

Penelitian/ Research

**IDENTIFIKASI DAN ANALISIS PEMILIHAN PRODUK UNGGULAN INDUSTRI
HASIL PERIKANAN LAUT DI KABUPATEN TEGAL, JAWA TENGAH**

***Identification and Analysis of Competitiveeness of The Marine Products Industry in Tegal
Regency, Central Java***

Agus Sudibyo (1), Mei Dwi Erlina (2) dan Winiarti, S. (3)

- (1) Balai Besar Industri Agro (BBIA)
Jl. Ir. H. Juanda No. 11 Bogor
- (2) Balai Penelitian Teknologi Perikanan
Jl. KS Tubun, Jakarta Barat
- (3) Dinas Kelautan dan Perikanan Kabupaten Tegal
Jl. Maribaya Km. 10, Tegal

ABSTRACT – Study on identification and analysis of competitive for the marine-fisheries products industry in Tegal Regency, Central of Java have been conducted. The method used of this study was using descriptive and system approach that included identification of marine fisheries potential, selection of potential commodities, determination of marine fisheries based industry specially products and feasibility study on the development of those products. The process selecting potential commodities and determination of the marine-fisheries based industry competitiveeness products were analysis by using Analytical Hierarchy Process (AHP) approach, while feasibility was analysis by using economic indicates in terms of B/C ratio, NPV and IRR. The results showed that based on the all criteria designed in identification and selecting of the marine fisheries based industry competitiveness products, it was indicated that the availability and economic value of raw material were the import factors in the evaluation of potential alternative commodity. Meanwhile, technology capability, valueadded, quality and continues supply of raw material and market the marine-fisheries based industry specially products. Based on the adjustments of weighting and scoring to the various commodities and processing technologies resulted that salted-dried anchovy and boiled-salted scads were the most prospective marine fisheries products that can be developed as specially products for aTegal Regency. Financial analysis also show that the two products were very feasible financially.

Penelitian/ Research

**PENELITIAN PENGGUNAAN KHITOSAN SEBAGAI FLOKULAN PADA
PENANGANAN LIMBAH CAIR INDUSTRI TAPIOKA**

The Research of Chitosan for Flocculant in Wastewater Treatment for Tapioca Industries

Eddy Sapto Hartanto *) dan Syarif Bastaman **)

*) Balai Besar Industri Agro
Jl. Ir. H. Juanda No. 11, Bogor 16122

***) PT. Quartabina Karsapamitran
Bumi Serpong Damai, Tangerang

ABSTRACT – The research of chitosan for flocculation in wastewater treatment for tapioca industry has been conducted. The research's goal is to know ability of chitosan for tapioca industrial wastewater treatment. Concentrations of coagulant $Al_2(SO_4)_3$, 14 H_2O is 75 mg/l on pH 8 condition. Flocculants chitosan and polymer PN 161 concentration are 30 mg/l, 45mg/l and setting time 15 minute, 30 minute and 45 minute. The result showed that the formula tawas and chitosan 45mg/l on pH 8 and settling time 45 minute was the best treated. The result of analysis pollutants each are turbidity from 440 NTU to 29 NTU, TSS from 282 mg/l to 20,24 mg/l, BOD 861 mg/l to 88,25 mg/l, COD 1851,3 mg/l to 151,25 mg/l and pH 5,67 to pH 6,21. The quality of wastewater treatment with that formulation has met Kep Men LH No. KEP 51/10/1995 standard regulation for tapioca industrial wastewater.

Keywords : chitosan, polymer, flocculants, wastewater treatment, tapioca industry

Penelitian/ Research

PENGOLAHAN EKSTRAK JAHE (*Zingiber officinale rosc.*) BERKARBONAT

*The Processing of Effervescent Ginger Extract (*Zingiber officinale rosc.*)*

Tiurlan Farida Hutajulu dan Eddy Sapto Hartanto

Balai Besar Industri Agro
Jl. Ir. H. Juanda No. 11, Bogor 16122
Bogor

ABSTRACT – The research about the processing of ginger ekstrak (*Zingiber officinale rosc.*) *Effervescent* had been conducted by using water solvent with granulation and formulation of sugar, citric acid and sodium bicarbonate. In the preliminary research 3 (three) type of powder ginger has been treated from ginger extract and sugar which each comparison 70:80; 60: 90 and 50: 100. From those three types of powder ginger that from a granula/crystal which is comparison of ginger extract and sugar 50 : 100. On the main research, powder ginger had been used to create effervescent formula which is the mixture of powder ginger, citric acid, sodium bicarbonate and aspartam with specific comparison. The best result treated from the research of effervescent product is C formula, which is the comparison of powder ginger : citrid acid: sodium bicarbonate : aspartam = 92 : 6 : 2 : 0,005. The organoleptic test (taste, colour, smell and appearance) with hedonic method by 15 panelists resulted in C formula as most favourable. Based on observation of effervescent product during incubation (0, 14, 28, 48, 56 days) to sugar concentration is showed tend to decreased. However, the moisture was increased, meanwhile ash content and insoluble matter were not changed.

Keywords : ginger, *Zingiber officinale Rosc*, *effervescent*, *extract*

Penelitian/ Research

FORMULASI ALGINAT DAN PEKTIN SEBAGAI BAHAN *EDIBLE COATING* UNTUK SALAK (*Salacca edulis*) SIAP SAJI

The Formulation of Alginate and Pectin as Edible coating for Salacca Fruit (*alacca edulis*) Ready-to-Service

M. Maman Rohaman, Dheni M. Mala dan Dwi Sutrisniati

Balai Besar Industri Agro

Jl. Ir. H. Juanda No. 11 Bogor 16122

ABSTRACT – The objective of the study was to develop and assess an edible coating from alginate and pectin that applied to salacca ready service. The properties assess of sallacca ready-to-serve using edible coating consist of water content, total acid, Vit C, total glucose, hardness, weight loss. TPC and browning. The chosen formulas were alginate 5%, pectin 5% and mixing between alginate and pectin. The best formula for salacca ready-to-serve is pectin plus alginate 5% and stearic acid 0.25, it showed by the value of water activity (0.554), elongation percentage (53.33), tensile strength (122.744 kg.f) and water vapor transmittation rate (484.41 g/m²/24 hours). The physic and chemist property assays can be conclude that edible coating application with storage temperature 5°C could extend minimally processed salacca shelf life for 10 days.

Keywords : *edible coating, alginate, pectin, salacca.*

Ulasan Ilmiah/ *Review*

TEKNOLOGI PENGOLAHAN BIODISEL DARI MINYAK JARAK *JATROPHA*
(*Jatropha curcas L*)

Production Technology of Biodiesel from Jatropha Oil (Jatropha curcas L)

Rizal Alamsyah

Balai Besar Industri Agro (BBIA)

Jl. Ir. H. Juanda No. 11 Bogor 16122

Email : rizalams@yahoo.com atau cabi@bbia.go.id

ABSTRACT. It is so far the world heavily depends on the petroleum oils to fulfill energy consumption such or automotives, industry, generators, heating, agricultural machineries and other energy needs. It was predicted that the world's oil reserves will be exhausted in the next 17 years because of its non-renewable characteristics. Many alternative energy resources have been employed to overcome energy crisis by a lot of countries in the world including Indonesia. Many efforts have been made to anticipate the scarcity of petroleum oil. Recently, Indonesia and many other countries have developed bio-diesel which is chemically defined as a methyl ester derived from renewable resources such as jatropha oil, palm oil, used frying oil and any other resources. Biodiesel is sometimes also addressed as FAME (Fatty Acids Methyl Ester) or VOME (Vegetable Oil Methyl Ester) to recall its chemical origin. Comparing with petroleum diesel, the use of bio-diesel has some benefits such as clean burning, renewable, nontoxic and bio-degradable fuel. Bio-diesel can be used alone or in blends with petroleum-derived diesel. Basically bio-diesel is made through trans-esterification process with methanol. In terms of availability and technology point of view, bio-diesel can be produced for both industrial and rural area scale. Petroleum diesel consumption in Indonesia at the time being is around 150,000 MB (metric barrel), with the production capacity around 97,000 MB, which means it still has a deficit around 53,000 MB. Until now the deficit is fulfilled by import. Currently more than 1 million tons of vegetable oil methyl esters are being produced and used in the world as alternative fuel for engines and for heating.

Keywords : *Bio-diesel, Jatropha curcas, methyl ester, esterification, trans-esterification and Jatropha bio-diesel*