

Security in food,
renewable
resources,
and
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THE 3RD INTERNATIONAL CONFERENCE
ON SECURITY IN FOOD, RENEWABLE
RESOURCES, AND NATURAL MEDICINE
2019

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hosted by
Politeknik Pertanian
Negeri Payakumbuh

co-hosted by
Universitas Andalas
(UNAND)

Gedung Serba Guna—GSG

Payakumbuh State
Polytechnic of Agriculture
West Sumatra Indonesia

25-26 September 2019

Keynote Speakers

ANDI ANSAR SULAIMAN
MENTERI PERTANIAN—SI
(to be confirmed)



Invited Speakers



Dr. Yaso Ullompetakul
Kog-Mongkol's Institute of
Technology (Lampang, Thailand)



Dr. Shinchiro Kuraki
Izube University Japan



Prof. Dr. S. Yogesha
Mumbai College of
Engineering, Hassan, India



Dr. Eng. Muhammad Makky
Andalas University



Dr. Darius El Pebrin
Universiti Teknologi MARA
Melaka, Malaysia



Dr. Fri Maulina, S.P., M.P.
Payakumbuh State Polytechnic
of Agriculture



Assoc. Prof. Dr. Samudra Binti Abd Aziz
Universiti Putra Malaysia



POLITEKNIK PERTANIAN
NEGERI PAYAKUMBUH

PCI-42	O-074/UA/P LT/IC- SFRN 2019	Silvia Permata Sari, Irfan Suhiansyah, Novri Nelly, Hasmiandy Hamid	Biological Agent Of Predator And Parasitoid Diversity In Hybrid Maize
PCI-43	O-047/UA/P LT/IC- SFRN 2019	Indra Laksmiana, Hendra, Sri Aulia Novita, Fithra Herdian, M.Riza Nurtam	Identification of Tropical Plants Leaves Image Base on Principal Component Analysis
PCI-44	O-036/UA/P LT/IC- SFRN 2019	Misfit Putrina, Yulensri, dan Kresna Murti	The Role Of Various Types And Dosage Of Biological Compost (Bio-Compost) On Biology, And Soil Fertility In Ginger (Zingiber officinale. L)
PCI-44	O-035/UA/P LT/IC- SFRN 2019	Ruri Wijayanti, Malse Anggia	The Influence Of Addition Na ₂ CO ₃ Solution In The Decaffeination Process Of Dry Coffee Seeds On Physicochemical Characteristics Of Coffee Powder

[F] POSTER (P)

SUB- THEME	REG NUM	AUTOR	JUDUL
P-01	P-070/UA/P LT/IC- SFRN 2019	Suswati, Asmah Indrawaty, Rosiman, Maimunah	The Diversity Of Flower-Visiting Insects (Musa Paradisiaca) And The Potential As A Spreading Agent Ralstonia Solanaceae Subsp. Celebesensis On Barangan Banana, In North Sumatera, Indonesia
P-02	P-260/UA/P LT/IC- SFRN 2019	Iza Ayu Saufani, Dessy Angraini	The Content of BOD, COD, and Coliform Total of Clean Water in Jorong Palupuah Agam
P-03	P-143/UA/P LT/IC- SFRN 2019	Alfikri, Nelvia Iryani,	Plan: Business Cattle In Gunung Medan Village Dharmasraya District
P-04	P-141/UA/P	Welly Herman, Wuri	Nutrient Availability Of Entisol In The Coast Of Bengkulu With Addition Of

BIOLOGICAL AGENT OF PREDATOR AND PARASITOID DIVERSITY IN HYBRID MAIZE

Silvia Permata Sari¹, Irfan Sulliansyah², Novri Nelly¹, Hasmiandy Hamid²

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Abstract—Maize (*Zea mays* L.) belongs to the family of Poaceae is grown globally and one of the most important cereal crop in the world. In Indonesia, maize is the second important commodity after rice. Climate change can have diverse effects on natural enemies of pest species. Predator and parasitoid are natural enemies for biological control of pest species. The purpose of this study was to determine the biodiversity of natural enemies of predators and parasitoid in hybrid maize. The method used in sampling this research is the survey or sampling method. Catching insect samples of this study was carried out using a yellow tray and vacuum modified. The results of this study indicated that there is a diversity of predators and parasitoid in hybrid maize. Predator and parasitoid is natural enemies that used for control of pest species in hybrid maize.

Keywords— biological agent, predator, parasitoid, diversity, hybrid maize.

Identification of Tropical Plants Leaves Image Base on Principal Component Analysis

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Abstract— Difference and variation of leaves shape is usually used as primary identifier of the plant species. But some plants may have a similar leaf shape and thus require another more accurate identifier. This study applied principal component analysis (PCA) methods for identifying tropical plant species from the shape of the leaves. This method simplified the observed variables by reducing the dimensions of the information that is stored as much as 75%, so it did not eliminate important information and can save the data processing time. There were 100 images of leaves taken from several sides of the leaf in JPEG format with which the shape of leaves were look similar, like citrus (*Citrus acromifolia*), durian (*Durio dbehinus*), guava (*Psidium guajava*), mango (*Mangifera indica*), jackfruit (*Artocarpus heterophyllus*), avocado (*Persea americana*), rambutan (*Nephelium lappaceum*), sapodilla (*Martihara zapota*), red betel (*Piper crocatum*) and sourop (*Annona muricata*). Identification of those 10 kind plant leaves produced 97% accuracy rate. Measurement systems were designed using the K-fold Cross Validation with $k = 10$, the results of experiments shown confusion error occurs on the leaves of guava, jackfruit and red betel while twice commission error were found on the leaves sapodilla and once on citrus leaves.

Keywords— Leaves image, tropical plants identification, Principal Component Analysis