



PRODUCT REVIEW ARTICLE

"SEA CUCUMBER CHIPS (*Holothuria sp.*)"

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Abstrak

The potential of sea cucumber fishery in Indonesia is very large. This article aims to get information on processing sea cucumbers into chips or dried sea cucumbers. Based on riview literature making dry eggpaper / sea cucumber chips there are basically three stages, namely weeding, boiling and drying sea cucumbers.

Keywords : manufacture, boiling, drying, weeding

Intriduction

The type of sea cucumber that is widely used as food is sand sea cucumber (*Holothuria scabra*). Processed products of sea cucumber include dried sea cucumber (beche-de-mer) or chips, green gonads (konuko), and dry intestine (kunowata). Dried sand sea cucumber meat contains

protein of 34.13%, fat 2.17%, water 3.07% (Quartz, 2007). Other nutritional components contained in sea cucumbers are collagen, vitamin E, mineral substances such as khomium, frum, cadmium, manganese, nickel, cobalt, and zinc. The complete nutritional content of sea cucumber as found in Table 1.

Table 1. Nutritional Content of Sea cucumber

Zat Gizi	Kadar
Energi (kkal)	385
Air (g)	8,9
Protein (g)	82,0
Lemak (g)	1,7
Abu (g)	8,6
Karbohidrat (g)	4,8
Kalsium (mg)	308
Fosfor (mg)	23
Besi (mg)	41,7
Natrium (mg)	770,0
Kalium (mg)	91,0
Vitamin A (SI)	455,0
Vitamin B2 (mg)	0,04
Vitamin B1 (mg)	0,07
Riboflavin (mg)	0,4

The fat content in sea cucumber consists of EPA and DHA fatty acids. Both fatty acids have an important role for wound healing agents and reduce the risk of stroke and heart disease and can help slow down the process of cell degeneration while also slowing down the aging process. (Kustiariyah, 2007). The nutritional content is good for the human body contained in sea cucumbers cause sea cucumber is very important to be processed. This article aims to get information on processing sea cucumbers into chips or dried sea cucumbers.

Sand Sea Cucumber

Sand sea cucumber (*Holothuria* sp) is a type of sea cucumber that lives in shallow or intertidal aquatic habitats. This sea cucumber can also be found in seagrass-overgrown waters with a sandy substrate character with a mixture of mud (Al Rashdi et al., 2012; Hamel et al., 2013; Purcell, 2004). Adult size sea cucumbers can reach 250-350 grams. Jombu-sized sea cucumbers found in India are 40 cm long and weigh 2 kg (Sembiring et al., 2004; James, 1996).

The potential of sea cucumber fishery in Indonesia is very large.

Some information from special fishermen in Southeast Maluku that they can easily catch sea cucumbers. The price of sea cucumbers in Indonesia is relatively stable compared to other fishery products. Sea cucumber producers other than in Maluku waters are also Sulawesi waters.

According to Jaeger (1833) in Elfidasari et al (2012) the

classification of sea cucumbers is as follows:

Kingdom: Animalia

Phylum: Echinoderms

Grade: Holothuroidea

Order: Holothuriida

Family: Holothuriidae

Genus: *Holothuria*

Species: *Holothuria scabra*



Figure 1. Holothuria scabra

Sea cucumbers in Indonesia are spread on the coasts of Madura, Bali, Lombok, Aceh, Bengkulu, Bangka,

Riau and other beaches. Sea cucumbers are one of the marine biota that has long been traded between islands.

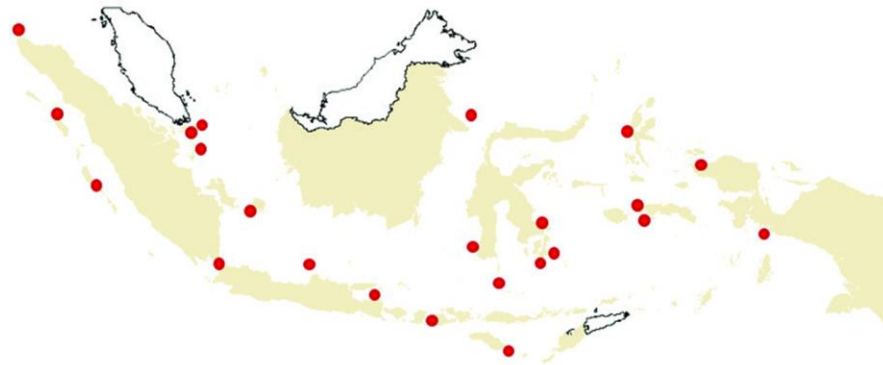


Figure 2. Map of Sea cucumber Distribution in Indonesia

Not all sea cucumbers can be used for consumption or trade. In Indonesia, only 56 types of commodities are traded for export purposes. Some types of sea cucumbers that are already known to have a fairly high selling value are sand sea cucumber (*Holothuria scabra*), milky sea cucumber or koro (*H. nobilis* and *H. fuscogilva*), stone sea cucumber (*Actinopyga echinites*), bilabo sea cucumber (*A. lecanora*), lotong sea cucumber (*A. billionis*), cat-eyed sea cucumber (*Bohadschia argus*), and pineapple sea cucumber (*Theleonata ananas*). Export destination countries are Singapore, Hong Kong, China, Korea, Japan,

Thailand, the United States and several European countries.

Dry Chips / Sea Cucumber Making Procedures

The procedure for making dry keripi / sea cucumber is very easy and the tools used are quite simple. The process of making dried chips / sea cucumber is as follows (Lilis, 2014):

- a. Scratching the abdomen of fresh sea cucumber with a knife.
- b. Boil sea cucumbers that have been scratched on the tumang without using additional water. The water used is the remaining sea water mixed

- with mud in fresh sea cucumbers.
- c. After cool enough, the inside of the sea cucumber is removed and then cleaned. This cleaning is carried out by washing sea cucumbers and pressing sea cucumbers whose insides have been removed.
 - d. Boiling again on the sea cucumber whose inside has been removed using water.
 - e. Drying sea cucumber until the texture of the sea cucumber does not contain much water.
 - f. Doing the separation of muscle parts and the body of sea cucumber.
 - g. Drying the body and muscles of sea cucumber under the heat of the sun, which is processed into sea cucumber chips is the body of sea cucumber.
 - h. Fry dried sea cucumber with sand and then fried back in oil. Then ready for consumption.



Figure 3. Sea cucumber Chips

Benefits of Sea cucumbers for Health

The benefits of sea cucumber for health are very many, other things are as follows:

- a. Prevents the growth of cancer cells
- b. Prevent inflammation
- c. Prevents the risk of blood clots
- d. Treating wounds
- e. Fighting viral and bacterial infections
- f. Increase immunity in people with cancer
- g. A source of healthy protein for the body
- h. Overcoming impotence
- i. Lower cholesterol
- j. Stop bleeding after giving birth
- k. Healing wounds in diabetics
- l. Helps kidney function
- m. Cure toothache
- n. Increase appetite
- o. Increases metabolism
- p. Overcoming respiratory problems
- q. Preventing the problem of premature aging

Marketing of Sea cucumber Chips Products in Indonesia

Marketing is the most important chain that connects a company with its environment. The role of marketing is to identify consumers, know their needs and the way they want to meet their needs. Sea cucumber marketing becomes an opportunity with promising economic value. In the field of aquaculture, seaweed can be cultivated together with sea cucumbers, which can increase the growth of seaweed and sea cucumber (Lagaronda, 2016). The combination of sea cucumber and seaweed cultivation becomes an opportunity with promising economic value. Sea cucumbers have the potential to be developed because animals are low in tropical level, do not require special skill treatment and can be a side business for the community (Giri, Sembiring, Marzuqi, & Andamari, 2017).

Sea cucumber is a high economic value fishery commodity and has been used for a long time as a natural medicine. In the world market,

generally sea cucumbers are marketed in dried form such as chips. Indonesia is the largest sea cucumber exporting country in the world. However, the selling value is lower than other countries because of the low quality as a result of poor processing processes. Sea cucumber fishermen still use traditional methods in processing sea cucumbers so that the quality of sea cucumbers decreases. Partners are accustomed to processing sea cucumbers in a simple way, where sea cucumbers after being taken from nature, cleaned, boiled and then smoked with a furnace, then dried with a simple drying device, and packaged in ordinary plastic bags. This makes the quality of the product and the selling price of sea cucumbers is still low.

Conclusion

Based on riview literature making dry eggpaper / sea cucumber chips there are basically three stages, namely weeding, boiling and drying sea cucumbers.

Bibliography

- Al Rashdi, K.M., I. Eeckhaut, and M.R. Claereboudt. 2012. A manual on hatchery of sea cucumber *Holothuria scabra* in the Sultanate of Oman. 1st ed. Muscat, Sultanate of Oman: Ministry of Agriculture and Fisheries Wealth, Aquaculture Centre. Muscat, Sultanate of Oman. 27 p.
- Bayu Kumayanjati. 2020. Sea cucumber as One of the Sources of Collagen, *Journal of Oceanane*, Volume 45, No. 1: 17-27.
- Darsono, P. 1999. Development of Sand Sea Cucumber Hatchery, *Holothuria scabra* Jaeger, In Indonesia. *Oceania*, 24(3):35-45.
- Giri, N. ., Sembiring, S.B. ., Marzuqi, M., & Andamari, R. (2017). Formulation and Application of seaweed-based artificial feed

- for the distribution of sand sea cucumber seeds (holothuria scabra).
- Hamel, J.-F., A. Mercier, C. Conand, S. Purcell, T.-G. Toral-Granda, and R. Gamboa, 2013. *Holothuria scabra*, golden sandfish. The IUCN red list of threatened species. e.T180257A 1606648. 12p.
- James, D.B. 1996. Culture of sea-cucumber. In: Pillai, P.P. Artificial reef and sea farming technologies. Central Marine Fisheries Research Institute. Chocin. 120-126 pp.
- Kustiariyah. 2007. Sea cucumber as a Food and Bioactive Source. Fisheries Products Technology Bulletin, 10(1), 1-8.
- Lagaronda, I. . (2016). Analysis of seaweed cultivation production and income in Lalombi Village, South Banawa District, Donggala Regency. Tadulako Journal of Science and Technology, 5(2), 55–63.
- Martoyo, J., N. Aji., and T. Winanto. 2006. Sea cucumber cultivation (Ed). Revision. Self-Help Spreader. Jakarta.
- Purcell, S.W. 2004. Rapid growth and bioturbation activity of the sea cucumber *Holothuria scabra* in earthen ponds. Proceedings of Australasian Aquaculture. Sydney. 244 pp.
- Sembiring, S.B.M., K. Sugama, I.M. Suastika, D. Makatutu and Jufri. 2004. Technical guidelines for sand sea cucumber hatchery technology (Holothuria scabra). Aquaculture Research Center, Marine and Fisheries Research Agency. Jakarta. 23hlm.
- Yulianti, Nelfa. 2020. Quality Comparison of Sea cucumber crackers (*Holothuria Scabra*)

Processed With Commercial
Crackers. [Vol 1](#)(1).

Yusron, E. 2004. Sand Sea cucumber
Spawning Technology by
Means of Environmental
Manipulation. Oceanic Volume
XXIX, Number 4, Year 2004;
17-23.

Zulistyanto, D., Riyadi, P.H., &
Amalia, U. (2016). The long-
standing influence of dough
steaming on the physical and
chemical qualities of dumbo
catfish crackers (*Clarias
gariepinus*). Journal of
Processing and Biotechnology
of Fishery Products, 5(4), 26-
32.

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