LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
KARYA ILMIAH : PROSIDING

Judul Karya Ilmiah (Artikel)	:	Evaluation of Application Floating Net Cage Aquaculture Systems Integrated Multi Trophic Aquaculture (IMTA) and Monoculture an Based Growth Rate Silver Pompano (*Trachinotus blochii*, Lacapede)
Jumlah Penulis	:	Diana Nasti, **Sapto P Putro**, Sunarno
Status Pengusul	:	penulis ke-2
Identitas Prosiding Ilmiah	:	a. Nama Prosiding : Advanced Science Letters b. Nomor ISSN : 1936-6612 (Print): EISSN: 1936-7317 (Online) c. Volume, nomor, bulan tahun : Vol. 23, No. 7, 2017, pp. 6410-6412 d. Penerbit : American Science Publishing e. DOI artikel (jika ada) : 10.1166/asl.2017.9638 f. Alamat web prosiding :

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g. Terindeks di Scopus SJR (2017) 0.130; Q4
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c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	5,73	5,87	5,8
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	5,93	5,67	5,8
Total = (100%)	19,46	19,41	19,435
Nilai Pengusul	**3,892**	**3,882**	**3,887**

Semarang, Agustus 2018

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Prof. Dr. Ir Ambariyanto, M.Sc.
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Reviewer 2

Prof. Drs. Ocky Karna Radjasa, M.Sc., Ph.D.
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LEMBAR
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a. Kelengkapan unsur isi prosiding (10%)	2,00			2
b. Ruang lingkup dan kedalaman pembahasan (30%)	6,00			5,8
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	6,00			5,73
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	6,00			5,93
Total = (100%)	20,00			19,46
Nilai Pengusul = (40%/2) x 19,46=3,892				

Catatan Penilaian artikel oleh Reviewer :

1. **Kesesuaian dan kelengkapan unsur isi paper:**
   Penulisan sudah sesuai dengan ‘ Guide for Author’’ (Title, Introduction, Materials and method, Results and Discussion, Conclusion, Acknowledgement, Reference) dengan system Author dan sesuai dengan topik riset. Namun dirasa referensi masih kurang dalam mendukung pembahasan (skor=3,0).
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Reviewer 1

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Komponen Yang Dinilai	Nilai Maksimal Prosiding			Nilai Akhir Yang Diperoleh
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b. Ruang lingkup dan kedalaman pembahasan (30%)	6,00			5,87
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	6,00			5,87
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	6,00			5,67
Total = (100%)	20,00			19,41
Nilai Pengusul= 40%/2) x 29,41= 3,882				

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Advanced Science Letters
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Evaluation of applications floating net cage aquaculture systems integrated multi trophic aquaculture (IMTA) and monoculture an based growth rate silver pompano (Trachinotus blochii, Lacepede) (Article)

Nasti, D., Sunarno, Putro, S.P.

Department of Biology, Faculty of Science and Mathematics, Diponegoro University, SH, Tembalang, Semarang, 50275, Indonesia

Abstract

View references (5)

Sea Farming is a part of the KepulauanSeribu region where aquaculture activities are officially permitted by local government. The purpose of this study is to assess the growth rate of silver pompano (Trachinotus blochii, Lacepede) and examines the physical and chemical parameters and their relationship to Integrated Multi-Trophic Aquaculture (IMTA) and monoculture farming systems. This research was conducted in the area of the Sea Farming KarangLebar of the KepulauanSeribu, in two main locations. i.e., Site A was a fish farming area of IMTA system, growing up silver pompano (Trachinotus blochii) and tiger grouper (Epinephelusfuscoguttatus, Forsskal), and Site B was the area of monoculture, growing up silver pompano (T. blochii). Biotic data was analyzed using the growth rate of the fish, whilst abiotic data was analysed using two-way ANOVA test. The results of the study in both locations showed the growth rate of the fish with a pattern of positive alometric (b >3) indicating faster in the growth rate of fish weight than those in length. The physical and chemical factors indicated within the normal range of water quality criteria for marine life.

SciVal Topic Prominence

Topic: Growth | Particulate matter | Pompano Trachinotus

Prominence percentile: 52.081

Author keywords

Floating net cage | IMTA | Monoculture | Silver pompano (Trachinotus blochii)

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Hector Sanchez Lopez, his main scientific interest is on Medical Diagnostic Technologies. He has been professor in Faculty of Engineering, Architecture and Information Technology, Queensland University, Australia. Since 2016, he has been moved to Universitas Dian Nuswantoro, Semarang, Indonesia and serving as researcher and lecturer.

RESEARCH ARTICLE

Advanced Science Letters
Vol. 23, 6428–6431, 2017

Contribution of Economic Sector and Agricultural Development to Support Food Security in North Sumatra Province

Fahmi W. Kifli[1,*] and Arif Umami[2]

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[2]*Departement of Agrotechnology, Faculty of Agriculture INSTIPER, Yogyakarta, Indonesia*

The agricultural sector has a huge potential considering Indonesia as an agricultural country. In addition, Indonesia has abundant natural and human resources. Therefore, it needs to get support and be given serious consideration. The agricultural sector has a role and contribution in national development as a provider of employment, food producers, foreign exchange, provider of raw materials for the industrial sector, provider of employment and a safety valve during the economic crisis. Over time, the dynamics of Indonesian governance gave autonomy (decentralization) to regions. This study aimed to assess the pattern and structure of regional economic growth in North Sumatra by comparing between economic growth rate and regional income per economic sector with growth rate and national income. Klassen Typology analysis was used to identify the development of the regional economy by their pattern and structure of economic growth in North Sumatra. Results of these studies explained characteristics of North Sumatra province's growth as a basis to describe the structure and growth pattern of each economic sector by using the data of Gross Regional Domestic Product (GRDP) of North Sumatra province and Gross Domestic Product (GDP) of Indonesia from 1999 to 2014 at 2000 Constant Basic Prices (CBP2000). Based on Klassen Typology Analysis showed that the average percentage of GRDP growth in the agricultural sector in North Sumatra province was higher than average percentage of GDP agricultural growth at national level. This research found also that average contribution of the agricultural sector in North Sumatra province was higher than the average contribution of the agricultural sector at National level. It showed that the agricultural sector in the advanced category and is growing rapidly.

Keywords: GDP, GRDP, Klassen Typology, Economic Sectors.

1. INTRODUCTION

Discussing agricultural sector will always be attractive and relevant, theoretically and empirically. Australia agricultural sector has played an important role for nation states such as America, Japan. Furthermore, agriculture still becomes the most important part of those developed countries in terms of economic development. It is mirrored in several policies in which they do protection toward the agricultural sector, so it is still desirable for stakeholders.

Agricultural sector played important role in the development of nation-state, include in Indonesia. It plays a significant role as a safety valve when economic crisis happened in 1997–1998. At that time, the agricultural sector was the only one sector which still existed (although it was retarded) than other sectors. Again, the developed countries, America, Japan, and Australia had their development by the development of agricultural sector first. It also rises up through agricultural mechanization in Japan. Besides, that country implemented the conducive policy for the agricultural sector, such as acquired producers to increase their productivity and develop infrastructure in villages and also their industrial sector.

Economists[3, 9, 11] stated how important and strategic the agricultural sector in economic development, for instance, it can labor market for the industrial sectors, food producers, potential market for industrial sector output, nation income, material producers, and employment. These roles still cannot be substituted by other sectors.[13] The national economic development had begun from 1945 when Indonesia proclaimed its freedom. At those time, there had been so much improvement and differentiation. For instance, an economic structural transformation happened which was signed by the decreasing national agricultural market. In 1970, Gross Domestic Product (GDP) of the agricultural sector was 45%. It still decreased to 27% in 9 years (1979). In the next twenty years, agricultural sector market decreased

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RESEARCH ARTICLE

Advanced Science Letters
Vol. 23, 6435–6437, 2017

Ethnobotany of Medicinal Plants in the Vunatui Clan of the Tolai Society in East New Britain Province, Papua New Guinea

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[2]*Biology Department, Diponegoro University, Indonesia*

Traditional knowledge of medicinal plant use in many regions of Papua New Guinea (PNG) and the East New Britain Province is poorly described. The main aim of this research was to identify the plants used as medicinal plant in the Vunatui clan of the Tolai society in East New Britain, PNG and determine the type of disease or conditions being treated by these plants and how the plants are being prepared. Data collection was undertaken through participatory exploration method. Result shown that there were about 52 species of medicinal plants collected in this research. Many different medicinal plants were applied to cure various diseases such as headache, sores, cuts, wounds, cough, fever, diarrhea, stomachache, injuries, skin infections and many others. Different methods of preparation were used including crushing, heating, squeezing but the most common method used was infusion.

Keywords: Ethnobotany, Medicinal Plants, Vunatui Clan, Papua New Guinea.

1. INTRODUCTION

Rural communities in Papua New Guinea (PNG) depend very much on traditional plants for their health needs. PNG has at least 800 ethnic traditions characterized by distinct languages.[1] Vunatui clan is one of the many ethnic groups in Papua New Guinea that is still using traditional medicinal plants as a means to heal different conditions and diseases. In the meantime, East New Britain Province is extraordinarily rich in plant and cultural diversities and there is a long tradition of plant use for health needs.[5] Each cultural group or Vunatarai is rich in their knowledge about what type of plants and how they are used for treating illnesses.[2] Therefore this research aims to identify the diversity of the plants as well as to discover the traditional medicinal plants and the indigenous knowledge used by the Vunatui people in order to conserve and preserve the biological and indigenous knowledge and even the biodiversity for future generation.

2. EXPERIMENTAL DETAILS

This research was conducted around the settlement of Vunatui Society. Vunatui Clan is made up of people who live along the coastal areas of the Rabaul District located between latitudes 4° 11′5″ South and longitude 152° 8′37″ East along the coastal area of the Northern side of East New Britain Province in Papua New Guinea. Semi structural oral interview were conducted with 3 key informants to obtain as much information as possible concerning the medicinal plants and ways of treatment. The key informants were traditional doctor called 'TenaDawai.'

3. RESULTS AND DISCUSSION

There were about 50 plant species were used as traditional medicine by the indigenous people of the Vunatui Clan. The medicinal plant species identified existed in the mid-forest and a long the coastal areas where the clan is located. There were 28 different Family of plants. Table I shown the different families and the total number of species of each family. The family with highest number of reported medicinal plant species was Fabaceae with 10 species (20%), followed Euphorbiaceae of 6 species (12%) and Zingiberaceae of 4 (8%). These two families (Fabaceae and Euphorbiaceae) are consistent to Epstein[3] who work in Marakwet Community in Kenya and the people of Tripura DepBarma Clan tribe Moulvibazar district, Bangladesh.[4]

The herbs as medicinal plants were mostly trees that include 19 species, then herbs of 16 species, 10 species of shrubs and vines of 5 species. Whereas part of the plant used were largely leaf (38 species), follower by sap (11 species), bark (7 species) and stem or stalk (6 species). According to Ref. [5] study in East Sepik Province Study, leave was plant part that utilize relatively predominant, followed sap and bark.[5] Study in Garhwal

*Authors to whom correspondence should be addressed.

RESEARCH ARTICLE

Advanced Science Letters
Vol. 23, 6613–6617, 2017

Structural Transformation of Polystyrene Nanosphere Produce Positive and Negative Resists by Controlled Laser Exposure

Jibrin Alhaji Yabagi[1,3], Mohammed Isah Kimpa[1,2], Muhammad Nmayaya Muhammad[1,3], Kasim Isah Uthaman[2], EmbongZaidi[1], and Mohd Arif Agam[1,*]

[1]*Department of Science, University Tun Hussein Onn Malaysia, 86400, Parit Raja, Malaysia*
[2]*Department of Physics, Federal University of Technology, Minna 09, Bosso, Niger State, Nigeria*
[3]*Department of Physics, Ibrahim Badamasi Babangida University, 286, Lapai, Niger State, Nigeria*

Laser treated polystyrene (PS) thin films were explored for simple, robust, and low-cost polymer based electronic applications. Polystyrene nanospheres of 500 nm were drop coated on silicon wafer before laser treatment was introduced to systematical investigated the structural transformation of treated PS. The relationship between the parameters used and the structural changes of PS, especially for its surface chemistry and the morphological, structural properties were characterized with Attenuated total-reflection Fourier transform infrared spectroscopy (ATR-FTIR), X-ray diffraction (XRD) and Field emission electron microscopy (FESEM). It was revealed that the morphological changes observed in the laser treated PS films were the dominant factor for the improvement of modified PS that can be used to tailor functional polymer such as organic light-emitting diodes (OLED), carbonaceous nanostructure, graphene, graphene oxide. Zwitter characteristic of the PS can be clearly observed during laser irradiation; over exposure of laser could be used to tailor different materials on the surface of the PS.

Keywords: Laser Irradiation, Polystyrene, Zwitter Characteristic.

1. INTRODUCTION

Currently there is great interest in developing low cost semiconductor devices by using polymer as precursor. Polymers are large molecules composed of repeating subunits. Such materials are used as electrolytes, dielectrics, semiconductors and have provided significant advantages in replacing the conventional inorganic ones for the same kind of applications. These advantages include high specific energy, high energy density, flexibility, high ionic conductivity or good isolation, wide thermal and electrochemical stability windows, solvent-free condition and easy processing, low weight, and most important costs efficiency.[1] Polymers are often exposed in radiation environments to various kinds of radiations such as laser, gamma rays, X-rays, electrons, photonic and ions, which may affect the chemical structure and physical properties of these materials by atomic or molecular excitation and ionization, resulting in the capture of chemical bonds, intermolecular cross-linking, formation of free radicals and unsaturated bonds, etc. These processes cause defects in the polymer matrices, which are responsible for most of the changes observed in the physico-chemical properties of polymers.[2] Because polymer surface modification has become an actively studied area recently[1] polystyrene (PS) is widely used polymer in biotechnologies and microfluidic devices, also one of the most important polymers, as it exhibits many good properties, such as good process ability, rigidity, low water absorbability, transparency, and that it can be produced at low cost.

The PS films have wide applications and are mainly employed in surface protection of metals, optical biosensor, and humidity sensor, coatings for biomaterials and barrier films for pharmaceutical packaging. While for PS films, seldom reports have been made on the nanostructure and optical properties of PS films by laser induced CVD.[3] Moreover, PS has a simple chemical structure that consists of both unsaturated aromatic ring and saturated aliphatic chain. Therefore, study on surface modification of PS, especially the chemical reactions occurred at the unsaturated and saturated bonds, is helpful for better understanding the related mechanisms, and for rationally tuning the surface properties of polymeric materials.[4] Although different treatment methods can be used for polymer surface modification, such as the electron beam irradiation[5,6] plasma treatment[7] ion beam treatment[8,9] and laser irradiation[10,11,12–16] laser irradiation is a non-contact clean technique compared with other surface treatment methods. Among the thermoplastic polymer like polystyrene are continues to be a widely used industrial polymer because of its multiple

*Author to whom correspondence should be addressed.

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