research article | International Journal of Plant Sciences, Vol. 6 Issue 1 (January, 2011) : 40-41

Natural predation by different predators on the pests of various agricultural crops in U.P.

RENU YADAV, NEELAM YADAV, RANJANA YADAV AND R.R. KATIYAR

Received : July, 2010; Accepted : August, 2010

SUMMARY

The extension and intensive survey of different pests attacking certain agricultural crops recorded several predators on different stages of crop pests. The promising predators were *Canthicona furcillata*, *Chrysoperla carnea* and *Chlaenius bioculatus*.. These predators may prove very useful in controlling the population of several noxious insect pests infesting agricultural crops.

Yadav, Renu, Yadav, Neelam, Yadav, Ranjana and Katiyar, R.R. (2010). Natural predation by different predators on the pests of various agricultural crops in U.P.. *Internat. J. Plant Sci.*, **6** (1): 40-41.

Key words : Predators, Agricultural crops, Pests, Predation

The greatest challenge of the mankind is the growing population. The current crisis is how to feed the mankind with limited resources. The pressure on agricultural land is mounting many folds. To augment the yield of the crops, synthetic insecticides are very liberally used which has hazard for man and environment.

Biological control is a method of controlling pests in agriculture that relies on natural predation rather than introduced chemicals. It is environmentally safe, economical acceptable to farmers and most compatible with other integrated pest management (IPM) components.

The valuable information on these aspects has been provided by (Singh and Singh, 1994) and (Malik, 1997).

MATERIALS AND METHODS

A survey of different predators on various crop pests on agricultural crops and experiment was carried out in Department of Entomology at C.S.A. University of Agriculture and Technology, Kanpur. For this purpose the predators and pests were collected for natural predation from agricultural crops and reared in the laboratory. The laboratory culture of Tobacco caterpillar (*Spodoptera litura* Fabr.), Gram pod borer (*Helicoverpa armigera* Hubn.), Linseed semilooper (*Plusia orichalcea* Fabr.), Cotton leaf roller (*Sylepta derogata* Fabr.) was maintained on the synthetic diet, the 2nd instar larvae of each species were utilized for studying the predation in different insects. One hundred 2nd instar larvae of each species were exposed for predation. 10 pairs of adult male and female predators *Canthicona furcillata*, *Chrysoperla carnea* and *Chlaenius bioculatus* were released on them. Next day the predate larvae were separated and reared.

RESULTS AND DISCUSSION

An extensive survey of agriculture and horticultural fields adjoining the different areas of U.P. (Kanpur, Lucknow, Agra, Allahabad, Aligarh, Farrukhabad, Etawah, Gorakhpur, Gaziabad) during in the year (2001) resulted in the record of three species of predator *viz.*, *Canthicona furcillata (Spodoptera litura, Plusia orichalcea, Spilosoma obliqua), Chrysoperla carnea (Helicoverpa armigera, Lipaphis erysimi),* and *Chlaenius bioculatus* (*Sylepta derogata), Cnephalocrosis medinales, Marasmia trapezali)*. These predators were recorded (Table 1). They were comparatively large in size, abundant in different seasons and having adequate predation potential, which can effectively be utilized in the biological control programme.

Correspondence to:
NEELAM YADAV, Department of Zoology, C.C.S. (P.G.) College, Heonra, ETAWAH (U.P.) INDIA

Authors' affiliations:
RENU YADAV, Department of Zoology, C.C.S. (P.G.) College, Heonra, ETAWAH (U.P.) INDIA

RAJANA YADAV, Department of Zoology, N.D. College, Chhibramau KANPUR (U.P.) INDIA

R.R. KATIYAR, Department of Engomology, C.S.A. University of Agriculture and Technology, KANPUR (U.P.) INDIA