

Efficacy of some conventional insecticides against *Mylocerous curvicornis* on shisham in nursery

S.B. SAH, M.S. ALI AND S.K. MANDAL

See end of article for authors' affiliations

Correspondence to :

S.B. Sah
Department of Forestry,
Rajendra Agricultural University,
Pusa, SAMASTIPUR (BIHAR)
INDIA

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ABSTRACT

A nursery experiment was conducted with six month old seedlings of shisham to evaluate the efficacy of some conventional insecticides viz. Endosulfan, Quinalphos, Chlorpyrifos and neem cake against *Mylocerous curvicornis*. Chlorpyrifos (20 EC) 0.05% and Endosulfan (35 EC) 0.05% were found to be highly effective in controlling the pest in nursery.

Key words : Conventional insecticides, *Mylocerous curvicornis*, Shisham.

Shisham, *Dalbergia sissoo* Roxb. is a multipurpose tree, widely distributed throughout the country from Jammu and Kashmir to Arunachal Pradesh. It is strongly favoured for agroforestry, social forestry and wasteland afforestation (Anon, 1962). It is useful in environmental conservation. The tree is growing extensively in the riverian association of Ganges and Brahmaputra rivers as well as tributaries in U.P., Bihar, Assam and West Bengal.

In recent years, there has been a significant shift with pest status and several pests of minor economic importance have become major pest (Nayar *et al.*, 1976). Now a days about 15 key insect pests have been reported to cause considerable damage in seedling stage of shisham. Among them *Mylocerous curvicornis* has been recognized as key pest in Bihar and caused 2 to 45 per cent damage in foliage and twigs of seedlings in nursery, resulted heavy loss of nursery stock. Therefore, efforts have been made to manage the pests by using both synthetic and botanical product insecticides. Application of some synthetic and other botanical product insecticides were tested against this pest (Anon, 1993-94; Prem Chand, 1995). Only scanty information is available about the efficacy of these protection chemicals on *M. curvicornis*. Therefore, in the present investigation attempt was made to test their efficacy in seedling stage of shisham in agroforestry nursery.

MATERIALS AND METHODS

The nursery experiment was laid out in a Randomized Block Design with three replications and seven treatments including control. The studies were conducted during

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kharif, 2000 in Agroforestry Nursery, R.A.U., Pusa Farm, Bihar. Seeds were sown in the nursery beds during first week of March with a spacing of 10 cm x 10 cm. All the agronomical practices were followed for raising the seedlings. The details of the treatments have been given in Table-1. The first foliar spray of respective treatments was initiated as soon as the pest incidence reached ETL. Subsequent sprays were repeated at fortnightly intervals and a total number of four sprays were given to protect the seedlings. Chlorpyrifos granules and neem cake were applied at the time of seed sowing. The control plot was treated with water. Ten seedlings were randomly selected and tagged with code number. Observations with respect to the number of adults were recorded at weekly intervals. The pest population was expressed in absolute unit i.e. physical counts/number of insect stages per leaf or per unit area of foliage and twig. The counting of pests were done by direct and visual observations of seedlings leaves under a simple magnifying glass. The data was compiled and subjected to analysis of variance.

RESULTS AND DISCUSSION

The result revealed that all the treatments except neem cake were found significantly effective. Among the treatments, chlorpyrifos 20 EC @ 0.05% was found to be most effective in controlling *M. curvicornis* by exhibiting mean value of 1.97/seedlings. Treatments with endosulfan 35 EC @ 0.5%, quinalphos 20 EC @ 0.03%, chlorpyrifos 20 EC @ 0.3% and chlorpyrifos 10 G @ 10 kg ha⁻¹ were not significantly different (P < 0.05) with each other. In the same way treatment of neem cake @ 200 kg ha⁻¹ and untreated control were also not significantly different (P < 0.05) with each other (Table 1).