



CURRENT ISSUES OF FOOD IN INDONESIA

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 **Patpi**

INDONESIAN ASSOCIATION OF FOOD TECHNOLOGISTS
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(III-9)	POTENTIAL OF SAGO FOR PRODUCTION OF RESISTENT STARCH AS A FUNCTIONAL FOOD INGREDIENT	115
	Usman Pato	
(III-10)	BIOACTIVE COMPOUNDS AND FUNCTIONAL ACTIVITIES OF INDONESIAN ROBUSTA COFFEE	119
	Dian Herawati	
(III-11)	THE REMARKABLE VALUES OF <i>Carica papaya</i> IN THE REDUCTION OF RISK OF OBESITY AND ITS RELATED DISEASES.....	124
	Agung Nugroho	
(III-12)	FLAVOR CONTRIBUTION ON THE DEVELOPMENT OF INDONESIAN FUNCTIONAL FOOD PRODUCTS	130
	Rizki Maryam Astuti	
CHAPTER IV INGREDIENTS AND NUTRITION		135
(IV-1)	SAGOPALM: ABUNDANT LOCAL RESOURCES POTENTIAL FOR INGREDIENT INDUSTRY	137
	Purwiyatno Hariyadi	
(IV-2)	UTILIZATION OF FISH AND MORINGA LEAVES IN STUNTING PREVENTION	145
	Giyatmi, Wardina Humayrah, and Hari Eko Irianto	
(IV-3)	THE IMPORTANCE OF <i>Eucheuma cottonii</i> SEAWEED FOR INDONESIA	151
	Setiarti Sukotjo	
(IV-4)	"BUBBOR PADDAS" AS NUTRITIOUS AND ENERGETIC BREAKFAST MENU	155
	Oke Anandika Lestari	

(IV-3)

THE IMPORTANCE OF *Eucheuma cottonii* SEAWEED FOR INDONESIA

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Eucheuma cottonii production in Indonesia

One of the main commodities of aquaculture fishery that can be a mainstay in increasing production, improvement of the regional economy and coastal community welfare is seaweed. *Eucheuma cottonii* seaweed is the most widely cultivated in Indonesia. Based on the Ministry of Marine and Fisheries data in 2017, Indonesia is currently the largest producer of seaweed in the world, in particular, the *E. cottonii* seaweed. Statistical data on seaweed export-import in July 2017 was US\$ 69.9 million that showed an increase production of 20.88% compared to July 2016, which was only US\$ 57,6 million. This condition makes the government keep trying to increase the production of seaweed. Indonesia, which has an area of 6.315.222 km square of waters with the number of islands as much as 13.466 and 99.093 km square coastline, has the potential of seaweed cultivation. In addition to being supported by Indonesia's geographical conditions, seaweed cultivation is also done in a good and correct way, so that Indonesia seaweed is also much attracted by consumers from abroad. Based on the Central Bureau of Statistics, Indonesia

seaweed exports from January to September 2017 increased by 21.45% compared to the same period in the previous year.

Contributions to the economy and welfare

Economically, seaweed has great potential for the country's income. It is proved that the seaweed export increases throughout the year. From the Central Bureau of Statistics data, seaweed export value during the period of January - September 2017 has reached US \$ 97.1 million, while the same period in 2016 amounted to US \$ 79.95 million. This increased revenue has caused the central government and local government to continue enhancing the production of seaweed. Some areas in Indonesia that previously give less attention to the seaweed have now started to provide supports on the development of seaweed cultivation.

The benefits of seaweed are very numerous and can be a source of commodities to improve the welfare of the communities, especially the coastal community. The agribusiness activities of seaweed cultivation by the community in the coastal area are generally advantageous. The results of several surveys and research indicate that the income of people who cultivate seaweed is higher compared to those who do not cultivate seaweed. Significantly this has an effect on increasing coastal community income. Analysis of some indicators describes the level of welfare in families who have seaweed cultivation business is higher than families who do not have seaweed cultivation business. Changes in source of income patterns also occur, that the community shifted from previously relying on natural resources through fishing activities, which have now become a community of cultivators.

Nutrient content

Seaweeds in Indonesian waters have proven to have excellent quality and potential as a source of food for people in Indonesia. This *E. cottonii* has complete nutritional content, thus making *E. cottonii* the most popular seaweed. The main content of fresh seaweed consists of water, protein, carbohydrates, fat, and ash.

Although the fat content is very small, the arrangement of fatty acids is very important for health. This seaweed fat contains omega-3 fatty acids in the amount of between 128-1.629 mg and omega-6 fatty acids ranging from 188-1.704 mg for every 100 g of dried seaweed. The presence of omega content in *E. cottonii* makes this seaweed is very important as a source nutrient for Indonesian.

In addition, *E. cottonii* is also a potential source of dietary fiber. This is very beneficial for the community, especially children and adolescents who dislike vegetables. The results showed that the water-soluble fiber content of *E. cottonii* was much higher (18.3%) compared to some other types of seaweed. The minerals contained in *E. cottonii* include potassium (K), calcium (Ca), sodium (Na), iron (Fe), magnesium (Mg), and zinc (Zn). However, it should be noted that the chemical composition of seaweed varies greatly and is influenced by species, habitat, maturity, and environmental conditions.

Although *E. cottonii* has a complete nutritional content, only a small portion is consumed by Indonesian and most of Indonesia's seaweed production is being exported to many countries. This condition shows that the consumption of seaweed in Indonesia is still relatively small, either consumed directly or used as industrial raw materials. In general, seaweed can be consumed directly or processed into other food products. In some parts of Indonesia, some types of seaweed have been used for generations by the coastal communities both for direct consumption in the form of raw and processed vegetables, as well as sweeten products and beverages.

Currently, some food products from seaweed have been produced in several regions in Indonesia, such as chips, jelly, and soft candy, with various fruit-flavored. It is unfortunate that these food products are still very limited in distribution, generally only sold in the area around the area of production; thus, the consumer is also limited. For that, it is necessary to diversify the food products of interest from seaweed to the public and to socialize the benefits of the nutritional content of seaweed, especially *E. cottonii*, to the people of Indonesia. The role of food

technology is very important and well needed to achieve the quality of Indonesian foods.

References

- www.bps.go.id. 2019. Ekspor Rumput Laut dan Ganggang Lainnya Menurut Negara Tujuan Utama. [Exported Seaweed and Other Algae According to the Main Country Destination]. 2012-2018
- Dwiyitno. 2011. Rumput laut sebagai sumber serat pangan potensial. [Seaweed as a source of potential dietary fibers]. *Squalen*. 6(1):9-17.
- Sukotjo SI, Sukmadi, Muhami, Mastikha A. 2018. Financial analysis and business feasibility study of cinnamon jelly candy. *Adv. in Eng. Res.* 172: 269 - 273.