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LEMBAR HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW KARYA ILMIAH : PROSIDING *

| Judul Karya Ilmiah (Artikel) Jumlah Penulis | : | Ultrasound-assisted extraction optimization of phenolic compounds from Psidium guajava L. using artificial neural network-genetic algorithm 4 Orang (Annisa' Amalia, Suryono Suryono , Jatmiko Endro Suseno Ratna Kurniawati) | | | | | |
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Prof. Dr. Wahyu Setia Budi, M.S. NIP. 195806151985031002 Bidang ilmu/Unit kerja : Fisika FSM UNDIP

Semarang, 15 Januari 2020

Reviewer 2

Prof. Dr. Heri Sutanto, S.Si., M.Si. NIP. 197502151998021001 Bidang ilmu/Unit kerja : Fisika FSM UNDIP

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HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW KARYA ILMIAH : PROSIDING *

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Status Pengusul Identitas Makalah

- : Ultrasound-assisted extraction optimization of phenolic compounds from Psidium guajava L. using artificial neural network-genetic algorithm 4 Orang (Annisa' Amalia, Suryono Suryono, Jatmiko Endro Suseno, Ratna Kurniawati)
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- c. Kecukupan dan kemutahiran data/informasi dan metodologi, bila cara optimasi disebutkan dan data lebih banyak serta data hubungan f, T dan t dengan kadar compound phenolic ditampilkan akan lebih baik, 3 dari 17 pustaka lebih dari 10 tahun

d. Kelengkapan unsur dan kualitas terbitan journal cukup baik.

Semarang, 14 Oktober 2019

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- Ultrasound-assisted extraction optimization of phenolic compounds from Psidium guajava L. using artificial neural network-genetic algorithm 4 Orang (Annisa` Amalia, Suryono Suryono, Jatmiko Endro Suseno, Ratna Kurniawati)
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Association of MTHFR polymorphism and periodontitis' severity in Indonesian males

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Abstract. Periodontitis is an oral disease with a complex etiology and pathogenesis, but with a suspected contribution by genetic factors. This study aimed to assess the association of polymorphism in MTHFR (methylene tetrahydrofolate reductase, C677T) gene and the severity of periodontitis in Indonesian males. Severity of periodontitis was classified as mild, moderate or severe for 100 consenting, 25 to 60 years old male Indonesians. Using PCR amplification for DNA extracted from blood serum samples, the variation at the SNP polymorphism of the MTHFR (C677T) gene was evaluated by using RFLP, cutting by the restriction enzyme Hinf I and subjecting the fragments to electrophoresis on agarose gel. Chi-square testing was mainly used for statistical assessment of the results. The CC genotype (wild type) of the tested polymorphism was the most common variant (78%) and TT (mutant) genotype relatively rare (2%), so that C-allele appeared in 88% of the cases and T-allele in 12% of the cases. The results suggest that there is no significant association between MTHFR C677T polymorphism and the severity of periodontitis in the tested Indonesian males.

Keywords: periodontitis, MTHFR, polymorphism

1. Introduction

Periodontal disease is one of the most common and widely spread human diseases. Periodontal disease has been associated with chronic systemic disorders [1], such as diabetes mellitus [2], osteoporosis [3], cardiovascular disease [4], and stroke [5]. As a result, men and women aged 25-74 years with periodontitis appear to have an increased risk of death from systemic disease [4]. Almost all adults have suffered from gingivitis, periodontitis, or both [6].

A study of Albander and Rams (2002) suggested that Asian populations have highest prevalence rates of periodontal disease cases in the world [7]. The results of a national survey (SKRT 2004) suggest that 39% of Indonesian population is suffering from dental and oral disease [6].

Periodontitis is a disease with unknown exact etiology, but the etiology is believed to be multifactorial. In addition to bacterial pathogens and other environmental factors (poor habits,

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Lipid production from tapioca wastewater by culture of Scenedesmus sp. with simultaneous BOD, COD and nitrogen removal

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Abstract. The use of microalgae to produce biodiesel or possibly remove nutrients from industrial wastewater has gained important attention during recent years due to their photosynthetic rate and its versatile nature to grow in various wastewater systems. In this study, a microalgae, Scenedesmus sp., was cultured to enhance the lipid production and nutrients removal from tapioca wastewater sample. To assess lipid production, Scenedesmus sp. was cultured in different concentration of tapioca wastewater sample (from 0 to 100 %), and nutrient removal including BOD, COD, NH4, NO2, NO3 level by Scenedesmus sp. was assessed in 100% of tapioca wastewater culture. After 8 days of culture, it was found out that 50% of tapioca wastewater sample resulted in highest concentration of lipid content than that of the other concentrations. The level of environment indicator as nutrient removal such as BOD, COD, NH₄, NO₂, NO₃ were also decreased up to 74%, 72%, 95%, 91%, and 91%, respectively. The pH condition changed from initial condition acidic (pH: 4) to neutral or basic condition (pH: 7-8) as recommended in wastewater treatment system. This research provided a novel approach and achieved efficient simultaneous lipid production and nutrients removal from tapioca wastewater sample by Scenedesmus's culture system.

Keyword: Scenedesmus sp., tapioca wastewater, lipid production

1. Introduction

The energy crisis is one of the most important problems faced by all people over the world in the 21st century. The highest consumption of fossil fuels has result in greenhouse effect and causes global climate change [1,2]. One of a type of renewable energy is microalgae biomass-based biofuel, which is considered as one of the most potent substitutes for fossil fuel [2]. However, to increase the production of microalgae biomass, several strategies should be developed, such as modification of culture medium and environmental factors. Hence, one of promising strategies is using wastewater sample as

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Ion wind generation and its application to drying of wild **Ginger slices (***Curcuma Xanthorhiza***)**

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Abstract. Temulawak or wild ginger is a herbal medicinal derived fromIndonesia original. Wild ginger contains include anactive compound ascurcuminoid and antioxidant oleoresin components having a special quality to take care of health from various diseases. Drying is the important process to produce wild ginger (Curcuma xanthorrhiza) simplicia as raw material herbal medicine. In this study, has been dried of wild ginger using ion wind which yielded from corona discharge utilizing pin-multi ring concentred electrodes. Corona discharge was generated by using the fixed DC high voltage of 4,3 kV and drying was done at the distance between the fixed electrodes of 4 mm. Shaped of the five temulawak slices is a circle with a thickness of 2 mm and the diameter of 10 mm - 30 mm with 5 mm diameter interval. The sliced temulawak is placed just below the concentric multi-ring electrode and is 2 mm in distance. The wild ginger slices were dried with time varied 5-65 minutes with time interval 5 minutes. The researched result of drying of wild ginger slicesobtained drying rate and shrinkage is inversely proportional to drying time.

Keywords: Ion wind, corona discharge, wild ginger, drying rate, shrinkage.

1. Introduction

An ionic wind or also called an electrohydrodynamics (EHD) flow produced by a corona discharge is a stream coming from an ionized air generated by a strong electric field. The research that supports the existence of ion wind is done by several researchers, among others: research on the existence of ion wind, maximum ion wind flow angle and ionic wind sweep [1] which is the result of analysis of electrohydrodynamic phenomena on the surface of silicone oil using corona discharge positive with pin-plate electrode. And a study of the characteristics of thevelocity of an ionic wind yielded from corona discharges using the electrode configuration of apin-multi ring concentric [2]. The results of the research showed that here was an increase in the velocity of the ionic wind yield from the corona discharge utilizing pin-multi ring concentred electrode rather than using pin-ring electrode.

In this study, ion wind was applied to dry the simplicia of Temulawak or wild ginger (Curcuma xanthorhiza). Temulawak is a medicinal plant derived from Indonesia. Temulawak contains anactive compound of acurcuminoid and some essential oils components having aspecial quality to take care of health from various disease. [3]. Curcuminoid having special quality as anantioxidant [4]. The ginger rhizome is used by the medical industry in fresh form and/or in the form of simplicity. Dry storage of simplicity is needed to overcome constraint power supply during harvest season.



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with paper entitled as follows: System on Chip (SOC) WiFi Microcontroller for Multistation Water Level Measurement Using Ultrasonics Sensor



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