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Control of Rice Stem Borer, Leaf Roller and Gall Midge through Water-Surface Application of Granular Insecticides

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ABSTRACT

Four granular insecticides, *viz.* carbofuran, phorate, fenitrothion and endrin each at three doses of 0.5, 1.5 and 2.5 kg a.i./ha were applied on water-surface on 20th and 50th days after planting for controlling the major pests of rice. Carbofuran and phorate were effective in controlling stem borer and gall fly in higher doses, and carbofuran in all the doses controlled the leaf roller better than the other chemicals. Significant increase in grain yield to the extent of 50.2 and 37.9 per cent was also noted due to carbofuran at 2.5 and 1.5 kg a.i. doses of application followed by phorate at 1.5 kg a.i./ha application.

INTRODUCTION

Insect pests take away a heavy toll of the rice crop affecting all stages of growth. According to Pathak *et al.* (1971), the grain loss due to stemborer alone could be quite substantial since for every one per cent of the white ears there was 1 to 3 per cent of loss in yield. With the advent of high yielding varieties, the gall midge, *Pachydiplosis oryzae* (Wood–Mason) assumed serious proportions. Gopalakrishnan *et al.* (1954) estimated the damage to be 20 per cent and Krishnamurthy Rao and Krishnamurthy (1960) observed the pest to cause an average loss of about 330-540 kg/ha in late planted crops. The rice leaf roller, *Cnaphalocrocis medinalis* G. which had the status of only a minor pest in the country has been reported to cause severe damage to high yielding varieties. Abraham (1958) observed this pest to assume prominence on rice during 1955-56 in the Thanjavur delta csusing 36.6 and 42.7 per cent of leaf rolls in Co 25 and ADT 27 varieties respectively.

Since there is need for more work on soil application of insecticides having penetrative or selective properties for rice pest control, studies were made on the efficacy of four selected granular insecticides each at three concentrations as water-surface application in the control of pests on IR 8 paddy.

MATERIALS AND METHODS

A randomised block trial was laid out with four granular insecticides,

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uptake following granular application (Harding and Wolfenberger, 1963).

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