

# Jurnal TEKNOLOGI & INDUSTRI PANGAN

*Journal of Food Technology and Industry*

Volume 35 Nomor 2 Tahun 2024

Volume 35 Number 2 Year 2024



**Publikasi Resmi**

*Official Publication*

**Perhimpunan Ahli Teknologi Pangan**

**Indonesia (PATPI)**

*Indonesian Association of Food Technologists (IAFT)*

**bekerjasama dengan**

*in collaboration with*

**Departemen Ilmu dan Teknologi Pangan**

**Fakultas Teknologi Pertanian**

**Institut Pertanian Bogor**

*Department of Food Science and Technology, IPB University*

Terakreditasi Kemendikbudristek  
No. 164/E/KPT/2021



 **Patpi**

# Jurnal

# TEKNOLOGI & INDUSTRI PANGAN

ISSN 1979-7788

VOLUME 35 NUMBER 2

December 2024

Copyright © 2024 Indonesian Association of Food Technologists *in collaboration with* the Department of Food Science and Technology, IPB University

## GOVERNING BOARD

Giyatmi, Prof Dr (Sahid University, Indonesia)  
**Chair of Indonesian Association of Food Technologists (PATPI)**

Eko Hari Purnomo, Prof Dr (IPB University, Indonesia)  
**Head of the Department of Food Science and Technology, IPB University**

## EDITOR IN CHIEF

Hanifah Nuryani Lioe, Prof Dr (IPB University, Indonesia)

## EDITORIAL BOARD

Ambar Rukmini, Prof Dr (Univ. Widya Mataram, Indonesia)	Katarzyna Świąder, Prof Dr (Warsaw Univ., of Life Science Nowoursynowska, Poland)
Anadi Nitithamyong, Assoc Prof (Mahidol Univ., Thailand)	Maria Leonora dL. Fransisco, Prof, PhD, CFS (Univ. Philippines Diliman, Philippines)
Ardiansyah, Prof Dr (Univ. Bakrie, Indonesia)	Nancy Dewi Yuliana, Prof Dr (IPB University, Indonesia)
Anton Rahmadi, Prof Dr (Mulawarman Univ., Indonesia)	Nurheni Sri Palupi, Prof Dr (IPB University, Indonesia)
C. Hanny Wijaya, Prof Dr (IPB University, Indonesia)	Nyoman S. Antara, Prof Dr (Udayana Univ., Indonesia)
Dwi Larasatie, Dr (Univ. Gadjah Mada, Indonesia)	Ratih Dewanti-Hariyadi, Prof Dr (IPB University, Indonesia)
Endang Y. Purwani, Prof Dr (Center for Agricultural Post Harvest Research and Development, Bogor, Indonesia)	Retno Murwani, Prof Dr (Diponegoro Univ., Indonesia)
Harsi D. Kusumaningrum, Prof Dr (IPB University, Indonesia)	Sedarnawati Yasni, Prof Dr (IPB University, Indonesia)
Indah Epriliati, Dr (Univ. Katolik Widya Mandala, Indonesia)	Sugiyono, Prof Dr (IPB University, Indonesia)
Indrawati Oey, Prof, PhD (Otago Univ., New Zealand)	Wei Zhang, Prof, PhD (Flinders Univ., Australia)
Irwandi Jaswir, Prof, PhD (Int. Islamic University Malaysia, Malaysia)	Winiati P. Rahayu, Prof Dr (IPB University, Indonesia)
	Yonathan Asikin, Assoc Prof Dr (Univ. of the Ryukyus, Japan)

## PRODUCTION EDITORS

Dase Hunaefi, Dr-Ing	(IPB University, Indonesia)
Karsi Ambarwati, Dr	(IPB University, Indonesia)
Nur Wulandari, Dr	(IPB University, Indonesia)
Saraswati, Dr	(IPB University, Indonesia)
Uswatun Hasanah, Dr	(IPB University, Indonesia)

## ADMINISTRATION

Annisah, A.Md

## EDITORIAL SECRETARIAT ADDRESS

Department of Food Science and Technology, Faculty of Agricultural Technology and Engineering, IPB University (Bogor Agricultural University), PAU Building 2<sup>nd</sup> Floor IPB Darmaga Campus, PO Box 220, Bogor 16680;  
Telp/Fax: (0251) 8626725; E-mail: [jurnaltip@apps.ipb.ac.id](mailto:jurnaltip@apps.ipb.ac.id); [jurnaltip@yahoo.com](mailto:jurnaltip@yahoo.com); [jurnaltip@gmail.com](mailto:jurnaltip@gmail.com)

**Journal of Food Technology and Industry (Jurnal Teknologi dan Industri Pangan or JTIP)** is an Indonesian accredited journal and is a lead reference journal in the field of food science and technology. The journal was established in 1990 and previously known as Bulletin in Research Food of Science and Technology. The name has been updated in 2001 and eversince it became official journal for Indonesian Association of Food Technologists (PATPI). The journal is published in colaberation with Department of Food Science and Technology, IPB University (Bogor Agricultural University). The online version is accessible at <http://journal.ipb.ac.id/index.php/jtip> No E-ISSN: 2087-751X.

JTIP is published twice a year, in June and in December. JTIP publishes high quality research articles in food sciences, food technology or its applications in food industry. JTIP accepts Indonesian and English language articles.

The editorial boards have been restructured since Volume 32, Issue 1 in 2021 when new chairman of Editor in Chief was elected for the period of 2021-2026. JTIP includes International Editors for internationalization purposes and for improving the performance of the journal.

Artikel-artikel yang dipublikasikan dalam Jurnal edisi ini telah ditelaah oleh tim Mitra Bebestari (*Reviewers*):

Bayu Kanetro, Dr, *Faculty of Agroindustry, University of Mercu Buana Yogyakarta, Yogyakarta-INDONESIA*

Beni Hidayat, Dr, *Faculty of Agriculture, Lampung University, Lampung-INDONESIA*

Dede R. Adawiyah, Prof Dr, *Faculty of Agricultural Engineering and Technology, IPB University, Bogor-INDONESIA*

Didah Nur Faridah, Prof Dr, *Faculty of Agricultural Engineering and Technology, IPB University, Bogor-INDONESIA*

Endang Prangdimurti, Dr, *Faculty of Agricultural Engineering and Technology, IPB University, Bogor-INDONESIA*

Fitry Filiany, Dr, *Faculty of Agro-Industrial Technology, Universitas Padjadjaran, Sumedang-INDONESIA*

Gatot Priyanto, Dr, *Faculty of Agriculture, Universitas Sriwijaya, Palembang-INDONESIA*

Helen Julian, Dr, *Faculty of Industrial Technology, Institut Teknologi Bandung, Bandung-INDONESIA*

Hendra Wijaya, Dr, *Center for Agro-based Industry (BBSPJIA), Ministry of Industry, Bogor-INDONESIA*

Karseno, Dr, *Faculty of Agriculture, Jenderal Soedirman University, Purwokerto-INDONESIA*

Liza Devita, Dr, *Politeknik Pembangunan Pertanian Medan, Medan-INDONESIA*

Manikharda, Dr, *Faculty of Agricultural Technology, Universitas Gadjah Mada, Yogyakarta, INDONESIA*

Mohamad Ana Syabana, Dr, *Faculty of Agriculture, Sultan Ageng Tirtayasa University, Serang-INDONESIA*

Muhammad A. Kurnianto, Dr, *Faculty of Engineering, Universitas Pembangunan Nasional Veteran Jawa Timur, Surabaya-INDONESIA*

Nurhayati, Dr, *Faculty of Agricultural Technology, Universitas Jember, Jember-INDONESIA*

Nuri Andarwulan, Prof Dr, *Faculty of Agricultural Engineering and Technology, IPB University, Bogor-INDONESIA*

Nurjanah, Prof Dr, *Faculty of Fisheries and Marine, IPB University, Bogor-INDONESIA*

Puspo Edi Giriwono, Dr, *Faculty of Agricultural Engineering and Technology, IPB University, Bogor-INDONESIA*

Posman Sibuea, Prof Dr, *Faculty of Agricultural, Catholic University of Saint Thomas, Medan-INDONESIA*

Putu Doddy Sutrisna, Prof Dr, *School of Chemical Engineering, University of Surabaya (UBAYA), Surabaya-INDONESIA*

Sabri Sudirman, Dr, *Faculty of Agriculture, Universitas Sriwijaya, Palembang-INDONESIA*

Samsu U. Nurdin, Dr, *Faculty of Agriculture, University of Lampung, Lampung-INDONESIA*

Sri Raharjo, Prof. Dr, *Faculty of Agricultural Technology, Universitas Gadjah Mada, Yogyakarta-INDONESIA*

Teti Estiasih, Prof Dr, *Faculty of Agricultural Technology, Universitas Brawijaya, Malang-INDONESIA*

Tita Rialita, Prof Dr, *Faculty of Agro-Industrial Technology, Universitas Padjadjaran, Sumedang-INDONESIA*

Wahyudi David, Dr.agr, *Department of Food Science and Technology, Universitas Bakrie, Jakarta-INDONESIA*

Wayan Rai Widarta, Dr, *Faculty of Agricultural Technology, Udayana University, Bali-INDONESIA*

dr. Yulia Rosa Saharman, PhD, *Faculty of Medicine, Universitas Indonesia-INDONESIA*

## **DAFTAR ISI (CONTENTS)**

---

### **Hasil Penelitian (*Research Article*)**

---

- 139 Pengembangan Produk Olesan Menggunakan Oleogel Minyak Sawit Merah sebagai Pensubstitusi Lemak Padat** [*Development of Spread Product Using Red Palm Oil Oleogel as a Solid Fat Substitute*]  
Annisa Noor Rachmawati, Nur Wulandari, dan Eko Hari Purnomo
- 152 Evaluasi Kecukupan Panas Proses Pasteurisasi Saus Tomat di PT XYZ dan Dampaknya terhadap Umur Simpan** [*Evaluation of Thermal Adequacy in the Pasteurization Process of Tomato Sauce at PT XYZ and Its Impact on Shelf Life*]  
Dewangga Mahdiyar, Eko Hari Purnomo, dan Joko Hermanianto
- 162 The Manipulation of Folate Biosynthesis in Lactic Acid Bacteria with a Folate Analog and Enhancers**  
Fenny Amilia Mahara, Lilis Nuraida, and Siti Nurjanah
- 172 Aplikasi Minyak Sawit Merah sebagai Medium untuk Penumisan Sayur** [*Red Palm Oil Application as a Medium for Vegetable Pan Frying*]  
Permata Adinda Putri, Winiati Pudji Rahayu, Dede Robiatul Adawiyah, dan Nuri Andarwulan
- 185 Pengembangan Label Cerdas Kolorimetrik untuk Indikator Kesegaran Lobster Air Tawar dari Film PVA dan Chitosan dengan Ekstrak Kulit Buah Naga Merah** [*Development of Colorimetric Smart Labels for Crayfish Freshness Indicators from PVA and Chitosan Films with Red Dragon Fruit Peel Extract*]  
Firman Yudha Axiomawan, Nugraha Edhi Suyatma, dan Muhammad Arpah
- 198 Perubahan Tekstur, Aktivitas Air, dan Sifat Termal Dodol selama Penyimpanan sebagai Pengaruh Proporsi Santan Kelapa dan Suhu Penyimpanan** [*Changes in Texture, Water Activity, and Thermal Properties of Dodol during Storage as Affected by Coconut Milk Proportion and Storage Temperature*]  
Gusti Setiavani, Sugiyono, dan Nugraha Edhi Suyatma
- 210 Homogenitas, Stabilitas, dan Konfirmasi Molekuler Biakan Kering Beku Campuran Escherichia coli dan Salmonella Typhimurium** [*Homogeneity, Stability, and Molecular Confirmation of Mixed Culture of Freeze-Dried Escherichia coli and Salmonella Typhimurium*]  
Siti Nurjanah, Puja Agesti, Winiati Pudji Rahayu, Uswatun Hasanah, dan Riska Dwi Nanda

- 224 Separasi Garam Natrium dan Protein pada Putih Telur Asin Menggunakan Membran Ultrafiltrasi** [*Separation of Sodium Salt and Protein in Salted Egg Whites Using Ultrafiltration Membrane*]  
Hening Paradigma, Azis Boing Sitanggang, dan Slamet Budijanto
- 237 Karakteristik dan Potensi Pangan Fungsional Snack Bar Berbasis Sorgum dengan Perbedaan Jenis Binder** [*Characteristics and Functional Food Potential for Sorghum-Based Snack Bar with Different Type of Binders*]  
Binardo Adi Seno Mawarno dan Karina Bianca Lewerissa
- 246 Sifat Antioksidasi Bubuk Kunyit dan Pengaruhnya terhadap SGPT-SGOT Tikus Percobaan** [*Antioxidation Properties of Turmeric Powder and Its Effect on SGPT-SGOT of Experimental Rats*]  
Tri Indarto, Dwiyati Pujimulyani, dan Siti Tamaroh
- 256 Structural Modeling of Knowledge, Attitude, and Prevention Practices of COVID-19 Among Online Food Delivery Services in Greater Jakarta Area, Indonesia**  
Muhammad Zakki Mutaqin, Ratih Dewanti-Hariyadi, and Budi Nurtama