



HAZARD ANALYSIS AND CRITICAL CONTROL POINT (HACCP) PLAN DEVELOPMENT UNDER THE FOOD SAFETY MANAGEMENT SYSTEM (FSMS) FOR KOPYOR NEW DEVELOPED PRODUCT AT CINTA BUMI NUSANTARA CO.

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ABSTRACT

ALISYA PRAMUDYA WARDHANI. Hazard Analysis and Critical Control Point (HACCP) Plan Development under the Food Safety Management System (FSMS) for Kopyor New Develop Product at Cinta Bumi Nusantara Co. Supervised by MUSLICH and MULYORINI.

This undergraduate thesis details developing and implementing a Hazard Analysis and Critical Control Point (HACCP) plan within a Food Safety Management System (FSMS) for new Kopyor products at Cinta Bumi Nusantara Co. The study focused on ready-to-drink beverages and freeze-dried Kopyor products, emphasizing high safety and quality standards. The HACCP plan, supported by Good Manufacturing Practices (GMP) and Prerequisite Programs (PRP), effectively identifies controls and mitigates potential food safety hazards, thereby preventing cross-contamination during production. Laboratory-scale trials and product scale-up adjustments have led to additional processes for ensuring product safety. Microbial contamination tests confirmed the absence of total plate count (TPC), *Escherichia coli*, *Salmonella*, and mold and yeast in both Kopyor product lines, complying with the BPOM Regulation Number 13:2019. The FSMS, based on ISO 22000:2018 standards, further validates the safety and compliance of the production process. Key objectives include minimizing contamination risks, establishing robust safety foundations, and preventing foodborne illnesses. The study's recommendations highlight the importance of continuous improvement, staff training, and regular audits. These measures ensure regulatory compliance, enhance consumer trust, and support the innovative development of Kopyor products, offering valuable insights for implementing science-based FSMS in new product lines.

Keywords: Kopyor, HACCP, Food Safety Management System, Good Manufacturing Practices, Prerequisite Programs, Microbial contamination, ISO 22000:2018, BPOM Regulation Number 3:2019.



ABSTRAK

ALISYA PRAMUDYA WARDHANI. Pengembangan Rencana *Hazard Analysis and Critical Control Point* (HACCP) dalam *Food Safety Management System* (FSMS) untuk Produk Baru Kopyor di PT Cinta Bumi Nusantara. Dibimbing oleh MUSLICH dan MULYORINI.

Penelitian ini menjelaskan pengembangan dan implementasi rencana *Hazard Analysis and Critical Control Point* (HACCP) dalam *Food Safety Management System* (FSMS) untuk produk Kopyor baru di PT Cinta Bumi Nusantara. Studi ini berfokus pada minuman siap saji dan produk Kopyor yang dikeringkan dengan beku (*freeze-dried*), dengan menekankan standar keselamatan dan kualitas yang tinggi. Rencana HACCP, yang didukung oleh Cara Produksi Pangan Olahan yang Baik (CPPOB) dan Program Prasyarat (PRP), secara efektif mengidentifikasi, mengontrol, dan mengurangi potensi bahaya keamanan pangan, serta mencegah kontaminasi silang selama proses produksi. Uji coba kontaminasi mikroba skala laboratorium dan penyesuaian *scale-up* proses produksi tambahan dilakukan untuk memastikan keamanan produk. Uji kontaminasi mikroba mengonfirmasi tidak adanya kontaminasi dalam uji total plate count (TPC), *Escherichia coli*, *Salmonella*, serta kapang dan khamir dalam kedua lini produk Kopyor, sesuai dengan Peraturan BPOM Nomor 13 tahun 2019. FSMS, yang didasarkan pada standar ISO 22000:2018, memvalidasi keamanan dan kepatuhan proses produksi. Tujuan utama meliputi meminimalkan risiko kontaminasi, membangun dasar keamanan yang kuat, dan mencegah penyakit bawaan pangan. Rekomendasi studi ini menekankan pentingnya perbaikan berkelanjutan, pelatihan staf, dan audit rutin. Langkah-langkah ini memastikan kepatuhan terhadap regulasi, meningkatkan kepercayaan konsumen, dan mendukung pengembangan inovatif produk Kopyor, serta memberikan wawasan berharga untuk implementasi FSMS berbasis ilmu pengetahuan dalam lini produk baru.

Kata kunci: Kopyor, HACCP, FSMS, Cara Produksi Pangan Olahan yang Baik, Program Prasyarat, kontaminasi mikroba, ISO 22000:2018, Peraturan BPOM Nomor 3:2019.



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as one of the requirements for obtaining a
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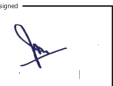
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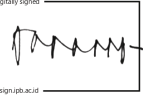
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PREFACE

All praise and gratitude to Allah the Almighty who has bestowed His blessings, mercy, and grace so that the author can complete the research entitled, “Hazard Analysis and Critical Control Point (HACCP) Plan Development under the Food Safety Management System (FSMS) for Kopyor New Develop Product at Cinta Bumi Nusantara Co.” accordingly. This capstone project was prepared based on the results of research conducted from February to July 2024. Hence, this undergraduate thesis is integrated with four other undergraduate theses entitled, “Product Development of Kopyor Coconut (*Cocos nucifera* var. *Kopyor*) Based Products for Innovative Design.”

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Hopefully this undergraduate thesis can be as beneficial as it is supposed to be for the industry, readers, and for the advancement of knowledge.

Bogor, July 2024

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GLOSSARY

GMP	: Good Manufacturing Practice, encompasses a system of regulations, codes, and guidelines that ensure products are consistently produced and controlled according to quality standards, minimizing risks involved in production and ensuring the safety and efficacy of products.
PRP	: Prerequisite Programs, fundamental procedures and conditions, such as sanitation, personal hygiene, and maintenance, that are established to create an environment conducive to the production of safe and high-quality food products and serve as a foundation for implementing HACCP systems.
HACCP	: Hazard Analysis and Critical Control Points, a systematic, preventive approach to food safety that identifies, evaluates, and controls physical, chemical, and biological hazards throughout the production process to ensure the safety and integrity of food products.
RTD	: A Ready-to-Drink, refers to beverages that are pre-prepared and packaged for immediate consumption, eliminating the need for additional preparation or mixing before drinking.
FD	: A freeze-dried product, is a type of preserved food or material that has undergone lyophilization, a process in which water is removed through sublimation under low temperature and pressure conditions, resulting in a lightweight, stable product with extended shelf life and retained nutritional and sensory properties.
BPOM	: The Indonesian National Agency of Drug and Food Control (BPOM) is a governmental body responsible for overseeing the safety, efficacy, and quality of drugs, food, and other health-related products through stringent regulations and monitoring to protect public health.
ISO	: The International Organization for Standardization (ISO) is an independent, non-governmental entity that develops and publishes international standards to ensure the quality, safety, efficiency, and interoperability of products, services, and systems, thereby facilitating global trade and fostering innovation.



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