

**KARAKTERISTIK : PATI, PROTEIN, DAN MINYAK BIJI
DURIAN (*Durio zhybethinus* Murr.)**

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ABSTRAK

Durian merupakan buah musiman yang cukup populer di Indonesia. Durian menghasilkan limbah seperti biji yang belum dimanfaatkan secara maksimal. Penelitian ini bertujuan untuk mengetahui karakteristik fisikokimia dari tepung, pati, protein, dan minyak biji durian. Penelitian dilakukan dalam dua tahap yaitu tahap ekstraksi dan karakterisasi. Metode yang digunakan pada penelitian ini adalah deskriptif kuantitatif. Hasil penelitian menunjukkan komposisi proksimat biji durian yang dihasilkan adalah kadar air (8,33%), kadar abu (3,17%), protein (5,70%), lemak (1,00%), karbohidrat (81,80%), dan serat pangan (14,68%). Karakteristik tepung biji durian dengan rendemen 28,60%, kadar air (9,33%), kadar abu (2,67%), kadar protein (4,91%), nilai °Hue (101,03), derajat putih (87,59%) dan residu sulfit (58,05 ppm) memenuhi syarat peraturan kemenkes RI (500 ppm). Karakteristik pati dengan nilai rendemen 9,42%, bentuk granula bulat dan tak beraturan pada perbesaran 500x dan 5000x, kadar amilosa (18,17%), kadar amilopektin (81,83%), daya serap air (2,11 ml/g), daya serap minyak (2,91 ml/g), profil gelatinisasi pati biji durian digolongkan tipe A dengan viskositas puncak 3018 cP, uji sifat termal pati dengan suhu awal gelatinisasi (65,17°C), dan suhu awal degradasi (297,55°C), nilai °Hue (267,40), dan derajat putih (89,85%). Karakteristik konsentrat protein dengan rendemen 0,03%, protein (72,30%), dan mengandung 6 senyawa asam amino yaitu tirosin (2,27%), valine (2,12%), isoleusin/leusin (52,86%), fenilalanin (32,98%), threonin (6,07%), dan triptofan (3,70%). Karakteristik minyak dengan rendemen 0,08% yang mengandung senyawa asam lemak tak jenuh yaitu metil oleat (57,75%), dan senyawa asam lemak jenuh yaitu metil palmitat (30,69%), metil pentadekenoat (2,82%), metil 18-metilikosanat (1,73%), dan metil pentadekanoat (0,34%).

Kata Kunci : biji durian, pati, protein, minyak, karakteristik

CHARACTERISTICS : STARCH, PROTEIN, AND OIL OF DURIAN SEEDS (*Durio zhybethinus* Murr.)

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ABSTRACT

Durian is a seasonal fruit that is quite popular in Indonesia. Durian produces waste such as seeds that have not been maximally utilized. This study aims to determine the physicochemical characteristics of flour, starch, protein, and durian seed oil. The research was conducted in two stages, namely the extraction and characterization stages. The method used in this research is descriptive quantitative. The results showed that the proximate composition of durian seeds produced was moisture content (8.33%), ash content (3.17%), protein (5.70%), fat (1.00%), carbohydrates (81.80%), and dietary fiber (14.68%). The characteristics of durian seed flour with a yield of 28.60%, moisture content (9.33%), ash content (2.67%), protein content (4.91%), °Hue value (101.03), degree of whiteness (87.59%) and sulfite residue (58.05 ppm) meet the requirements of the Indonesian Ministry of Health regulations (500 ppm). Characteristics of starch with a yield value of 9.42%, round and irregular granule shape at 500x and 5000x magnification, amylose content (18.17%), amylopectin content (81.83%), water absorption (2.11 ml/g), oil absorption (2.91 ml/g), gelatinization profile of durian seed starch classified as type A with peak viscosity of 3018 cP, starch thermal properties test with initial gelatinization temperature (65.17 °C), and initial degradation temperature (297.55 °C), °Hue value (267.40), and degree of whiteness (89.85%). Characteristics of protein concentrate with a yield of 0.03%, protein (72.30%), and containing 6 amino acid compounds namely tyrosine (2.27%), valine (2.12%), isoleucine/leucine (52.86%), phenylalanine (32.98%), threonine (6.07%), and tryptophan (3.70%). Oil characteristics with a yield of 0.08% containing unsaturated fatty acid compounds namely methyl oleate (57.75%), and saturated fatty acid compounds namely methyl palmitate (30.69%), methyl pentadecenoate (2.82%), methyl 18-methylosanate (1.73%), and methyl pentadecanoate (0.34%).

Keywords: durian seed, starch, protein, oil, characteristics