

## **Evaluation on the effects of insecticides on biodiversity of arthropod in rice ecosystem.**

### **Abstract**

This study was conducted to investigate the effects of insecticides from different toxicity levels and mode of actions against spider and insect abundance in a rice ecosystem. Three commercially available insecticides, namely fipronil (Regent®), cartap hydrochloride (Padan®) and chlorantraniliprole (Prevathon®) were selected for the study. Observations were carried from 12 days after sowing until 89 days after sowing. Fipronil and cartap hydrochloride treatments had significantly reduced natural enemy populations. Insecticide treatments does not reduce the number of pest in the treatments plots compared to control plot, however, it reduced the natural enemies populations. The experiment shown, the insecticide chlorantraniliprole has the best efficacy in controlling the pest and at same time it has the least effects to non-target arthropods in the field.

**Keyword:** Insecticides; Biodiversity; Natural enemies; Pests; Rice.