

IDENTIFICATION OF SMOKED FISH PACKAGING SELECTION TO INCREASE SALES VALUE FOR SMOKED FISH PRODUCERS IN JAYAPURA CITY, PAPUA

Identifikasi Pemilihan Kemasan Ikan Asap (*Smoked Fish*) Untuk Meningkatkan Nilai Penjualan Bagi Produsen Ikan Asap di Kota Jayapura, Papua

Vyona Mantayborbir*, Ervina Indrayani, Lalu Panji Imam Agamawan, Khristhoper Aris A.
Manalu

Fisheries Science Study Program Cenderawasih University

Jl. Waena, Jayapura District, Papua, Indonesia.

*Corresponding Author: vyonamantay@gmail.com

(Received June 7th 2024; Accepted April 27th 2025)

ABSTRACT

Smoked fish is a fish-based food product which is a superior product in Jayapura City, Papua. Fish smoking centers in Hamadi and Imbi Villages are the main suppliers of smoked fish in Jayapura. The fish smoking technology at the center still uses simple traditional methods. The hygienic quality of fish smoking in Jayapura needs to be improved. Observations show that selling smoked fish without packaging increases the risk of pathogenic bacterial contamination which impacts product quality. The condition of selling smoked fish without packaging increases the risk of environmental contamination. The packaging materials used are not effective in protecting smoked fish from microbiological contamination. Traditional packaging (banana leaves, oil paper, plastic) does not meet food safety standards. More effective packaging materials are needed to protect the quality of smoked fish. Based on the problems above, this research aims to find out how smoked fish products are packaged in Jayapura City, Papua and what role packaging plays in improving the marketing of smoked fish products in Jayapura City, Papua. This research uses qualitative methods with stationery, questionnaires and cameras. Data collection was carried out through interviews and photo documentation. Data analysis uses descriptive methods to describe phenomena. The results of this research show that the problems of smoked fish producers in Jayapura City, Papua are packaging without using packaging technology, low information about the shelf life of products with vacuum packaging and no labeling to expand market share.

Keywords: Jayapura City, Labeling, Packaging, Smoked Fish, Vacuum.

ABSTRAK

Ikan asap merupakan produk makanan berbahan dasar ikan yang menjadi produk unggulan di Kota Jayapura, Papua. Sentra pengasapan ikan di Kelurahan Hamadi dan Imbi merupakan

pemasok utama ikan asap di Jayapura. Teknologi pengasapan ikan di sentra tersebut masih menggunakan metode sederhana tradisional. Kualitas higienis pengasapan ikan di Jayapura perlu ditingkatkan. Observasi menunjukkan bahwa penjualan ikan asap tanpa kemasan meningkatkan risiko kontaminasi bakteri patogen yang berdampak pada kualitas produk. Kondisi penjualan ikan asap tanpa kemasan memperbesar risiko kontaminasi lingkungan. Bahan kemas yang digunakan tidak efektif melindungi ikan asap dari kontaminasi mikrobiologis. Kemasan tradisional (daun pisang, kertas minyak, plastik) tidak memenuhi standar keamanan pangan. Diperlukan bahan kemas yang lebih efektif untuk melindungi kualitas ikan asap. Berdasarkan permasalahan diatas maka penelitian ini bertujuan untuk mengetahui bagaimana kemasan pada produk ikan asap di Kota Jayapura, Papua dan bagaimana peran kemasan dalam meningkatkan pemasaran produk ikan asap di Kota Jayapura, Papua. Penelitian ini menggunakan metode kualitatif dengan alat tulis, angket dan kamera. Pengumpulan data dilakukan melalui wawancara dan dokumentasi foto. Analisis data menggunakan metode deskriptif untuk menggambarkan fenomena. Hasil dari penelitian ini menunjukkan permasalahan produsen ikan asap di Kota Jayapura, Papua adalah pengemasan (packaging) tanpa menggunakan teknologi pengemasan, rendahnya informasi tentang umur simpan produk dengan kemasan vakum dan belum ada pelabelan untuk perluasan pangsa pasar.

Kata Kunci : Ikan Asap, Kota Jayapura, Pelabelan, Pengemasan, Vakum.

INTRODUCTION

The water content of fish ranges from 70% to 80%. The high water content of fish requires systematic post-harvest handling to prevent spoilage and maintain quality. Research shows that proper post-harvest handling, such as smoking, is essential to maintain fish quality (Naiu *et al.*, 2018). According to Rieuwpassa and Heruwati (2017), smoking is a food processing technique to preserve and provide sensory characteristics with the aim of preserving and improving the quality of food. Smoking increases the durability of food through the removal of free water and the action of antimicrobial chemicals. In addition, smoking is an effective preservation method that extends the shelf life of food (Swastawati, 2018; Husen & Daeng, 2018).

Smoked fish is a fish-based food product that is a leading product in Jayapura City, Papua (Phospone, 2019). Because in addition to being used directly by the Jayapura City Community as food, it can also be used as a souvenir to be taken out to other cities or regencies outside Papua. The analysis shows that the fish smoking center in Hamadi and Imbi Villages plays an important role in supplying the needs of smoked fish in Jayapura City and its surroundings, although the smoking technology used still needs improvement. Field studies found that fish smoking technology in Hamadi and Imbi Villages did not meet hygienic and efficiency standards.

The results of the observation obtained data that the fish smoking center in Hamadi and Imbi Villages, Jayapura used smoking technology that was not optimal and required hygienic improvements. The analysis found that the sale of smoked fish without adequate packaging and a long distribution process increased the risk of contamination with pathogenic bacteria. In addition, weaknesses in the handling and distribution of smoked fish increased the risk of bacterial contamination (Swastawati, 2018). The packaging materials used are not effective in protecting smoked fish products from microbiological contamination so that packaging weaknesses can affect shelf life. Improvement of packaging technology is highly recommended to improve the quality of smoked fish. Conventional packaging materials (banana leaves, oil paper, plastic) are not effective in preventing microbiological contamination of smoked fish. This packaging does not meet the standards to extend shelf life. Packaging limitations require

improved technology to maintain the quality of smoked fish (Mustofa *et al.*, 2022). Vacuum packaging is an effective technique to increase the durability and reduce the decline in the quality of smoked fish. The airtight vacuum packaging technique can extend the shelf life of smoked fish and reduce the rate of oxidation and growth of microorganisms in smoked fish (Yunus *et al.*, 2021). Collaborative sterilization and vacuum packaging are effective in reducing microorganism contamination in food ingredients (Murda *et al.*, 2016). According to Triyannanto *et al.*, (2020), the collaboration of sterilization and vacuum packaging offers an innovative solution to improve the safety and quality of food ingredients.

Based on the problems above, the purpose of this study is to identify effective packaging strategies to increase the marketing of smoked fish products in Jayapura.

RESEARCH METHODS

This study was conducted for three months, from March to May 2024 in smoked fish processing units in Jayapura City, Papua. This study used a survey method with stationery, questionnaires, and cameras for data collection. The research procedure included an initial survey, location mapping, and interviews with smoked fish processing business actors. Determination of sources, determination of selected sources who have relevance and credibility to provide the required data. Interviews with sources (business actors) using questionnaires collected primary data on business activities, processing techniques, constraints, and opportunities in the smoked fish business. Direct observation of the smoked fish processing process to packaging, understanding in detail the workflow from processing to packaging of smoked fish. The data obtained from the field were then analyzed descriptively to interpret the data, which were then visualized in the form of images.

RESULT

The results of this study show that the problems of smoked fish producers in Jayapura City, Papua are as follows:

Packaging without using packaging technology

The packaging process that is still carried out manually and traditionally without using modern packaging technology is the main problem faced by smoked fish producers in Jayapura City. The product is exposed to air, contamination, and changes in temperature and water due to this simple packaging, which can accelerate damage. Even smoked fish stored at room temperature only lasts a few days in conditions like this, its lifespan is relatively short.

According to Pamudiji (2022), the use of vacuum packaging technology on smoked fish products can extend the shelf life of the product up to two weeks longer than conventional packaging because it can stop the development of microorganisms and fat oxidation. This technology also maintains the distinctive aroma of smoked fish. However, the main obstacle for local producers is the lack of knowledge and access to the technology. This shows that intervention from related parties is needed to provide adequate training and access to packaging technology.



Figure 1. Smoked fish displayed on an open container booth

Lack of information on the shelf life of vacuum-packed products

Most manufacturers do not have scientific or technical information about the proper shelf life of vacuum-packed products, either in the refrigerator or in the room. As a result, they often do not include an expiration date on their products, leaving customers in doubt about the safety of the product for use within a certain period. A study conducted by Naufalin *et al.*, (2024), found that one of the main obstacles hindering the growth of processed food small and medium enterprises (SMEs) is ignorance about the shelf life of food products. The study stated that accurate information about product durability can help businesses create better distribution strategies and increase consumer confidence in the product. Therefore, to conduct shelf life tests and provide information to Jayapura smoked fish producers, academics, government, and business actors must work together.



Figure 2. Smoked fish that is still packaged using paper packaging and without labeling.

There is no labeling for market share expansion yet

The absence of a labeling system on smoked fish products is an additional problem found in this study. Products are sold without important information such as name, raw materials, production date, and nutritional value. Nevertheless, labeling is an important component of contemporary marketing strategies because it helps increase product credibility and allows its marketing to more markets, including modern retail and markets outside the region. According to research conducted by Rizky (2024), labels on processed fishery products increase consumer perceptions of product safety and quality. Labels also help businesses position their products more professionally and competitively in the market. There are few labels on Jayapura smoked fish products, indicating that people do not understand the importance of packaging and marketing standards. Education and assistance to local producers should solve this problem.

DISCUSSION

Packaging Without Packaging Technology

The results of the study indicate that smoked fish products are still packaged traditionally, namely wrapped in oil paper and put into plastic bags in an unsealed state, so they are easily contaminated. This is due to the lack of counseling carried out on smoked fish producers in Jayapura City. So that counseling related to packaging technology is needed. This counseling aims to transfer knowledge about packaging theory, objectives and types of packaging to improve the quality and marketing of smoked fish. Packaging is an integration of science, art and technology that focuses on protecting products during shipping, storage and exhibition (Ministry of Cooperatives, Small and Medium Enterprises (2009). Packaging is a marketing strategy that affects the image and value of the product. Packaging plays an important role in improving product quality and safety. Effective packaging meets consumer needs and increases product competitiveness. Packaging has a multifunctional role, namely protection, transportation, information and promotion. Packaging is also effective in increasing safety, quality and brand awareness. Labels and brands on packaging differentiate products and increase competitiveness.



Figure 3. Introduction of packaging forms to smoked fish producers

Lack of Information About Shelf Life of Vacuum Packaged Products

The low information about the shelf life of products with vacuum packaging causes smoked fish sellers in Jayapura City to not care about the importance of packaging to maintain the smoked fish products they sell. Effective packaging protects products from physical and chemical damage. The function of packaging according to the Directorate General of Agricultural Product Processing and Marketing of the Ministry of Agriculture of the Republic of Indonesia (2012) is protection, identification and efficiency. Packaging protects products from environmental factors and contamination, and packaging acts as a means of communication and information through brands and labels.



Figure 4. Introduction of vacuum packaging forms to smoked fish producers

Labeling for Market Share Expansion

The results of the study showed that there was no special labeling of each smoked fish product produced in Jayapura City, Papua. Smoked fish traders still consider that labeling is not very important in the process of selling smoked fish. Product packaging requires unique design, creativity and suitability to the product, successful packaging strategies include differentiation, size flexibility and sustainability. Innovative and environmentally friendly packaging increases consumer appeal. Smoked fish labeling is an effective marketing strategy and meets legal requirements. Labels must contain accurate and complete information about the product to ensure consumer safety. Food labeling regulations are regulated by law to protect consumers.



Figure 5. Labels used for introduction to producers

CONCLUSION

Standard packaging is a key factor in improving the quality and marketing of smoked fish products in Jayapura City, Papua. Effective packaging strengthens brand image and increases product added value. Adequate packaging extends shelf life and increases sales results.

ACKNOWLEDGEMENTS

We would like to express our gratitude to fellow lecturers at the Department of Marine and Fisheries Sciences, FMIPA, Cenderawasih University and all parties who have helped us during the research until completion.

DAFTAR PUSTAKA

- Al Farizi, S. (2023). *Kajian Jenis Kemasan Metode Vakum Dan Lama Penyimpanan Terhadap Karakteristik Mutu Ikan Asap* (Doctoral dissertation, Politeknik Negeri Jember).
- Asmaul, R., Karyanto, Y., & Evawati, D. (2024). Pelatihan Pengolahan, Pengemasan Dan Pemasaran Ikan Asap Di Desa Beji Kecamatan Jenu Kabupaten Tuban. *Pancasona: Pengabdian dalam Cakupan Ilmu Sosial dan Humaniora*, 3(2), 179-194.
- Florina, I. D., Mulyani, S., & Khususna, I. H. (2019). Pembuatan kemasan produk ikan asap sebagai strategi promosi produk di Desa Suradadi, Tegal. *Jurnal Pengabdian Pada Masyarakat*, 4(4), 594-602.
- Husen, A., & Daeng, R. A. (2018). Pengaruh lama penyimpanan terhadap mutu ikan cakalang asap (Katsuwonus pelamis). *Jurnal Agrikan*, 11(2).
- Kecil, K. N. K. D. U., & Menengah, D. (2009). Pedoman Standar Kelayakan Kemasan Produk KUKM.
- Muhammad, A., Abdillah, H., Supraptiningsih, L. K., Baihaqi, M. A., Nafis, R. W., Maulana, J., ... & Prasetyo, D. H. T. (2024). Inovasi Memperkuat Tradisi: Optimalisasi Kualitas Sambal Ikan Asap dengan Teknologi Full Foil Packaging dan Smokehouse. *TEKIBA: Jurnal Teknologi dan Pengabdian Masyarakat*, 4(2), 45-57.
- Murda, Y. K., Husni, A., Budhiyanti, S. A., & Herwati, E. R. N. (2016). Karakteristik kimia dan mikrobiologi filet lele dumbo asap berbumbu dalam kaleng. *Jurnal Pengolahan Hasil Perikanan Indonesia*, 19(2), 140-147.
- Mustofa, A., & Wijanarko, K. D. (2022). Pengenalan Metode Penyimpanan dan Pengemasan Ikan Asap Di Desa Dermolo Kecamatan Kembang Kabupaten Jepara. In *The 1st Seno Dimas*.
- Nabilah, T. A., Sipahutar, Y. H., & Sirait, J. (2022). Pengolahan Ikan Asap Di UMKM Totabuan Papua, Kota Jayapura. *Jurnal Bluefin Fisheries*, 4(1), 1-16.
- Naiu, A. S., Koniyo, Y., Nursinar, S., & Kasim, F. (2018). Penanganan dan pengolahan hasil perikanan. *Gorontalo: CV. Athra Samudra*.
- Naufalin, R., Wicaksono, R., Bawono, I. R., & Supriyanti, R. (2024). Analisis Strategi Pengelolaan Usaha Mikro Berbasis Aplikasi Teknologi Tepat Guna Hasil Inovasi Riset Dalam Upaya Meningkatkan Eksistensi Produk Yoghurt (Studi Kasus Pada Usaha Mikro Yoghurt Sehati). *Jurnal Abdikaryasakti*, 4(1), 45-70.
- Nofreeana, A., Masi, A., & Deviarni, I. M. (2017). Pengaruh pengemasan vakum terhadap perubahan mikrobiologi, aktifitas air dan pH pada ikan pari asap. *Jurnal Teknologi Pangan*, 8(1), 66-73.
- Nofreeana, A., Masi, A., & Deviarni, I. M. (2017). Pengaruh pengemasan vakum terhadap perubahan mikrobiologi, aktifitas air dan pH pada ikan pari asap. *Jurnal Teknologi Pangan*, 8(1), 66-73.
- Nurdiani, R., Jaziri, A. A., & Jatmiko, Y. D. (2020). Peningkatan keamanan pangan dan kualitas organoleptik ikan asap khas desa karangsari tuban melalui induksi pengemas vakum. *JFMR (Journal of Fisheries and Marine Research)*, 4(1), 35-40.
- Nursaadah, S. (2015). *Pengaruh Suhu dan Waktu Pengeringan terhadap Mutu Pindang Tongkol Dikemas Vakum Selama Penyimpanan* (Doctoral dissertation, Politeknik Negeri Jember).

- Paiki, K., Indrayani, E., Dimara, L., & Kalor, J. D. (2019). Penerapan Teknologi Pengolahan Ikan Asap Pada Nelayan Di Kelurahan Hamadi Kota Jayapura. *Jurnal Pengabdian Papua*, 3(2), 50-54.
- PAMUDJI, E. O. (2022). Teknik Pemrosesan Untuk Peningkatan Umur Simpan Dan Keamanan Pangan Produk Ready To Eat (RTE) Berbasis Ikan.
- Rieuwpassa, F., & Heruwati, E. S. (2017). Pengaruh Pengemasan Vakum Dan Suhu Penyimpanan Terhadap Daya Awet Ikan Tongkol Asap. *Jurnal Penelitian Perikanan Indonesia*, 1(1), 125-137.
- Rizky, T. (2024). *Perancangan Kemasan Primer Dan Sekunder Manisan Rosalia Salak Untuk Meningkatkan Persepsi Konsumen* (Doctoral Dissertation, Universitas Atma Jaya Yogyakarta).
- Swastawati, F. (2018). *Teknologi pengasapan ikan tradisional*. Intimedia.
- Triyannanto, E., Arizona, A. S., Rusman, R., Suryanto, E., Sujarwanta, R. O., Jamhari, J., & Widyastuti, I. (2020). Pengaruh kemasan retorted dan penyimpanan pada suhu ruang terhadap kualitas fisik dan mikrobiologi sate ayam. *Jurnal Sain Peternakan Indonesia*, 15(3), 265-272.
- Waridin, W., Susilowati, I., Agustini, T. W., & Wibowo, B. A. (2005). Upaya perluasan pasar dengan peningkatan kualitas, diferensiasi dan segmentasi produk ikan asap tradisional dengan modifikasi rumah pengasap di kel. Tambak lorok, kec. Semarang utara.