

ABSTRAK

Yohana Magda Sari Simbolon. Analisis Kandungan Gizi Dan Aktivitas Antioksidan Keripik Substitusi Daun Mangrove (*Achantus Ilicifolius L*), Daun Sawi Hijau, Dan Kacang Kedelai. Skripsi. Fakultas Teknik. Universitas Negeri Medan. 2023

Pemanfaatan daun mangrove di Desa Tanjung Rejo sebagai keripik belum berkembang secara maksimal. Penelitian ini bertujuan mengetahui: 1) Pembuatan keripik substitusi daun mangrove, daun sawi, dan kacang kedelai dengan formulasi (15%), (30%), dan (45%); 2) Hasil uji hedonik dan mutu hedonik keripik daun mangrove, daun sawi, dan kacang kedelai berdasarkan warna, aroma, rasa dan tekstur; 3) Formula terpilih keripik mangrove berdasarkan uji hedonik pada panelis; 4) Kandungan gizi keripik mangrove terpilih; 5) Aktivitas antioksidan keripik mangrove terpilih. Tempat penelitian di Laboratorium Gizi Universitas Negeri Medan. Desain penelitian eksperimen dengan metode RAL (Rancangan Acak Lengkap). Formulasi keripik ada 4 perlakuan yaitu F0 (kontrol), F1 (substitusi daun mangrove 15%), F2 (substitusi daun mangrove 30%), F3 (substitusi daun mangrove 45%). Uji organoleptik berupa uji mutu hedonik dan uji hedonik dengan panelis tidak terlatih sebanyak 30 orang. Hasil penelitian dianalisis dengan metode uji *kruskal wallis* dengan uji lanjutan *Mann-whitney*. Penentuan formula terbaik dipilih berdasarkan uji hedonik dan uji mutu hedonic.

Berdasarkan hasil penelitian menunjukkan bahwa substitusi daun mangrove berdasarkan uji hedonik warna, rasa, aroma, tekstur yang paling disukai adalah substitusi daun mangrove 30%, daun sawi hijau 20 gram, dan kacang kedelai 30 gram (kode sampel F2). Hasil mutu hedonik formula yang paling disukai yaitu hijau muda, agak berasa daun mangrove dan kacang kedelai, beraroma daun mangrove dan kacang kedelai, renyah. Formula terbaik yang diminati panelis adalah formula substitusi daun mangrove 30 persen. Kandungan gizi formula substitusi daun mangrove 30 persen adalah protein (13,15%), lemak (26,1%), karbohidrat (37,2%), serat (18,9%), air (2,76%), abu (2,64%) dan telah dinyatakan memenuhi syarat mutu keripik berdasarkan SNI 01-2886-2000. Aktivitas antioksidan pada formula substitusi daun mangrove 30 persen sebesar 139,9583 ppm dengan kategori sedang berdasarkan nilai IC50.

ABSTRACT

Yohana Magda Sari Simbolon. Analysis of Nutritional Content And Antioxidant Activity of Chips Substitution of Mangrove Leaves (*Achantus Ilicifolius* L), Green Mustard Leaves, and Soy Beans. Thesis. Faculty of Engineering. State University of Medan. 2023

Utilization of mangroves in Tanjung Rejo village has not been maximally developed. This study aims to determine: 1) Making chips with substitutions of mangrove leaves, collard green leaves, and soybeans with formulations of (15%), (30%), and (45%). 2) Hedonic test results and hedonic quality of mangrove leaf chips, mustard leaves, and soybeans in color, aroma, taste and texture. 3) Analysis of nutritional content of best chips formula. 4) Analysis antioxidant activity of best chips formula. This experimental research uses the CRD (Completely Randomized Design) method. There are 4 treatments of chips formulation, namely F0 (control), F1 (15% mangrove leaf substitution), F2 (30% mangrove leaf substitution), F3 (45% mangrove leaf substitution). The research location was conducted at the Organoleptic Laboratory of Medan State University. Organoleptic tests in the form of hedonic quality tests and hedonic tests with 30 untrained panelists. The results of the study were analyzed using the Kruskal Wallis test method with the Mann-Whitney follow-up test. Determination of the best formula was based on hedonic test and hedonic quality test.

Based on the results showed that the substitution of mangrove leaves based on hedonic tests of color, taste, aroma, texture differed significantly with differences in consumer perception ($p < 0.05$). Substitution of mangrove leaves based on hedonic quality test of color, taste, aroma is significantly different from the differences in consumer perception ($p < 0.05$). Hedonic quality of texture is not significantly different from differences in consumer perception ($p > 0.05$). The best formula that consumers are interested in is the 30 percent mangrove leaf substitution formula. The nutritional content of 30 percent mangrove leaf substitution formula is protein (13.15%), fat (26.1%), carbohydrate (37.2%), fiber (18.9%), water (2.76%), ash (2.64%) and has been declared to meet the quality requirements of chips based on SNI 01-2886-2000. Antioxidant activity in the 30 percent mangrove leaf substitution formula amounted to 139.9583 ppm with a moderate category based on the IC50 value.