptera: Lymantriidae) and 19. *Tetranychus telarius* L. (Acarina: Tetranychidae). Besides the above mentioned pests, unidentified jassids, coccids, bugs and whiteflies have also been observed infesting the crop.

***Laphygma exigua* Hubner:** The brownish green caterpillars of this noctuid moth are abundantly found causing severe damage at the early stage of the crop. The peak period of infestation was observed in the month of November. During the outbreak years they are found marching in large numbers from one field to another.

green, brown to almost black. It is prevalent throughout the crop growing season but severe infestation was noticed at the time of pod formation. In the year 1966, the infestation of this pest was so much that in the seedling stage at cultivator's farm, Sanganer (Jaipur) there was almost a complete failure of the crop.

Phytomyza atricornis M.: This is a very serious pest from seedling to the harvest of the crop. Observations on the seasonal history shows that the insects aestivate as pupae during the summer and autumn and the flies emerge towards the end of December and January. The maximum damage was recorded from the second week of February to the first week of April. In case of severe infestation, the attacked leaves wither away and the affected plants give an ugly appearance.

Acyrtosiphon pisum Harris: The aphids infest the upper as well as lower surface of leaves, tendrils and the pods. The infestation was heaviest in the month of March. It was observed in association with *Myzus persicae* Sulz. in the year 1966-67 at Government Experimental Farm, Durgapura (Jaipur).

Myzus persicae Sulz.: The crop at the flowering stage was found to be severely affected by this aphid. It settles on both upper and the lower surface of the leaves, apical shoots and the flowering buds.

Melanagromyza phaseoli Coq.: It is a sporadic pest of pea crop. During the sudden outbreak of this pest in the year 1967, the extent of damage was so severe that the cultivators had to resow the crop in Jaipur Region. As reported by Sharma *et al.* (Unpubl.) the early stage of the crop suffered much in comparison to older ones. They further added that the pest resumes its activity from the last week of February onwards and breeds on cowpea, moong, urid from July to October.

Etiella zinckenella T.: In the year 1966, the percentage of damage recorded was 4 to 6%. Generally, moths prefer to lay eggs on the succulent pods of the crop. The incubation period varies from 3 to 7 days, the average being 5 days. Soon after hatching, the larvae starts feeding on the pods and make minute holes for their entrance. The larvae become fulfed within 10 to 15 days after hatching. The pupal period varies from 7 to 18 days during the active period of its life cycle. It hibernates as pupa inside the soil in the later part of March or in the beginning of April.

Sesamia inferens Wlk.: From this State, Kushwaha *et al.* (1961) found

to be an alternate host plant of this pest. Although, the further studies of this pest with special reference to larval behaviour have been undertaken to provide the full explanation regarding the host relationship.

Pseudaletia seperata Haw.: It has been recorded as a pest of maize, wheat, sugarcane, and jowar from Madhya Pradesh (Bindra and Rathore, 1965). But, for the first time this pest has been observed to feed on the pea leaves. The maximum damage (3%) was noticed in the month of December.

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