# TESIS

# KEANEKARAGAMAN SPESIES SERANGGA FITOFAG DAN ENTOMOFAG DI PERKEBUNAN TEBU YANG DITANAMI TUMBUHAN BERBUNGA

## *THE DIVERSITY OF PHYTOPHAGE AND ENTOMOPHAGE INSECT SPECIES IN SUGARCANE PLANTATIONS PLANTED WITH FLOWERING PLANTS*

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PROGRAM STUDI MAGISTER ILMU TANAMAN
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# LEMBAR PENGESAHAN

# KEANEKARAGAMAN SPESIES SERANGGA FITOFAG DAN ENTOMOFAG DI PERKEBUNAN TEBU YANG DITANAMI TUMBUHAN BERBUNGA

**TESIS**

**Sebagai Salah Satu Syarat Untuk**
**Memperoleh Gelar Megister Sains (M.Si)**

**Oleh :**

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**Palembang, Desember 2019**

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Tesis dengan judul **"Keanekaragaman Spesies Serangga Fitofag Dan Entomofag Di Perkebunan Tebu yang Ditanami Tumbuhan Berbunga"** oleh Saida Fitriani Azim telah dipertahankan di hadapan Komisi Penguji Tesis Program Studi Ilmu Tanaman Pascasarjana Fakultas Pertanian Universitas Sriwijaya pada tanggal 20 Desember 2019 dan telah diperbaiki sesuai saran dan masukan dari tim penguji.

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Menyatakan dengan sesungguhnya bahwa seluruh data dan informasi yang disajikan dalam tesis ini, kecuali yang disebutkan dengan jelas sumbernya, adalah hasil penelitian saya sendiri dan belum pernah atau tidak sedang diajukan sebagai syarat untuk memperoleh gelar kesarjanaan lain atau gelar kesarjanaan yang sama ditempat lain.

Palembang, Desember 2019

Yang membuat pernyataan,


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# SUMMARY

**SAIDA FITRIANI AZIM.** The diversity of phytophage and entomophage insect species in sugarcane plantations planted with flowering plants. (Supervised by **CHANDRA IRSAN and YULIA PUJIASTUTI**).

Pest insects control using flowering plants has not received much attention from farmers and companies engaged in agricultural production. Control with this method in sugarcane planting is expected to suppress attacks from stem and bud borer pests biologically. Biological control has advantages compared to other methods of control, because it does not have negative influence on agricultural products produced. This study aimed to know the influence of planting the flowering plants in sugarcane plantation on the index value of diversity, domination, and the eveness of phytophage and entomophage insect species in sugarcane plantation. This research was conducted by using the experimental method. Experiment was carried out in sugarcane fields aged 2 and 6 months. There were 3 plant treatments carried out, first planting single type of flower, second planting 2 types of flowers, and third planting 3 types of flowers. The results showed that the age of sugarcane can affect the diversity of entomophage and phytophage insects in flowering plants planted near sugarcane plantations aged 2 and 6 months. Phytophage and entomophage insects found on flowering plantations planted on sugarcane plantations aged 2 months were more than sugarcane plantations aged 6 months. phytophage insects found in flowering plants planted near sugarcane plantations aged 2 months and 6 months.

The number of flowering plant species that were planted near sugarcane planting could affect the number of insects found or coming to the flowering crop. Flowering plants which were planted monoculturally and polyculturally could influence the number of insects found. The color and odor of flowers from flowering plants could affect the presence of phytophage and entomophage insects. The results showed that insect species found in flowering plantations that

were planted near the 2-month-old sugarcane plantations were 42 species and in the 6-month-old sugarcane plantations there were 41 species.

The result of the research showed that the diversity index, dominance index, and evenness index of phytophage and entomophage insect species on flowering plants planted near 2-month-old and 6-month-old sugarcane plantation was relatively the same. Based on the diversity index criteria, it can be seen that the diversity of phytophage and entomophage insect species in flowering plants planted near sugarcane plantations was relatively similar. The results showed that the type of flowering plants planted near sugarcane plantations aged 2 and 6 months could affect the species of phytophage and entomophage insects found.

The insects found on Yellow Cosmos plants planted near sugarcane plantations aged 2 and 6 months were 55.3% more than on marigolds and bougainvillea flowers. Insect species found on marigold plants were 26.7% smaller than on bougainvillea, predicted it was influenced by the smell or aroma caused by marigold flowers. There were insects using eyes that only attracted to the yellow color. Yellow is a bright and bright color compared to other colors.

It can be concluded that Species diversity index, dominance index, and evenness index of entomohage and phytophage insects in flowering plants that were planted near sugarcane plantations in the both of good category and age of sugarcane can affect the presence of insects, andat 2-moth-old sugar cane plantations were found 42 species (388 individuals) and 6-month-old sugarcane plantations were found 41 species (284 individuals).