

## INTISARI

Kabau (*Archidendron bubalinum*), jengkol (*Pithecellobium jiringa*), petai (*Parkia speciosa*) dan lamtoro (*Leucaena leucocephala*) merupakan komoditas polong-polongan *indigenous* Indonesia yang mempunyai kandungan gizi yang tinggi sehingga apabila dilakukan pengolahan menjadi produk baru akan meningkatkan nilai dari komoditas tersebut, salah satunya dapat diolah menjadi produk tepung. Tepung merupakan bahan pangan yang mempunyai sifat mudah menyerap air selama penyimpanan sehingga akan menyebabkan perubahan sifat pada tepung. Penelitian ini bertujuan untuk menduga umur simpan tepung kabau, jengkol, petai dan lamtoro berdasarkan pendekatan kadar air kritis dengan mempelajari pola penyerapan kurva ISL, serta mengetahui karakteristik fisika dan kimia dari tepung kabau, tepung jengkol, tepung petai dan tepung lamtoro.

Penelitian ini dilakukan proses pendahuluan rebus pada sampel sebelum dilakukan pengolahan menjadi tepung. Tepung kabau, tepung jengkol, tepung lamtoro dan tepung petai selanjutnya dilakukan proses penyimpanan pada kondisi RH yang berbeda untuk mengetahui pola penyerapan air berdasarkan kurva ISL sehingga dapat diprediksi umur simpan dari masing-masing sampel berdasarkan pendekatan kadar air kritis. Tepung kabau, tepung jengkol, tepung lamtoro dan tepung petai juga dilakukan analisis karakteristik fisika dan kimia.

Hasil penelitian menunjukkan bahwa berdasarkan pola penyerapan air pada tepung kabau, tepung jengkol, tepung lamtoro dan tepung petai memiliki pola penyerapan kurva tipe II sehingga dapat dilakukan pendugaan umur simpan sampel berdasarkan persamaan Labuza dengan hasil tepung dengan perlakuan rebus memiliki umur simpan lebih pendek dibandingkan dengan tepung pada bahan segar yaitu tepung kabau segar selama 12 bulan, tepung kabau rebus 12 bulan, tepung jengkol segar 16 bulan, tepung jengkol rebus 15 bulan, tepung lamtoro segar 19 bulan, tepung lamtoro rebus 16 bulan, tepung petai segar 17 bulan dan tepung petai rebus 14 bulan. Perubahan fisika dan kimia pada tepung kabau, jengkol, petai dan lamtoro terjadi karena adanya perlakuan pendahuluan serta proses penyimpanan yang menyebabkan terjadinya kenaikan kadar air dan kadar serat, serta menurunnya intensitas kecerahan warna, densitas kamba, persentase lolos ayak dan *total soluble solids*.

**Kata kunci :** Jengkol, Kabau, Karakteristik Fisika Kimia, Lamtoro, Petai, Tepung, Umur Simpan

## ABSTRACT

Flour is a food ingredient that can easily absorb water during storage, so it will cause changes in the properties of flour. Kabau (*Archidendron bubalinum*), jengkol (*Pithecellobium jiringa*), petai (*Parkia speciosa*) and lamtoro (*Leucaena leucocephala*) are legumes native to Indonesia which have high nutritional content so that if they are processed into new products, they will increase the value of these, one of which can be processed into flour products. This study aims to estimate the shelf life of kabau, jengkol, petai and lamtoro flours based on the critical moisture content approach by studying the absorption pattern of the ISL curve, as well as knowing the physical and chemical characteristics of kabau flour, jengkol flour, petai flour and lamtoro flour.

In this study, the sample was pre-boiled before processing into flour. Kabau, jengkol, lamtoro and petai flours were stored at different RH conditions to determine the water absorption pattern based on the ISL curve. The shelf life of each sample could be predicted based on the critical moisture content approach. Kabau flour, jengkol flour, lamtoro flour and petai flour were analyzed for physical and chemical characteristics.

Based on the water content in the samples of kabau flour, jengkol flour, lamtoro flour and petai flour with the boiled treatment and storage process causing physical and chemical changes such as water content, kamba density, colour, coagulation, crude fibre content and soluble solids in the sample. The results showed that based on the water absorption pattern in kabau, jengkol, lamtoro, and petai flours had a type II absorption curve pattern so that an estimation of the shelf life of samples could be made based on the Labuza equation with the result that flour with boiled treatment had a shorter shelf life compared to flour. On fresh ingredients, namely fresh kabau flour for 12 months, boiled kabau flour 12 months, fresh jengkol flour 16 months, boiled jengkol flour 15 months, fresh lamtoro flour 19 months, boiled lamtoro flour 16 months, fresh petai flour 17 months and boiled petai flour 14 months. Physical and chemical changes in kabau, jengkol, petai and lamtoro flours occurred due to the pre-treatment and storage processes that cause an increase in moisture and fiber content, as well as a decrease in the intensity of color brightness, bulk density, percentage of sieve test and total soluble solids.

**Keywords:** Flour, Jengkol, Kabau, Lamtoro, Petai, Physical and chemical characteristics, Shelf life