

RESEARCH NOTES

NOTES ON FIELD EVALUATION OF INSECTICIDES

In these notes, are presented, the useful and significant results of field experiments relating to the Control of various crop pests using insecticides. These field experiments were conducted with proper statistical designs (each repeated three to four times) at the Agricultural College Farm, Vellayani.

Control of paddy pests

Newer contact insecticides

The insecticides used were endosulfan (thiodan) 0.05 percent, carbophenothion (trithion) 0.02 per cent, carbaryl (sevin) 0.2 per Cent and imidan 0.02 per cent sprays. Endrin 0.03 per cent was the standard. Each insecticide spray was prepared from proprietary formulations. The sprays were applied at fifteen days intervals after transplantation and upto the earhead stage, at the rate of 560 litres per hectare.

Endosulfan and endrin were significantly better than carbophenothion and imidan in controlling the leaf feeding caterpillars of paddy which included *Spodoptera muluritia*, *Nymphula depunctalis*, *Pelopidas mathias*, *Melanitis ismene* and *Psalis pennatula*. Carbaryl though inferior to endrin and endosulfan, was superior to the others in controlling these pests,

Soil application of insecticides

The insecticides used for application in soil were phorate (thimet) 10 per cent G, lindane 8 per cent G, DDT 10 percent dust, heptachlor 10 percent G, chlordane 10 per cent dust, endrin 2 per cert G, and Sevin 10 per cent dust. Each was applied at 2 kg a. i. per hectare fifteen days after transplantation and at 3 kg a. i. per hectare at the boot leaf stage, excepting endrin which was applied at the rates of 0.5 and 1.00 kg a. i. per hectare respectively. The dusts were applied mixed up with soil. Foliar spray with 0.03 percent endrin emulsion applied at the rates of 450 and 560 litres of spray per hectare on the two occasions respectively served as the standard treatment.

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Phorate gave significantly effective control of the paddy jassids which was closely followed by the foliar application of endrin. Carbaryl, though inferior to phorate, gave significantly better control of the jassids than the other insecticides. Phorate also gave highly significant control of rice stem borer (white earheads). Endrin spray ranked next, while the others were not significantly effective. In the control of lea^a feeding caterpillars, however, foliar application of endrin was superior to the soil application of the other insecticides. DDT, however, was significantly superior to the rest of the soil applications in controlling the caterpillars. So far as the grain yield was concerned, carbaryl gave the best yield closely followed by foliar spray of endrin; the others were ineffective.

Frequency of insecticidal applications

The insecticidal treatments were DDT 0.2 per cent, endrin 0.03 per cent and parathion 0.05 per cent sprays, each applied at three frequencies of fifteen days, twenty days and thirty days intervals using 560 litres of the spray per hectare for each application. Though there was no significant difference between the three insecticides in controlling the rice stem borer, it was observed that by increasing the frequency of insecticidal applications, the number of white earheads per plot could be lowered. This effect was reflected on the yield of chaff also.

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