

**KARAKTERISASI FISIKO-KIMIA BIJI DAN PATI KACANG HIJAU
(*Phaseolus radiatus* L) ASAL KABUPATEN KEBUMEN JAWA TENGAH
SERTA APLIKASINYA PADA PRODUK SOHUN**

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Intisari

Kabupaten Kebumen merupakan salah satu sentra produksi kacang hijau di Jawa Tengah. Perbedaan kondisi lingkungan tempat tumbuh dan faktor genetik kacang hijau akan mempengaruhi sifat-sifatnya. Secara umum pati dapat diaplikasikan pada berbagai macam bahan pangan, salah satunya adalah sohun. Penelitian ini mempelajari karakteristik sifat fisik dan kimia pati kacang hijau asal Kabupaten Kebumen Jawa Tengah serta karakteristik fisik sohun yang dihasilkan.

Penelitian terdiri dari karakterisasi biji kacang hijau, ekstraksi pati, karakterisasi pati kacang hijau, pembuatan sohun dan analisa sifat karakteristik sohun meliputi kadar air, elongasi, tensile, tekstur dan kuat patah sohun kering kemudian dibandingkan dengan sampel komersial.

Hasil analisis fisik menunjukkan bahwa biji kacang hijau dari daerah Kabupaten Kebumen Jawa Tengah memiliki rerata berat 100 biji 3,90 gram, volume 6 ml, densitas 0,65 gram/ml dan spherisitas 1,24. Analisis kimia menunjukkan biji kacang hijau memiliki kadar air 13,21%, protein 21,40%, lemak 0,80%, abu 3,65%, karbohidrat (*by different*) 60,93% dan pati 54,74%. Karakterisasi fisik pati kacang hijau meliputi rendemen 28,61%, spherisitas 1,59, warna L 91,99, a -1,64 dan b 4,51. Karakterisasi kimia pati kacang hijau meliputi kadar air 15,97%, kadar abu 0,10%, kadar lemak 0,01%, kadar pati 81,15% dan kadar amilosa 49,29%. Karakterisasi fisikokimia pati kacang hijau meliputi *water holding capacity* (WHC) 152,46%, *swelling power* 15,27%. Morfologi granula pati meliputi lebar granula 9,656-18,37 μ m dan panjang granula 11,10-25,35 μ m. Sifat amilograf yaitu suhu gelatinisasi 78,5 C, viskositas optimum (akhir pemanasan) pada suhu 92,5 C sebesar 1780 cP, viskositas akhir pendinginan pada suhu 50 °C sebesar 3305 cP dan viskositas balik (setback) sebesar 1525cP. Sedangkan pada sohun memiliki karakteristik meliputi kadar air 9,75%, elongasi 27,33%, tensile strength 0,2099N, tekstur 3,7551N dan kuat patah sohun kering 3,6936N.

Kata kunci : kacang hijau, pati kacang hijau, sifat fisik, sifat kimia, sifat fisikokimia, sohun kacang hijau, kabupaten kebumen jawa tengah

CHARACTERIZATION PHYSICO-CHEMICAL OF SEED AND STARCH MUNG BEAN (*Phaseolus radiatus* L) FROM KEBUMEN REGENCY CENTRAL JAVA AND THEIR APPLICATION IN STARCH NOODLE

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ABSTRACT

Kebumen regency is one of mung bean production centers in Central Java. The difference in the condition of the environment in which to grow and the green bean genetic factors will affect its properties. In general, the starch can be applied to a wide variety of foodstuffs, one of which is a starch noodle. This research studied the physical properties and chemical characteristics of mung bean starch origin Kebumen regency Central Java as well as the physical characteristics of the resulting starch noodle.

The study consists of characterization of mung beans, extraction of starch, starch characterization mung beans, cooked starch noodle and analysis starch noodle characteristic properties comprise moisture content, elongation, tensile, strong texture and a dry vermicelli fracture then compared with commercial samples.

Physical analysis results indicate that mung bean seeds was produced on Kebumen regency, Central Java has an average weight of 100 seeds 3,90 grams, 6 ml volume, density of 0,65 g / ml and spherisitas 1,24 . Chemical analysis showed the mung beans seeds have a moisture content of 13,21%, 21,40% protein, 0,80% fat, 3,65% ash, carbohydrate (by different) 60,93% and 54,74% starch. Physical characterization of mung bean starch includes yield 28,61%, color L 91,99; a -1,64 and b 4,61. Mung bean starch chemical characterization includes moisture content of 15,97%, 0,01% fat, 0,10% ash, starch 81,15% and amylose 49,29%. Mung bean starch physicochemical characterization includes water holding capacity 152,46% and swelling power 15,27%. Morphology of starch granule a wide granule 9,656-18,37 μ m and granular length 11,10-25,35 μ m. Amilografi characteristics includes gelatinization time 14 minutes, gelatinization temperature of 78,5 $^{\circ}$ C, a granule broke 25 minutes, the viscosity at a temperature of 94.2 $^{\circ}$ C 1780cP, viscosity at 50 C 3305 cP and setback viscosity of 1525 cP. Starch noodle characteristic properties comprise moisture content of 9,75%, elongation 27,33% , tensile 0,2099 N, strong texture 3,7551 N and a dry vermicelli fracture 3,6936 N.

Keywords : *green beans , green bean starch , physical properties , chemical properties , physicochemical properties, green bean starch noodle, kebumen regency central java*