Research Paper

ADVANCE RESEARCH JOURNAL OF
C R P
IMPROVEMENT
Volume 3 | Issue 2 | December, 2012 | 118-121

Efficacy of different insecticides for controlling the rice leaf folder (*Cnaphalocrocis medinalis* Guenee)

■ UTPAL DEY, B.B. SARKAR[1], D.N. DHUTRAJ[1] AND S.L. BADGUJAR[1]

ABSTRACT : Field experiments were conducted to evaluate the efficacy of different pesticides, botanicals and bioagents against the rice leaffolder, *Cnaphalocrocis medinalis* Guenee. The results indicated that the activity of *C. medinalis* lasted from second week of August to the last week of October during *Kharif* 2011. The peak of its activity was observed in the second fortnight of September during the crop season. The efficacy of insecticides, carbofuran 3G (Furadan), monocrotophos (Nuvacron 40WSE), phorate 10G (Thimet 5 CT), malathion 57 EC (Malathion), roxion 40 EC (Dimethoate), lorsban 40 EC (Chlorpyrifos), arrivo 10 EC (Cypermethrin), neem seed kernel extract (NSKE) and neem oil were evaluated against rice leaf-folder. All the insecticides caused 71.22 to 96.62 per cent mortality of the pest after 24 hours of spray. Insecticide treated plots invariably yielded higher than the control. The highest yield (3471.17 kg ha^{-1}) was recorded with cvarbofuran 3G (Furadan) application and the lowest with arrivo 10 EC (Cypermethrin) (3211.50 kg ha^{-1}) as compared to control (3096.00 kg ha^{-1}).In regulating the use of these insecticides to rice, considerations should be given to the large amount of these insecticides released to the rice ecosystem and availability of alternate more safer insecticides for the leaffolder management.

Key Words : Insecticides, Rice, Leaffolder, Crop pest

How to cite this paper : Dey, Utpal, Sarkar, B.B., Dhutraj, D.N. and Badgujar, S.L. (2012). Efficacy of different insecticides for controlling the rice leaf folder (*Cnaphalocrocis medinalis* Guenee), *Adv. Res. J. Crop Improv.*, **3** (2) : 118-121.

Paper History : Received : 12.07.2012; **Revised :** 14.09.2012; **Accepted :** 04.11.2012

AUTHORS' INFO

Associated Co-author :
[1]Central for ODL in Research and Training in Agriculture, IGNOU, AGARTALA (TRIPURA) INDIA

Author for correspondence :
UTPAL DEY
Department of Plant Pathology, Mahatma Phule Krishi Vidyapeeth, Rahuri, AHMEDNAGAR (M.S.) INDIA
Email : utpaldey86@gmail.com

Among other factors, low yields of rice in India due to damages by insect pests are the major constraints. About 128 species of insects have been reported attacking the rice crop. Of these 15 to 20 insect species are known to be the pests of paramount importance and are regularly noticed in tropical Asia. Rice leaf folder, *Cnaphalocrocis medinalis*(Gn.) to the list also poses a threat to economic production of rice belt in state Tripura. The rice leaf folder, *Cnaphalocrocis medinalis* Guenee earlier considered as a minor pest of rice in many Asian countries, appears to have become increasingly important with the spread of high yielding rice varieties and accompanying changes in cultural practices. Infestation usually occurs during late growth stages of the rice crop. The young larvae feed on open leaves but later feed inside the rolled leaf formed by folding the leaf longitudinally with a sticky substance. The larvae fold the leaves and scrape the green tissues of the leaves from within and cause scorching and leaf drying. Each larva is capable of destroying several leaves by its feeding (Upadhyay*et al.,* 1975). This activity disturbs the photosynthesis and plant growth and ultimately yield is reduced. The success of the crop, therefore, depends upon effective control of this pest. Sellamal Murugesan and Chelliah (1983) reported that a 10 per cent increase in flag leaf damage by the leaffolder reduces grain yield by 0.13 g per tiller and the number of fully – filled grains by 4.5 per cent. Damage due to rice leaf folder may sometimes go as high as 60 per cent (Kushwaha and Singh, 1984).

Field studies conducted by Pawan *et al.* (1996) in Bihar, India showed that infestation of rice leaf folder ranged from 1.4 to 33.2 per cent from July to October with minimum level of infestation in July (1.8-2.9%) and maximum in September (17.9-33.2%) followed by August (7.6-16.2%). For the control of the insect pests of rice, the insecticides like ekalux, kilvil, lannate, pad an anddiazinon have been tried and recommended by Panda and Shi (1989), Khan and Khaliq (1989). Mustafa *et al.* (1990), Mustafa and Razzaq (1991), Biswas and Mandal (1992), Prasad *et al.* (1995), Sharma and Singh (1995), Singh *et al.* (1995 a, b) during the last two decades.Khan *et al.* (1989) studied the biology, chemical control and varietal preference of rice leaf folder and found that larval damage and larval population differed significantly among different rice varieties. Application of lorsban, sumithion, methyl parathion, denital and thiodan