

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

Judul Karya Ilmiah/Artikel : Quality Characteristic and Lysine Available of Smoked Fish  
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 Status Pengusul : Penulis pertama/ ~~penulis ke-2/ penulis korespondensi\*~~  
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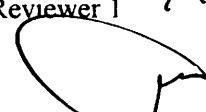
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**LEMBAR  
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( F004 )

**Presenter's affiliation:** Diponegoro University, Indonesia

  
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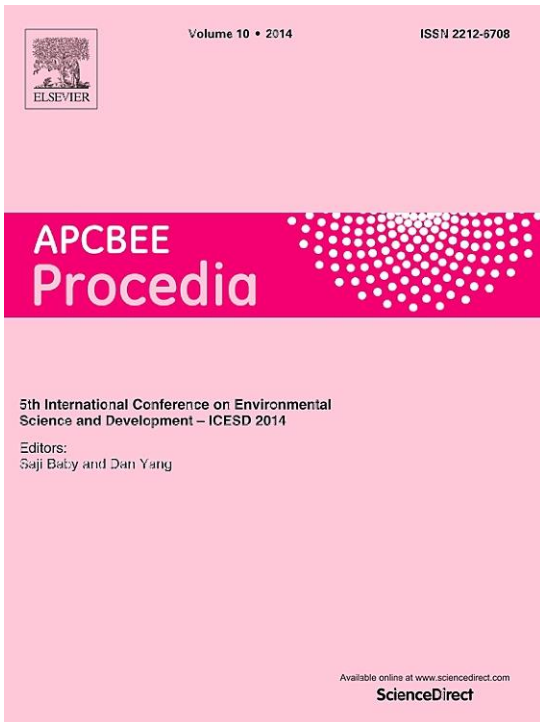
Quality characteristic and lysine available of smoked fish

[F Swastawati](#), [E Susanto](#), [B Cahyono](#), WA Trilaksono - APCBEE Procedia, 2012 - Elsevier  
 The purpose of this research was to determine the quality of smoked stingray (Dasyatis blekery). The fish were divided into two groups; then processed using corncob (CCLS) and coconut shells (CSLS) liquid smoke. All of smoked stingray samples were subjected to sensory and chemical analysis. Sensory analysis on both samples was no statistically different. On the other hand, the lysine availability was different either in the in the raw materials or smoked samples due to smoking process and duration of storage. Different ...

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ICBFS 2012: April 7-8, 2012, Bangkok, Thailand

## Quality Characteristic and Lysine Available of Smoked Fish

Fronthea Swastawati<sup>a</sup>, Eko Susanto<sup>b</sup>, Bambang Cahyono<sup>a,b</sup>, and Wahyu Aji Trilaksono<sup>c</sup>

<sup>a,b,c</sup> *Laboratory of Fisheries Processing Technology, Department of Fisheries, Faculty of Fisheries and Marine Science, Diponegoro University, Jl. Prof. Soedarto, SH, Kampus Undip Tembalang Semarang 50275 Indonesia*

<sup>a,b</sup> *Department of Chemistry, Faculty of Mathematic and Natural Science, Diponegoro University, Jl. Prof. Soedarto, SH, Kampus Undip Tembalang Semarang 50275 Indonesia*

### Abstract

The purpose of this research was to determine the quality of smoked stingray (*Dasyatis blekery*). The fish were divided into two groups; then processed using corncob (CCLS) and coconut shells (CSLS) liquid smoke. All of smoked stingray samples were subjected to sensory and chemical analysis. Sensory analysis on both samples was no statistically different. On the other hand, the lysine availability was different either in the raw materials or smoked samples due to smoking process and duration of storage. Different liquid smoke and storage time gave significant effect to lysine availability ( $p < 0,05$ ). Both liquid smoke gave significant effect ( $p < 0,05$ ) to PV (CSLS = 2,816 meq/kg & CCLS = 2,195 meq/kg) and TBA (CSLS = 109,685 mg malonaldehyde/kg & CCLS = 45,169 mg malonaldehyde/kg), but during storage this value were decrease as an effect of antioxidant activities of phenolic compounds consist in each liquid smoke. In contrast, pH values were increase. Both liquid smoke were able to applied as a method of smoking fish.

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*Keywords:* Stingray, Coconut shells liquid smoke, Corn cob liquid smoke, Quality, Lysine.

### 1. Introduction

Smoking method mostly imparts a desirable flavour and inhibit the growth of microbe. One methods that becoming popular nowadays is the use of liquid smoke. According to Martinez *et al.* (2007), liquid smoke has

\* Corresponding author.

E-mail address: [fronthea\\_thp@undip.ac.id](mailto:fronthea_thp@undip.ac.id)



ICBFS 2012: April 7-8, 2012, Bangkok, Thailand

## The Kinetic Models for Biomass and Extracellular Polysaccharide of *Ganoderma tsugae*

Nukrob Narkprasom<sup>a,b</sup>, Jia-Hsin Guo<sup>c</sup>, Tzou-Chi Huang<sup>c,d</sup>, Yuan-Kuang Guu<sup>c,\*</sup>

<sup>a</sup>Department of Tropical Agriculture and International Cooperation, National Pingtung University of Science & Technology, No. 1, Hsueh-Fu Road, Neipu, Pingtung 91201, Taiwan

<sup>b</sup>Department of Agricultural and Food Engineering, Faculty of Engineering and Agro-Industry, Maejo University, Chiang Mai 50290, Thailand

<sup>c</sup>Department of Food Science, National Pingtung University of Science & Technology, No. 1, Hsueh-Fu Road, Neipu, Pingtung 91201, Taiwan

<sup>d</sup>Department of Biological Science and Technology, National Pingtung University of Science & Technology, No. 1, Hsueh-Fu Road, Neipu, Pingtung 91201, Taiwan

---

### Abstract

*Ganoderma tsugae* has long been a well known medicinal mushroom and it has many pharmacological properties. The mathematical relationship of productions from *G. tsugae* is quite interested from industrial fermentation to predict and control the bioprocess. Therefore, the kinetic models of biomass and extracellular polysaccharide (EPS) by *G. tsugae* were studied in a batch cultivation at the optimal condition. The pellet of mycelium was described by the cube-root equation whereas the extracellular polysaccharide was explained by Luedekin-Piret equation. The parameters of both equations determine by observed experiment and algorithm solving. The correlation between the experimental values and predicted models of biomass and EPS for *G. tsugae* obtained the high R-square at 0.9605 and 0.9916, respectively. The both kinetic models may be useful to predict the both productions of *G. tsugae*.

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**Keywords:** *Ganoderma tsugae*, cube-root equation, Luedekin-Piret equation

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### 1. Introduction

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\* Corresponding author. Tel.: +886-8-7703660; fax: +886-8-7702226.

E-mail address: [president@mail.npust.edu.tw](mailto:president@mail.npust.edu.tw).

ICBFS 2012: April 7-8, 2012, Bangkok, Thailand

## Characterization of Wheat Flour Treated by Supercritical Carbon Dioxide

Hee-Moon Kang, Joo-Hee Lee, Ryoung-Hee Kim, Jun-Ho Yun and Byung-Soo Chun<sup>a\*</sup>

<sup>a</sup>Department of Food Science and Technology, Pukyong National University, Yongso-ro 45, Nam-Gu, Busan 608-737, Korea

### Abstract

This study was to investigate the production of reducing sugars in hydrolysates from raw and deoiled *Laminaria japonica* produced by subcritical water hydrolysis. Deoiled *Laminaria japonica* was collected by supercritical carbon dioxide (SCO<sub>2</sub>) extraction process. Experiments were performed in a batch-type reactor with stirring. It investigated that the effects of reaction temperature and acetic acid as catalyst on content of reducing sugar production. The addition of acetic acid led to an increase in content of reducing sugar. But Removal of oil in *Laminaria japonica* by SCO<sub>2</sub> and increasing of temperature led to decrease in content of reducing sugar production. The highest content of reducing sugar was 814.10 mg/100 g raw dried sample at 200°C, adding of 1% acetic acid as catalyst

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*Keywords:* Subcritical carbon dioxide; Wheat flours; Acid value; Mycotoxin; Volatile organic compounds

### 1. Introduction

Wheat (*Triticum* spp.) [1] is a cereal grain, originally from the Levant region of the Near East, but now cultivated worldwide. Wheat is grown on more land area than any other commercial crop and is the most important staple food for humans. World trade in wheat is greater than for all other crops combined.[2] Wheat grain is a staple food used to make flour for leavened, flat and steamed breads, biscuits, cookies, cakes, breakfast cereal, pasta, noodles, couscous[3] and for fermentation to make beer,[4] other alcoholic

\* Corresponding author. Tel.: +82-(0)51-629-5830; fax: +82-(0)51-629-5824  
E-mail address: [bschun@pknu.ac.kr](mailto:bschun@pknu.ac.kr).

ICBFS 2012: April 7-8, 2012, Bangkok, Thailand

## Bioactive Peptides from Epibiotic *Pseudoalteromonas* Strain P1

C. Chellaram<sup>a\*</sup>, T. Prem Anand<sup>a</sup>, C. Felicia Shanthini<sup>b</sup>, B. Arvind Kumar<sup>c</sup> and  
Siddath P. Sarma<sup>d</sup>

<sup>a</sup>Department of Biomedical Engineering, Vel Tech Multi Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai. Postcode-600 062. Tamilnadu. **India**

<sup>b</sup>Department of Marine Studies and Coastal Resource Management, Madras Christian College, Chennai. Postcode--600 059. Tamilnadu. India.

<sup>c</sup>PG-Department of Biotechnology, Sathyabama University, Chennai. Postcode-600119. Tamilnadu. India

<sup>d</sup>Molecular Biophysics Unit, Indian Institute of Science, Bangalore. Postcode-560012. Karnataka, India

### Abstract

An epibiotic bacterial strain designated as P1 with characteristic colony morphology was isolated from five random samplings of the sea fan coral *Junceella juncea* (Pallas, 1766). Phylogenetic identification based on comparative sequence analysis of 16Ss rRNA gene indicated that the stain P1 fell under the genera *Pseudoalteromonas*. In the initial screening using agar overlay method the *Pseudoalteromonas* strain P1 was found to exhibit broad spectral activity inhibiting 7 out of 10 test strains. A highest zone of 25mm was noted against two bacterial strains, *B. subtilis* and *S. typhi*. The strain P1 formed a distinct biofilm layer over the marine broth (air-liquid interface) in static culture at room temperature. The active component was also found to be adsorbed on the biofilm layer. Protease digestion of the crude extract resulted in the loss of activity indicating the protenacious nature of the active molecules. Bioassay guided purification using anion exchange chromatography and RP-HPLC yielded a molecule with antimicrobial activity. Mass spectrophotometry analysis has shown that this molecule has a mass of 1115 Da. In cation exchange purification, two molecules of masses 1520 and 1542 Da were found in the active fraction. Morphological and physiological characterization of the *Pseudolateromonas* strain P1 shown it to be a pigmented, motile, catalase and oxidase positive rod. Studies regarding epibiotic bacteria in Indian waters have been few. This study highlights the importance of epibiotic bacteria associated with corals as a potential source for the discovery of novel antimicrobial and other natural products

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\* Corresponding author. Tel.: 044-26841061; fax: 044-26841061.  
E-mail address: [chellaramjournals@gmail.com](mailto:chellaramjournals@gmail.com).

ICBFS 2012: April 7-8, 2012, Bangkok, Thailand

## Bacteriocins Produced by Lactic Acid Bacteria A Review Article

M. P. Zacharof<sup>a\*</sup> and R. W. Lovitt<sup>b</sup>

<sup>a</sup>Multidisciplinary Nanotechnology Centre, Swansea University, Swansea, SA2 8PP, UK

<sup>b</sup>College of Engineering, Multidisciplinary Nanotechnology Centre, Swansea University, Swansea, SA2 8PP, UK

---

### Abstract

A great number of Gram (+) and Gram negative (-) bacteria produce during their growth, substances of protein structure (either proteins or polypeptides) possessing antimicrobial activities, called bacteriocins. Although bacteriocins could be categorized as antibiotics, they are not. The major difference between bacteriocins and antibiotics is that bacteriocins restrict their activity to strains of species related to the producing species and particularly to strains of the same species, antibiotics on the other hand have a wider activity spectrum and even if their activity is restricted this does not show any preferential effect on closely related strains. In addition, bacteriocins are ribosomally synthesized and produced during the primary phase of growth, though antibiotics are usually secondary metabolites. Among the Gram (+) bacteria, lactic acid bacteria (LAB) especially, *Lactobacilli* have gained particular attention nowadays, due to the production of bacteriocins. These substances can be applied in the food industry as natural preservatives. The use of LAB and of their metabolic products is generally considered as safe (GRAS, Grade One). The application of the produced antimicrobial compounds as a natural barrier against pathogens and food spoilage caused by bacterial agents has been proven to be efficient. Nisin is the only bacteriocin that has been officially employed in the food industry and its use has been approved worldwide. Bacteriocins can be applied on a purified or on a crude form or through the use of a product previously fermented with a bacteriocin producing strain as an ingredient in food processing or incorporated through a bacteriocin producing strain (starter culture).

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*Keywords:* Lactic acid bacteria, *Lactobacilli*, Bacteriocins, Nisin, Plantaricins, Lantibiotics

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\* Corresponding author. Tel.:00447413541769.

E-mail address: [myrtozacharof1981@yahoo.com](mailto:myrtozacharof1981@yahoo.com)