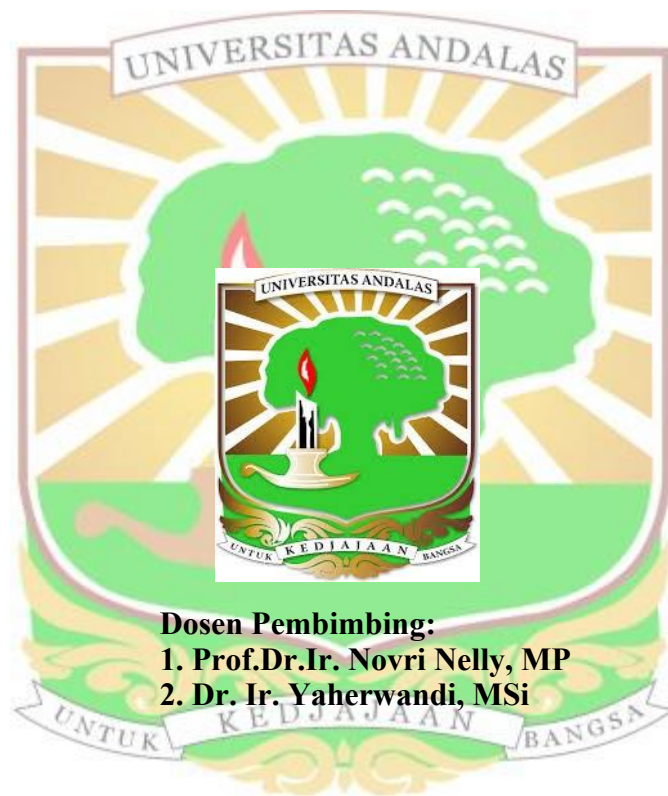


**PEMANFAATAN TANAMAN REFUGIA UNTUK KONSERVASI SERANGGA  
PREDATOR DAN PARASITOID SERTA PENGARUHNYA TERHADAP POPULASI  
HAMA TANAMAN PADI**

**TESIS**

**Widya Nawir**

**1820282002**



**Dosen Pembimbing:**

- 1. Prof.Dr.Ir. Novri Nelly, MP**
- 2. Dr. Ir. Yaherwandi, MSi**

**PROGRAM STUDI HAMA DAN PENYAKIT TUMBUHAN  
PROGRAM PASCA SARJANA  
UNIVERSITAS ANDALAS  
PADANG  
2021**

# **Pemanfaatan Tanaman Refugia Untuk Konservasi Serangga Predator dan Parasitoid Serta Pengaruhnya Terhadap Populasi Hama Tanaman Padi**

oleh : Widya Nawir

(dibawah bimbingan : Prof. Dr. Ir. Novri Nelly, MP dan Dr. Ir. Yaherwandi, M.Si)

## **Abstrak**

Penanaman tanaman refugia di sekitar pertanaman padi sebagai media konservasi serangga predator dan parasitoid sangat penting dalam pengendalian hama. Penelitian dilakukan untuk mengetahui pemanfaatan tanaman *Zinnia elegans*, *Tagetes erecta* dan *Celosia* sp., sebagai media konservasi serangga predator dan parasitoid serta pemanfaatannya mengendalikan populasi hama padi. Penelitian ini dilaksanakan di areal persawahan organik di Kecamatan Batang Anai, Kabupaten Padang Pariaman Sumatera Barat dan Laboratorium Bioekologi Serangga Fakultas Pertanian Universitas Andalas pada bulan November 2019 sampai dengan April 2020. Penelitian menggunakan Rancangan Acak Kelompok yang terdiri dari 4 perlakuan dan 3 kelompok dengan dua tahap percobaan. Tahap percobaan dalam penelitian ini meliputi: 1. penanaman tanaman refugia di sekitar pertanaman padi dan 2. pemangkasan tanaman refugia (*Celosia* sp.) pada fase vegetatif, generatif awal, generatif dan panen tanaman padi. Variabel pengamatan dalam penelitian ini meliputi pertumbuhan tanaman padi (tinggi tanaman dan jumlah anakan padi), pertumbuhan tanaman refugia (tinggi tanaman dan jumlah bunga refugia), peran serangga, keanekaragaman serta pemerataan serangga dan berat gabah kering panen. Hasil pengamatan pada tahap pertama diketahui bahwa; penanaman tanaman refugia *Z. elegans*, *T. erecta* dan *Celosia* sp. di sekitar pertanaman padi berpengaruh terhadap jumlah individu, indeks keanekaragaman serangga predator dan parasitoid, pertumbuhan dan produksi tanaman padi. Indeks keanekaragaman serangga, pertumbuhan dan produksi tanaman padi yang ditanami tanaman *Celosia* sp., lebih tinggi daripada tanaman *Z. elegans*, *T. erecta* dan tanpa refugia. Pemangkasan tanaman *Celosia* sp. di sekitar pertanaman padi dapat meningkatkan kemampuan predator dan parasitoid dalam mengendalikan herbivora. Pemangkasan tanaman *Celosia* sp. pada fase pertumbuhan tanaman padi yang berbeda mempengaruhi indeks keanekaragaman serangga predator dan parasitoid di pertanaman padi. Indeks keanekaragaman predator dan parasitoid di pertanaman padi pada waktu pemangkasan refugia fase panen lebih tinggi daripada fase vegetatif, generatif awal dan generatif.

Kata kunci : Refugia, Keanekaragaman, Padi, Predator, Parasitoid.

# Utilization of Refugia Plants for the Conservation of Predatory insects and Parasitoids and Their Effect on Rice Crop Pest Populations

by : Widya Nawir

(supervised by : Prof. Dr. Ir. Novri Nelly, MP dan Dr. Ir. Yaherwandi, M.Si)

## Abstract

Planting of refugia plants around rice fields as a medium of conservation of predatory insects and parasitoids is very important in pest control. The study was conducted to find out the utilization of *Zinnia elegans*, *tagetes erecta*, and *celosia* sp., as a medium of conservation of predatory insects and parasitoids and their use to control the population of rice pests. This research was conducted in organic rice fields in Batang Anai Subdistrict, Padang Pariaman Regency of West Sumatra, and Insect Bioecology Laboratory of the Faculty of Agriculture, Andalas University in November 2019 to April 2020. The study used a Randomized Group Design consisting of 4 treatments and 3 groups with two stages of the experiment. Experimental stages in this study include 1. planting of refugia plants around rice fields and 2. Pruning of refugia plants (*Celosia* sp.) in the vegetative, early generative, generative, and harvesting phases of rice plants. Observational variables in this study included the growth of rice plants (plant height and number of rice saplings), growth of refugia plants (plant height and a number of refugia flowers), the role of insects, diversity as well as the variety of insects and the weight of dry grain harvest. The results of observations in the first stage are known that; The planting of refugia *Z. elegans*, *T. erecta* and *Celosia* sp. plants around rice fields affect the number of individuals, the diversity index of predatory, and parasitoid insects, the growth and production of rice plants. The index of insect diversity, growth, and production of rice plants planted with *Celosia* sp. is higher than that of *Z. elegans*, *T. erecta* and non-refugia plants. Pruning of *celosia* sp. Around rice fields can increase the ability of predators and parasitoids in controlling herbivores. Pruning of *celosia* sp. In different phases of rice plant growth affects the diversity index of predatory insects and parasitoids in rice fields. The index of predatory and parasitoid diversity in rice fields at the time of harvest phase refugia pruning is higher than the vegetative, early, and generative phases.

Keywords : Refugia, Diversity, Rice, Predator, Parasitoid.