

Clifford, and R. J Smolowitz. 1978. 11 Ghost fishing of vented and unvented lobster,

Homarus Americanus, traps. Mar. Fish. Rev. 40(5-6):9-24

Jelly fish- A problem to possibility

Rehana Raj*, Sreelakshmi K.R., Greeshma S.S. and George Ninan

ICAR- Central Institute of Fisheries Technology, Matsyapuri-P.O., Kochi-29

*Corresponding author : rehanaraj9@gmail.com

Jellyfish is a marine invertebrate belonging to the class Scyphozoa under phylum Cnidaria. An adult jellyfish is having a bell shaped body, enclosed by a jelly like matter where its internal structures are encompassed. The manubrium (tentacles) are hanging from this mass. Some jellyfish tentacles are present with stinging cells that have poisonous substance which kills or stuns other animals whereby they capture the prey or protect themselves from enemies.

Jellyfish catch increasing tremendously in the marine environment and is said to create nuisance to the fishermen and to the marine environment. The swarms of jellyfish are a constant threat to fisheries and marine food chain. Some jellyfishes are reported to have toxin which makes it an inedible product. However, some species of jellyfish are identified as edible and are widely consumed in Asian countries like China, Japan, Malaysia, Taiwan, Singapore and Korea (Hsieh et al. 2001). Reports are there suggesting the utilization of jellyfish not only for consumption but also for generating high value products.

Jelly fish swarms are reported to cover vast area in the ocean, which causes destruction to the vessels, boats and fishing gear. In India, especially in South Indian coast, it was noticed that jellyfishes are available during the post monsoon season. In spite of the huge production, a little is known about the composition and utilisation of jelly fishes. Hence, an attempt was made in ana-

lysing the nutritional composition so as to enable the utilization of jellyfish that are available from Indian coast.

In this study, Jellyfish (Fig. 1) was collected from Cochin waters and bought to the laboratory in chilled condition. As soon as it reached the laboratory, a thorough washing was given in ice cold potable water. The cleaned sample was cut into small pieces and then subjected to nutritional analysis of the meat (umbrella and manubrium) and fluid separately. Moisture, protein, fat, ash and carbohydrates were analysed according to AOAC method (AOAC, 2016).

The proximate composition of jelly fish (meat and fluid) is given in table 1. The protein content of meat portion was higher than the jelly fish fluid analysed. The protein content of meat studied is similar to *Aurelia aurita* with 2.1% protein (Spitz et al., 2010) and is higher than cannonball jelly fish with 1.07% (Huang et al. 1988). The lower amounts of carbohydrate and fat content creates its potential for low caloric food. It has also been accepted as a prime delicacy in many parts of the world. The presence of collagen and mineral content along with low calorie value make jellyfish a candidate species for developing nutraceuticals, functional food and nutricosmetics. Further studies are required in processing and product development aspects so as to enable the development of high quality products from the jelly fish studied.

Table 1. VNutritional composition

Sample	Moisture (%)	Protein (%)	Ash (%)	Fat (%)	Carbohydrate (%)
Meat	95.754	2.189	2.103	0.021	0.0
Body fluid	96.452	1.048	2.432	0.019	0.0



Figure 1. Jellyfish

References

AOAC. 2016. Official methods of analysis, Association of Official Analytical Chemists, Wash-

ington DC, USA.

Hsieh, Y.H.P., F.M. Leong, & J. Rudloe 2001. Jellyfish as food, *Hydrobiologia* 451(1-3): 11-17.

Spitz, J., Mourcq, E., Schoen, V., & Ridoux, V. (2010). Proximate composition and energy content of forage species from the Bay of Biscay: high-or low-quality food?. *ICES Journal of Marine Science*, 67(5), 909-915.

Huang, Y.A.W., 1988. Cannonball jellyfish (*Stomolophus meleagris*) as a food resource. *Journal of Food Science*, 53(2), 341-343.

Electron Beam Irradiated Tilapia Fish Chunk: Quality and Shelf Life under Chilled Storage

Jeyakumari A.^{1*}, Narasimha Murthy L.¹, Visnuvinayagam S.²,
Rawat K.P.³ and Shaikh Abdul Khader³

¹Mumbai Research Centre of ICAR-CIFT, Vashi, Navi Mumbai - 400 703

²ICAR- Central Institute of Fisheries Technology, Matsyapuri-P.O., Kochi-29

³Electron beam processing section, IRAD, BARC, BRIT/BARC complex, Navi Mumbai 400 703

*Corresponding author : jeya131@gmail.com

Fish is a highly perishable product, and the freshness of fish is an important factor that determines its commercial value and potential for export. Nowadays, consumers look for high quality and convenient food products with natural flavor, fresh appearance and nutrient's richness which stimulate a major research issue to

develop and implement alternative technology such as minimal processing. Hence, a minimal processing involving heat and ionizing radiations has gained attention as an ideal technique to improve the shelf-life and preserve the food's nutrient value. Electron Beam Irradiation (EBI) is a non thermal processing technique, recently gaining much attention by food processor. The advan-