JURNAL AGRIFOODTECH
Universitas 17 Agustus 1945 Semarang, Jalan Imam Bonjol No. 161 Semarang

About the Journal

1. **Journal Title**: Jurnal Agrifoodtech
2. **Initials**: Agrifoodtech
3. **Frequency**: June and December
4. **Print ISSN**: 2963-7422
5. **Online ISSN**: 2963-7414
6. **Editor in Chief**: Dr. Ir. Enny Purwati Nurlaili, MP.
7. **DOI**: 10.56444
8. **Publisher**: *Universitas 17 Agustus 1945 Semarang*

Jurnal Agrifoodtech (e-ISSN: 2963-7414, p-ISSN: 2963-7422) is a journal published 2 (two) times a year in **June and December** by the Faculty of Agricultural Technology, Universitas 17 Agustus 1945 Semarang, which is a publication for academics, researchers, and practitioners in the field of food and Agricultural Technology and its related fields.

Jurnal Agrifoodtech is a peer-reviewed and open-access journal that aims to expose the scientific discoveries or innovations that focus on food and agricultural technology, i.e., food quality and safety, food biotechnology, food biochemistry, food processing technology and agricultural products, food nutrition and functional food, agroindustry management, and non-food agricultural product processing technology (essential oil, bio-energy, etc.).

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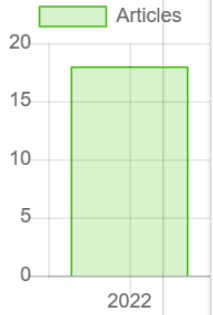

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Jurnal Agrifoodtech

Agrifoodtech Website

Published by Universitas 17 Agustus 1945 Semarang
ISSN : 29637422 EISSN : 29637414 DOI : -

Core Subject : Science, Agriculture, Engineering,

- Agriculture, Biological Sciences & Forestry
- Biochemistry, Genetics & Molecular Biology
- Chemistry
- Industrial & Manufacturing Engineering

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Arjuna Subject : Ilmu Pertanian dan Biologi (Semua) - Ilmu Makanan

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Pengelolaan Limbah Makanan (Food Waste) Berwawasan Lingkungan Environmentally Friendly Food Waste Management

Bambang Hermanu

Jurnal Agrifoodtech Vol. 1 No. 1 (2022): Juni: Jurnal Agrifoodtech

Publisher : Universitas 17 Agustus 1945 Semarang

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Perbaikan Mutu Gizi Bahan Pangan Melalui Biofortifikasi Kandungan Mineral Improving the Nutritional Quality of Food Ingredients Through Biofortification of Mineral Content

Budi Hartoyo

Jurnal Agrifoodtech Vol. 1 No. 1 (2022): Juni: Jurnal Agrifoodtech

Publisher : Universitas 17 Agustus 1945 Semarang

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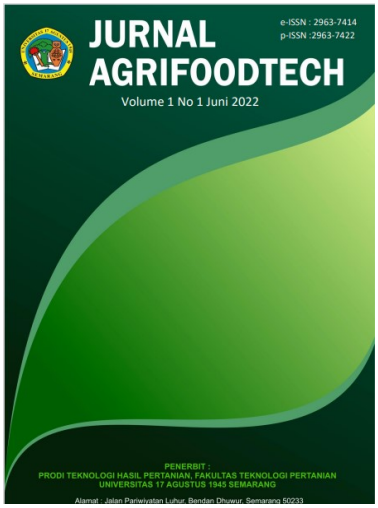
Vol. 1 No. 1 (2022): Juni: Jurnal Agrifoodtech



Journal of Agrifoodtech e-ISSN: 2963-7414, p-ISSN: 2963-7422 is a journal published 2 (two) times a year in **June and December** by the Faculty of Agricultural Technology, University of 17 August 1945, Semarang is a scientific periodical which is a publication for academics, researchers, and practitioners in the field of Food Technology and Agricultural Products which contains articles raised from research results in the field of Food Technology.

Journal of Agrifoodtech is expected to be a forum for conveying scientific discoveries or innovations that focus on food science and technology research to support sustainable agro-industry, food technology and agricultural products, and food microbiology. Journal of Agrifoodtech is a peer-reviewed and open-access journal focusing on the Food Technology field.

DOI: https://doi.org/10.56444/agrifoodtech.v1i1

PUBLISHED: 2022-10-18

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Vol. 1, No. 1, Juni 2022, Hal 21-35
eISSN: 2963-7414, pISSN: 2963-7422

Analisis Risiko Kerja Menggunakan *Job Safety Analysis* (JSA) Dengan Pendekatan *Hazard Identification, Risk Assessment And Risk Control* (Hirarc) di PT Indo Java Rubber Planting Co.

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ABSTRAK

PT Indo Java Rubber Planting Co. merupakan salah satu perusahaan yang menghasilkan produk karet SIR3L dan SIR 10 yang memiliki pangsa pasar besar di Indonesia. Akan tetapi dalam melakukan proses produksinya, PT Indo Java Rubber Planting Co. perlu menyadari pentingnya memperhatikan keselamatan para pekerjanya. Tujuan penelitian ini adalah untuk mengidentifikasi risiko yang ada di area sortasi, pengeringan, danpengepresan PT Indo Java Rubber Planting Co., dengan menggunakan *tools Job Safety Analysis* (JSA) dan *Hazard Identification, Risk Assessment, and Risk Control* (HIRAC). Jenis teknik pengumpulan data yang digunakan adalah Studi Lapangan dengan melakukan pendaataan list risiko yang dapat timbul menggunakanJSA dan pengisian kuesioner severity dan likelihood di tiap list risiko oleh pekerja di area sortasi, pengeringan, dan pengepresan. Selain itu, pengambilan data juga dilakukan dengan melakukan wawancara.. Hasil yang diperoleh adalah sebagian besar risiko ada pada kategori low sebesar 44%, diikuti kategori medium sebesar37%, kategori high sebesar 19%, dan kategori extreme yang tidak ada atau 0%. Pengendalian risiko yang dapat dilakukan adalah dengan memberikan warna atau cat penanda, menggunakan sarung tangan, menggunakan sepatu boots karet, mengepel lantai, menggantung pisau, dan memberikan area khusus.

Kata kunci : Keselamatan Kerja , Job Safety Analysis, HIRARC

ABSTRACT

PT Indo Java Rubber Planting Co. is one of the companies that produces SIR 3L and SIR 10 rubber products which have a large market share in Indonesia. However, in carrying out the production process, PT Indo Java Rubber Planting Co. need to realize the importance of paying attention to the safety of their workers. The purpose of this study was to identify risks in the sorting, drying, and pressing areas of PT Indo Java Rubber Planting Co., using Job Safety Analysis (JSA) and Hazard Identification, Risk Assessment, and Risk Control (HIRAC) tools. The type of data collection technique used is Field Study by collecting a list of risks that can arise using JSA and filling out severity and likelihood questionnaires on each risk list by workers in the sorting, drying, and pressing areas. In addition, data collection was also carried out by conducting interviews. The results obtained were that most of the risks were in the low category at 44%, followed by the medium category at 37%, the high category at 19%, and the extreme category which did not exist or 0%. Risk control that can be done is to provide color or paint markers, use gloves, use rubber boots, mop floors, hang knives, and provide special areas.

Keywords : Work safety, Job Safety Analysis, HIRARC

Received April 30, 2022; Revised Mei 2, 2022; Accepted Mei 22, 2022

Jurnal Agrifoodtech,
Vol. 1, No. 1, Juni 2022, Hal 35-48
eISSN: 2963-7414, pISSN: 2963-7422

Pengelolaan Limbah Makanan (*Food Waste*) Berwawasan Lingkungan
Environmentally Friendly Food Waste Management

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ABSTRAK

Fenomena *food waste* di Indonesia mencapai 300 kg sampah makanan per orang setiap tahun, sehingga menempatkan Indonesia pada posisi peringkat kedua di dunia dalam jumlah *food waste* kategori besar. Keadaan tersebut menjadi sangat memprihatinkan, karena akan memicu kontra produktif dimana satu sisi terjadi ketersediaan makanan yang berlebih, sementara di sisi lain masih didapatkan kondisi sebagian masyarakat yang masih kekurangan makanan, sehingga terkesan ada indikasi perilaku yang menyia-nyiakan makanan. Oleh karena itu melalui penelitian ini berdasarkan pendekatan kebijakan yang ada, bagaimana membangun pengelolaan sampah yang baik dan efektif, khususnya sampah makanan dengan cara melakukan perubahan gaya hidup (*life style*) terhadap makanan yang dikonsumsi secara bijak yang ramah lingkungan namun tidak membebani dengan sampah makanan *(food waste)* yang berlebihan sebagai dampak dari perilaku hidup konsumtif masyarakat dengan kebiasaan-kebiasaan yang tidak memberikan daya dukung terhadap penguatan ketahanan pangan dan kelestarian lingkungan yang berkelanjutan. Penelitian ini menggunakan pendekatan yuridis normatif (*normative legal research*), serta dengan mengkaitkan sikap dan perilaku masyarakat terhadap kebiasaan-kebiasaan dalam keseharian. Hasil penelitian menunjukkan adanya kecenderungan inefisiensi pada pola konsumsi dan produksi bahan makanan telah melahirkan timbunan sampah makanan yang mengakibatkan pemborosan sumberdaya dan pencemaran lingkungan.

Kata kunci : *Food waste*, Gaya hidup, Pola konsumsi

ABSTRACT

The phenomenon of food waste in Indonesia reaches 300 kg of food waste per person every year, thus placing Indonesia in the second position in the world in the number of large categories of food waste. This situation becomes very worrying, because it will trigger counter-productivity where on the one hand there is an excess of food availability, while on the other hand there are still conditions for some people who still lack food, so it seems that there are indications of behavior that wastes food. Therefore, through this research based on the existing policy approach, how to build good and effective waste management, especially food waste by making lifestyle changes to food that is consumed wisely that is environmentally friendly but does not burden food waste. excessive food waste as a result of the community's consumptive life behavior with habits that do not provide support for strengthening food security and sustainable environmental sustainability. This study uses a normative legal research approach, as well as by linking people's attitudes and behavior to

Received April 30, 2022; Revised Mei 2, 2022; Accepted Mei 22, 2022

Jurnal Agrifoodtech,
Vol. 1, No. 1, Juni 2022, Hal 12-20
eISSN: 2963-7414, pISSN: 2963-7422

Perbaikan Mutu Gizi Bahan Pangan Melalui Biofortifikasi Kandungan Mineral

Improving the Nutritional Quality of Food Ingredients Through Biofortification of Mineral Content

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ABSTRAK

Kekurangan gizi merupakan permasalahan serius, sekitar 30% penduduk dunia termasuk Indonesia, terutama anak-anak, berisiko menderita kekurangan gizi Zn. Kekurangan gizi Zn juga menjadi salah satu faktor kekerdilan (stunting) yang prevalensinya cukup besar dan merata di Indonesia. Demikian pula masalah anemia karena kekurangan asupan zat gizi mikro terutama zat besi. Beras adalah makanan pokok sebagian besar penduduk di Indonesia. Sebagai pangan utama, beras diketahui memiliki nilai gizi mikro yang tidak memadai sehingga berpotensi menimbulkan kekurangan gizi bagi konsumen. Biofortifikasi merupakan salah satu inovasi dalam meningkatkan mutu gizi beras. Keuntungan biofortifikasi antara lain : (1) dapat dikembangkan pada bahan makanan pokok, (2) lebih murah dan menguntungkan dari aspek budidaya karena benih yang sudah melalui proses fortifikasi akan terikut pada generasi selanjutnya, (3) bermanfaat bagi masyarakat konsumen rawan gizi. Kandungan mineral penting seperti Fe (besi) dan Zn (seng) pada beras dapat ditingkatkan melalui biofortifikasi menjadi beras kaya Fe atau Zn. Beras kaya gizi mineral hasil biofortifikasi dapat dimanfaatkan dan dikembangkan Pemerintah guna menanggulangi masalah gizi pada masyarakat, terutama dari golongan ekonomi lemah.

Kata kunci : Pangan, biofortifikasi, mutu gizi, mineral

ABSTRACT

Malnutrition is a serious problem, around 30% of the world's population, including Indonesia, especially children, are at risk of suffering from Zn malnutrition. Zn deficiency is also one of the factors of stunting whose prevalence is quite large and evenly distributed in Indonesia. Similarly, the problem of anemia due to lack of intake of micronutrients, especially iron (Fe). Rice is the staple food of most of the population in Indonesia. As the main food, rice is known to have inadequate micronutrient values that have the potential to cause nutritional deficiencies for consumers. Biofortification is one of the innovations in improving the nutritional quality of rice. The advantages of biofortification include: (1) it can be developed on staple foods, (2) it is cheaper and more profitable from the cultivation aspect because seeds that have gone through the fortification process will be included in the next generation, (3) beneficial for nutritionally vulnerable consumer communities. The content of important minerals such as Fe (iron) and Zn (zinc) in rice can be increased through biofortification into Fe or Zn-rich rice. Rice rich in mineral nutrients as a result of biofortification can be utilized and developed by the Government to overcome nutritional problems in the community, especially those from the poor society.

Keyword : Food, biofortification, nutritional quality, minerals

Received April 30, 2022; Revised Mei 2, 2022; Accepted Mei 22, 2022

Jurnal Agrifoodtech,
Vol. 1, No. 1, Juni 2022, Hal 35-48
eISSN: 2963-7414, pISSN: 2963-7422

Substitusi Pati Ganyong (*Canna edulish* Kerr.) dalam Pembuatan Biskuit Bangket Jahe *Substitution Of Canna Starch (Canna edulis* Kerr.*) In Ginger Bangket Biscuit Processing*

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ABSTRAK

Umbi ganyong (*Canna edulis.* Kerr) belum dimanfaatkan secara optimal. Ganyong dapat dikembangkan menjadi produk pati. Produk pati ganyong dapat digunakan untuk membuat makanan, misalnya roti, kue, mie, sohun, jenang, dodol, dan lain-lain. Selain itu, pati ganyong juga dapat digunakan sebagai bahan tambahan atau substitusi tepung terigu pada olahan makanan. Tujuan penelitian ini adalah untuk mengetahui pengaruh penggunaan pati ganyong sebagai bahan pensubstitusi pati sagu terhadap karakteristik kimia dan organoleptik bangket jahe. Rancangan percobaan yang digunakan adalah Rancangan Acak Lengkap (RAL) dengan 4 perlakuan yaitu (G1) substitusi pati ganyong 0%, (G2) substitusi pati ganyong 50%, (G3) substitusi pati ganyong 75% dan (G4) substitusi pati ganyong 100% dengan ulangan tiga kali. Data hasil penelitian dianalisis menggunakan ANOVA pada tingkat α = 0,05. Kandungan karbohidrat pada penelitian ini adalah 83,75%-89,28%. kadar air 1,48%-2,99%, kadar abu 0,50%-1,17%, kadar protein 0,87%-1,12%, kadar serat 0,37%-0,90%, kadar lemak 11,65%-8,24%. Hasil uji organoleptik tertinggi biskuit bangket jahe yang di substitusi pati ganyong untuk rasa pada perlakuan substitusi 75% (G3) dengan nilai rata-rata sebesar 5,29 (agak suka), untuk aroma pada perlakuan substitusi 50% (G2) sebesar 5,21 (agak suka), untuk warna pada perlakuan substitusi 75%% (G3) sebesar 5,31 (agak suka), untuk tekstur pada perlakuan substitusi 75% (G3) sebesar 5,15 (agak suka). Hasil uji Anova pada semua perlakuan menunjukkan bahwa substitusi pati ganyong pada pati sagu dalam pembuatan biskuit bangket tidak berbeda nyata.

Kata kuci : Pati ganyong, pati sagu, biskuit bangket jahe.

ABSTRACT

Cannas tuber (*Canna edulis.Kerr*) which has not been used optimally. Cannas can be processed into starch. Starch products can be used for the food industry, for example bread (cakes), baby food, jenang (dodol), etc. In addition, cannas starch can also be used as a substitute for wheat flour in the manufacture of food. The purpose of this study is to determine the effect of the use of cannas starch as a substitute sago flour to the chemical and organoleptic characteristics *ginger bangket biscuit*. The experimental design used was Complete Randomized Design (CRD) with 4 treatments, namely (G1) 0% substitution of canna starch, (G2) 50% substitution of canna starch, (G3) 75% substitution of canna starch and (G4) 100% substitution of canna starch with repetition three times. The research data were analyzed using ANOVA at the level of α = 0.05. The carbohydrate content in this study was 83.75% -89.28%. water content 1.48% -2.99%, ash content 0.50% -1.17%, protein content 0.87% -1.12%, fiber content 0.37% -0.90%, fat content 11.65% -8.24%. The highest organoleptic test results of ginger biscuits substituted for ganyong starch for taste in the 75% substitution treatment (G3) with an average value of 5.29 (somewhat like), for aroma in treatment 50% substitution (G2) is 5.21 (somewhat like), for the color in the substitution treatment of 75 %% (G3) is 5.31 (slightly like), for the texture of the substitution treatment of 75% (G3) is 5.15 (rather like). The Anova test results in all treatments showed that the substitution of canna starch to sago starch in ginger bangket biscuits processing was not significantly different.

Received April 30, 2022; Revised Mei 2, 2022; Accepted Mei 22, 2022