

THE EFFECTS OF SOME PESTICIDES AGAINST RICE STEM BORER (*CHILO SUPPRESSALIS* WALK.) (*LEP. PYRALIDAE*)

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Summary

Rice stem borer (*Chilo suppressalis*) has always been one of the limiting factors in rice production throughout the world. The loss in yield caused by stem borer in recent years in Iran prompted the Plant Pests & Diseases Rs. Institute to conduct experiments at Mazandaran Province (Amol, 1973-1975) to test the effectiveness of some chemicals against *Chilo suppressalis*.

Materials and Methods

In order to attain the objectives set forth, six experiments were conducted at two different locations at Amol areas. The experimental design was a randomized complete block design, each replicated 6 times.

The plot size ranged from 27-40, 64 square meters depending on the nature of the experiments.

The chemicals used consisted of three granular applications and three - emulsions. The rates and numbers of applications are shown in the following table.

Rates and times of applications

| | rates per hectare | | |
|----------------|---------------------------------|---------------------------------|----------------------------------|
| | 21 days for EC 22 days for G | 36 days for EC 43 days for G | 51 days for EC* 64 days for G |
| Diazinon 5G | 30 Kg | 40 Kg | 40 Kg |
| Furadan 3G | 15 » | 20 » | 20 » |
| Baycid 5G | 30 » | 35 » | 40 » |
| Dimicron 50% | 1.5 Liter | 1.5 Liter | 1.5 Liter |
| Karbofuran 75% | 1.0 Kg | 1.0 Kg | 1.0 Kg |
| Sumithion 50% | 1.5 Liter | 1.5 Liter | 1.5 Liter |
| Untreated - | - | - | - |

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* = Intervals between transplanting and application.

In all experiments, the assessments of the stemborer infestation were made from 100 randomly selected hill-samples in each plot at weekly intervals, after each application, and the number of dead hearts and the live larvae were recorded.

Final grain yield was obtained after combine - harvesting and subsamples were taken for weight per 1000 kernels. All yields were adjusted to 14% moisture content.

Statistical analysis

The dead heart counts for all weeks were tested as split-split plot design, where the places comprised the main plot, chemicals as sub plots and weekly sampling as sub-sub-plots. Since there was no correlation between the replications of the different places, and the calculation of separate variance for treatments x replications interaction seemed unpractical, replication within place was calculated using 10 Degrees of Freedom. The same Techniques were used for the yield analysis with consideration of 15 D.F. for the reps. w. place variance using 3 places.

Summary of the Results

The present investigations showed that of the granulars Diazinon 5G and of the emulsions Karbofurane yielded the most effective controls of rice stem-borer.

The other chemicals were also effective, but their influence depended on the times of application.