

Intisari

Pemanfaatan komoditas pangan sumber karbohidrat dan sumber bahan pangan lokal ubi kayu dan kacang hijau dalam bentuk tepung komposit dimaksudkan untuk bahan substitusi tepung terigu dalam pembuatan pasta makaroni. Makaroni merupakan salah satu makanan olahan sumber karbohidrat jenis produk pangan ekstruksi. Penggunaan tepung komposit dan penambahan *Carboxymethyl Cellulose* dimaksudkan untuk meningkatkan atribut mutu pada pasta makaroni. Penelitian ini bertujuan untuk memperoleh formulasi terbaik substitusi tepung komposit growol-kecambah kacang hijau dan penambahan *Carboxymethyl Cellulose* pada makaroni terhadap sifat fisik, kimia dan tingkat kesukaan.

Penelitian ini dilakukan dengan menggunakan tepung komposit growol-kecambah kacang hijau (0%, 50%, 100%) dan penambahan *Carboxymethyl Cellulose* (0%, 0,25%, 0,50%, 0,75%) untuk menghasilkan produk makaroni. Pembuatan makaroni melalui tahap pencampuran adonan, pencetakan, pengukusan dengan suhu $\pm 80^{\circ}\text{C}$ selama 15 menit, pengeringan 60°C selama ± 8 jam, pendinginan, dan pengemasan. Rancangan percobaan yang digunakan dalam penelitian ini adalah Rancangan Acak Lengkap (RAL) faktorial. Percobaan diulang sebanyak dua kali. Setiap data yang diperoleh dihitung dengan metode statistik menggunakan analisa varian (ANOVA) pada tingkat kepercayaan 95% dan apabila terdapat beda nyata masing-masing perlakuan dilanjutkan dengan uji *Duncan Multiple Range Test* (DMRT).

Hasil penelitian menunjukkan bahwa tepung komposit berpengaruh terhadap sifat fisik, kimia dan tingkat kesukaan makaroni. Penggunaan tepung komposit dan penambahan *Carboxymethyl Cellulose* berpengaruh terhadap nilai tekstur dan warna makaroni. Formulasi makaroni terbaik berdasarkan uji kesukaan yaitu jenis tepung komposit dengan konsentrasi tepung terigu 50%, tepung komposit 50% dan dengan penambahan *Carboxymethyl Cellulose* 0,75% memiliki kandungan kadar air 9,11%; abu 2,02%; protein 10,66%; lemak 0,02%; dan karbohidrat 78,19%.

Kata Kunci: Tepung komposit, *Carboxymethyl Cellulose*, makaroni.

THE EFFECT OF GROWOL-MUNGBEAN SPROUTS COMPOSITE FLOURS SUBSTITUTION AND CARBOXYMETHYL CELLULOSE ADDITION ON THE PHYSICAL, CHEMICAL PROPERTIES AND PREFERENCE LEVEL OF MACARONI

ABSTRACT

The utilization of carbohydrate food sources commodities and local food sources of cassava and mungbeans in the form of composite flour is intended for substitution of wheat flour in macaroni paste production was intended to substitute the wheat flour in macaroni pasta production. Pasta is one of the processed carbohydrate food sources in types of extraneous food products. The use of composite flour and the addition of *Carboxymethyl Cellulose* is intended to improve the quality attributes of macaroni pasta. This study aims to obtain the best formula of composite flour substitution growol-mungbean sprouts and the addition of *Carboxymethyl Cellulose* to pasta on physical, chemical and preference characteristic of pasta.

This study was conducted using growol-mungbean sprout composite flour (0%, 50%, 100%) and the addition of *Carboxymethyl Cellulose* (0%, 0.25%, 0.50%, 0.75%) to produce macaroni products. Making macaroni through dough mixing, printing, steaming with a temperature of $\pm 80^{\circ}\text{C}$ for 15 minutes, drying 60°C for ± 8 hours, cooling, and packaging. The experimental design used in this study was factorial Completely Randomized Design (RAL). The experiment was repeated twice. Every data obtained is calculated by statistical methods using variance analysis (ANOVA) at a confidence level of 95% and if there are significant differences each treatment is followed by the Duncan Multiple Range Test (DMRT) test.

The results showed that composite flour had an effect on the physical, chemical and sensory analysis levels of macaroni pasta. The use of composite flour and the addition of *Carboxymethyl Cellulose* affect the texture value and the color of pasta. The best paste formula based on sensory analysis test is composite flour type that has concentration of 50% flour, 50% composite flour and with the addition of 0,75% of CMC has 9,11% moisture content; 2,02% ash; 10,66% protein; 0,02% fat; and 78,19% carbohydrates.

Keywords: Composite flour, *Carboxymethyl Cellulose*, Macaroni.