

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

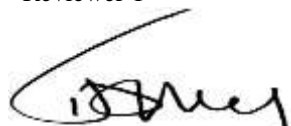
Judul Prosiding (Artikel) : Modelling of cayenne production in Central Java using ARIMA-GARCH  
 Nama/ Jumlah Penulis : Tarno, Sudarno, Dwi Ispriyanti and Suparti  
 Status Pengusul : penulis ke-1  
 Identitas Prosiding : a. Nama Prosiding : Journal of Physics: Conference Series. The 7th International Seminar on New Paradigm and Innovation on Natural Science and Its Application 17 October 2017, Semarang, Indonesia  
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 g. Terindex : Scopus

Kategori Publikasi Prosiding :  Prosiding Internasional terindek pada scimagojr dan scopus  
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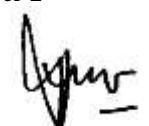
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 NIP. 196902141994032002  
 Unit Kerja: FSM UNDIP  
 Bidang Ilmu: Matematika

Reviewer 2

  
 Nama : Prof. Dr. Sunarsih, M.Si  
 NIP. 195809011986032002  
 Unit Kerja : FSM Undip  
 Bidang Ilmu: Matematika

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Unsur isi prosiding lengkap dan sesuai.

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**4. Kelengkapan unsur dan kualitas terbitan:**

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Semarang, April 2023  
Reviewer 1

Prof. Dr. Widowati, S.Si., M.Si  
NIP. 196902141994032002  
Unit Kerja: FSM UNDIP

**LEMBAR**  
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a. Kelengkapan unsur isi Prosiding (10%)	3			2,0
b. Ruang lingkup dan kedalaman pembahasan (30%)	9			5,1
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9			5,3
d. Kelengkapan unsur dan kualitas terbitan/ Prosiding (30%)	9			5,4
<b>Total = (100%)</b>	<b>30</b>			<b>17,8</b>
<b>Nilai Pengusul = 60% x 17,8 = 10,68</b>				

**Catatan Penilaian artikel oleh Reviewer :**

**1. Kesesuaian dan kelengkapan unsur isi prosiding:**

Unsur isi paper baik, sesuai dengan sistematika artikel bidang statistika. Kelengkapan unsur sangat baik.

**2. Ruang lingkup dan kedalaman pembahasan:**

Ruang artikel cukup baik, dengan materi artikel berhubungan dengan penerapan statistika. Kedalaman pembahasan difokuskan pada aspek penerapan model ARIMA-GARCH.

**3. Kecukupan dan kemutakhiran data/informasi dan metodologi:**

Kecukupan dan kemutakhiran cukup baik, dengan hasil penelitian berhubungan dengan teori dan penerapan statistika.

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Artikel disampaikan pada IOP *Journal of Physics Conference Series*, terindeks SCOPUS, kualitas terbitan baik. Indeks kemiripan = 15%

Semarang, April 2023

Reviewer 2



Nama : Prof. Dr. Sunarsih, M.Si

NIP. : 195809011986032002

Unit Kerja : FSM Undip

Bidang Ilmu: Matematika

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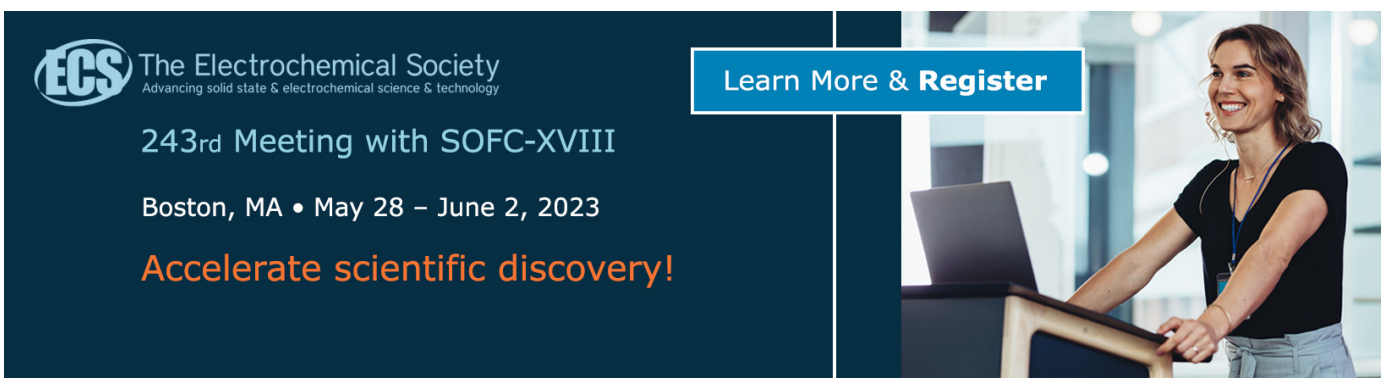
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Mario Rosario Guarracino, PhD.	Instituto di Calcolo e Reti ad Alte Prestazioni- National Research Council (ICAR-CNR), Italy
Dr. dr. Budi Wiweko, Sp. OG-KFER.	University of Indonesia, Jakarta

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**2018**

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## Preface

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**The Cox proportional Hazard model on duration of birth process**

## The impact of ozonated water treatment on growth rate of ‘Srikandi’ tilapia *Oreochromis Aureus X Niloticus*

Sapto Putro<sup>1</sup>, Devi Adityarini<sup>2</sup> and R.T. Chiang<sup>3</sup>

<sup>1</sup>Center of Marine Ecology and Biomonitoring for Sustainable Aquaculture, Center MEBSA, Integrated Laboratory, Diponegoro University, Tembalang Campus, Semarang, Central Java, Indonesia

<sup>2</sup>Department of Biology, Faculty of Sciences and Mathematics, Diponegoro University, Tembalang, Semarang, Indonesia

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**Abstract** The impact of ozonized water treatment on ‘Srikandi’ tilapia was assessed using ozone reactor with an airflow velocity of 1 L/min at a voltage of 1 kV which leads to that the dissolved oxygen (DO) content increases from 1.5 mg/L to 2.5 mg/L. The ozonized water treatment was divided into five groups based on the length of treatment period: minutes as group I, 10 minutes as group II, 20 minutes as group III, 30 minutes as group IV, and 40 minutes as group V. Reference case. The fish growth rate was measured in terms of length and weight per seven days for 30 days. The result indicated that the fastest growth rate of ‘Srikandi’ tilapia occurred at the group III, length growth 1.5 cm, weight growth 1.5 g in 30 days. The fastest Specific Growth Rate (SGR) of the fish occurred at the group II, 0.015, and the fastest Relative Growth Rate (RGR) of the fish occurs at the group III, 0.015. The oxygen content, temperature, salinity to match the growth of Tilapia ‘Srikandi’ are vital elements in Tilapia farming management. These results are considered to be useful to increase the production rate of ‘Srikandi’ tilapia farming.

### Introduction

Salt water pond fish farming in coastal areas has following advantages than the corresponding fresh water pond fish farming: i) high tolerance of salinity up to 30 ppt with survival rate > 90%, ii) rapid growth can reach 100 grams in three months with salinity pressure, iii) high protein content as a food source of animal protein, iv) high content of omega-3 reach > 100 mg/100 g meat and omega-6 reach > 100 mg/100 g of meats, v) fatty acids has a better meat taste and chewy meat texture and can grow up in polyculture system [1]. Aquaculture can be defined as human efforts to increase the water productivity through aquatic farming of aquatic biotas. Aquaculture is a breeding activity to gain benefits via reproduction, growth and aquatic organism quality increase. In line with the increase demand of seafood production around the world, a productive aquaculture is urgently needed to produce organisms in controlled environment and subsequently to gain profit [2].

Tilapia is cultivated in fresh water commodity in hatchery and enlargement because of its benefits that can be compared with some fresh water fishes, especially in rapid growth, easy to breed, easy in maintenance process and high adaptation in environment changes [3]. Tilapia habitat originates in fresh water of rivers, lakes, stanks and swamps but can tolerate in large salinity, euryhaline so that it can live in brackish water and salt water of ocean. The fish tolerant availability of salinity is 0-30 ppt [4].



## Association of MTHFR polymorphism and periodontitis' severity in Indonesian males

E I Auerkari<sup>1\*</sup>, R Purwandhita<sup>1</sup>, K R Kim<sup>1</sup>, N Djamal<sup>1</sup>, S L C Masulili<sup>2</sup>, D A Suryandari<sup>3</sup> and C Talbot<sup>4</sup>

<sup>1</sup> Department of Oral Biology, Faculty of Dentistry, University of Indonesia, Jakarta, Indonesia

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**Abstract.** Periodontitis is an oral disease with a complex etiology and pathogenesis, but with a suspected contribution by genetic factors. This study aimed to assess the association of polymorphism in *MTHFR* (*methylene tetrahydrofolate reductase, C677T*) gene and the severity of periodontitis in Indonesian males. Severity of periodontitis was classified as mild, moderate or severe for 100 consenting, 25 to 60 years old male Indonesians. Using PCR amplification for DNA extracted from blood serum samples, the variation at the SNP polymorphism of the *MTHFR* (*C677T*) gene was evaluated by using RFLP, cutting by the restriction enzyme *Hinf* I and subjecting the fragments to electrophoresis on agarose gel. Chi-square testing was mainly used for statistical assessment of the results. The CC genotype (wild type) of the tested polymorphism was the most common variant (78%) and TT (mutant) genotype relatively rare (2%), so that C-allele appeared in 88% of the cases and T-allele in 12% of the cases. The results suggest that there is no significant association between *MTHFR C677T* polymorphism and the severity of periodontitis in the tested Indonesian males.

**Keywords:** periodontitis, MTHFR, polymorphism

### 1. Introduction

Periodontal disease is one of the most common and widely spread human diseases. Periodontal disease has been associated with chronic systemic disorders [1], such as diabetes mellitus [2], osteoporosis [3], cardiovascular disease [4], and stroke [5]. As a result, men and women aged 25-74 years with periodontitis appear to have an increased risk of death from systemic disease [4]. Almost all adults have suffered from gingivitis, periodontitis, or both [6].

A study of Albander and Rams (2002) suggested that Asian populations have highest prevalence rates of periodontal disease cases in the world [7]. The results of a national survey (SKRT 2004) suggest that 39% of Indonesian population is suffering from dental and oral disease [6].

Periodontitis is a disease with unknown exact etiology, but the etiology is believed to be multifactorial. In addition to bacterial pathogens and other environmental factors (poor habits,



## Lipid production from tapioca wastewater by culture of *Scenedesmus sp.* with simultaneous BOD, COD and nitrogen removal

Romaidi<sup>1\*</sup>, Muhammad Hasanudin<sup>1</sup>, Khusnul Kholifah<sup>1</sup>, Alik Maulidiyah<sup>2</sup>, Spto P. Putro<sup>2</sup>, Akira Kikuchi<sup>3,4</sup>, Toshifumi Sakaguchi<sup>5</sup>

<sup>1</sup>Department of Biology, Faculty of Science and Technology, Universitas Islam Negeri Maulana Malik Ibrahim Malang, Indonesia

<sup>2</sup>Faculty of Science and Mathematics, Diponegoro University, Semarang, Indonesia

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<sup>4</sup>Institute of Environmental and Water Resource Management, Universiti Teknologi Malaysia (UTM)

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**Abstract.** The use of microalgae to produce biodiesel or possibly remove nutrients from industrial wastewater has gained important attention during recent years due to their photosynthetic rate and its versatile nature to grow in various wastewater systems. In this study, a microalgae, *Scenedesmus sp.*, was cultured to enhance the lipid production and nutrients removal from tapioca wastewater sample. To assess lipid production, *Scenedesmus sp.* was cultured in different concentration of tapioca wastewater sample (from 0 to 100 %), and nutrient removal including BOD, COD, NH<sub>4</sub>, NO<sub>2</sub>, NO<sub>3</sub> level by *Scenedesmus sp.* was assessed in 100% of tapioca wastewater culture. After 8 days of culture, it was found out that 50% of tapioca wastewater sample resulted in highest concentration of lipid content than that of the other concentrations. The level of environment indicator as nutrient removal such as BOD, COD, NH<sub>4</sub>, NO<sub>2</sub>, NO<sub>3</sub> were also decreased up to 74%, 72%, 95%, 91%, and 91%, respectively. The pH condition changed from initial condition acidic (pH: 4) to neutral or basic condition (pH: 7-8) as recommended in wastewater treatment system. This research provided a novel approach and achieved efficient simultaneous lipid production and nutrients removal from tapioca wastewater sample by *Scenedesmus*'s culture system.

**Keyword:** *Scenedesmus sp.*, tapioca wastewater, lipid production

### 1. Introduction

The energy crisis is one of the most important problems faced by all people over the world in the 21st century. The highest consumption of fossil fuels has result in greenhouse effect and causes global climate change [1,2]. One of a type of renewable energy is microalgae biomass-based biofuel, which is considered as one of the most potent substitutes for fossil fuel [2]. However, to increase the production of microalgae biomass, several strategies should be developed, such as modification of culture medium and environmental factors. Hence, one of promising strategies is using wastewater sample as

