# RINGKASAN

Temulawak *(Curcuma xanthorrhiza* Roxb*.)* merupakan tumbuhan rimpang yang mengandung berbagai senyawa seperti kurkuminoid, minyak atsiri, pati, protein, lemak, selulosa, dan mineral serta berkhasiat untuk menurunkan kadar kolesterol, anti jamur dan bakteri serta dapat meningkatkan nafsu makan. kekurangan dari temulawak terletak pada aroma dan rasa yang begitu kuat sehingga saat pengaplikasian terhadap produk olahan tidak dapat hilang begitu saja, dan berpengaruh terhadap menurunnya minat masyarakat. Alternatif yang dapat dilakukan untuk menggurangi aroma dan rasa temulawak yaitu dengan melakukan proses mikroenkapsulasi. Salah satu pemanfaatan mikroenkapsulasi temulawak dapat dijadikan sebagai pangan fungsional. *Cookies* temulawak merupakan pangan fungsional yang diharapkan dapat diterima dari aspek rasa dan aroma yang memiliki karakteristik berupa adonan lunak, berkadar lemak tinggi, relatif renyah bila dipatahkan dan penampang potongannya bertekstur padat. Penelitian ini bertujuan untuk mengetahui pengaruh jenis kemasan dan lama penyimpanan terhadap karakteristik fisikokimia dan sensori *cookies* temulawak serta untuk mengetahui lama penyimpanan terbaik dan jenis kemasan yang paling efektif untuk mempertahankan kualitas *cookies* temulawak selama penyimpanan pada suhu ruang.

Penelitian ini menggunakan rancangan acak kelompok (RAK). Faktor yang diteliti meliputi jenis kemasan (*polyethylene*, *polypropylene*, dan *aluminium foil*) dan lama penyimpanan (15, 30, 45, dan 60 hari). Variabel yang diamati berupa fisikokimia (kadar air, total fenol, aktivitas antioksidan DPPH, kurkumin, *lightness (L*), redness (a*),* dan *yellowness (b*))* dan sensori (warna, aroma, rasa, *aftertaste*, tekstur, *overall)*. Hasil data diuji menggunakan ANOVA dilanjut uji DMRT pada taraf 5% apabila berpengaruh nyata, uji friedman dan uji indeks efektivitas De Garmo. Hasil penelitian menunjukkan bahwa perlakuan lama penyimpanan berpengaruh terhadap kadar air, fenol, aktivitas antioksidan DPPH, kurkumin *lightness (L*),* dan *redness (a*),* sedangkan perlakuan jenis kemasan berpengaruh terhadap kadar air. Perlakuan terbaik diperoleh pada *cookies* temulawak penyimpanan 15 hari dengan jenis kemasan *aluminium foil* dengan nilai fisikokimia dan sensori kadar air 3,34%, total fenol 9,09 mg GAE/mL, aktivitas antioksidan DPPH 83,89%inhibisi, kurkumin 3,18 mg/mL, *Lightness (L*)* 69,13, *redness (a*)* 8,20, *yellowness* (b*) 53,35. Pada uji sensori warna 4,30 (cokelat kekuningan), aroma 2,30 (khas temulawak), rasa 3,80 (sedikit manis), *aftertaste* 4,43 (sedikit pahit), tekstur 1,93 (sangat keras), kesukaan secara keseluruhan (*overall)* 2,93 (sedikit suka).

Kata kunci: temulawak, mikroenkapsulasi, *cookies*

## *SUMMARY*

*Temulawak (Curcuma xanthorrhiza Roxb.) is a rhizome plant that contains various compounds such as curcuminoids, essential oils, starch, protein, fat, cellulose, and minerals. It is effective in lowering cholesterol levels, fighting fungi and bacteria, and increasing appetite. The shortcomings of temulawak lie in the fragrance and taste that is so strong that when applying to processed products It cannot just disappear and has an effect on decreasing public interest. An alternative that can be done to reduce the fragrance and flavor of temulawak is to carry out the microencapsulation process. One of the utilizations of temulawak microencapsulation can be used as functional food. Functional foods made from microencapsulated temulawak are expected to be acceptable in terms of taste and aroma. One type of functional food that can be processed is cookies. Temulawak cookies are functional foods that are expected to be acceptable in terms of taste and aroma, with characteristics such as soft dough, high fat content, relative crispness when broken, and a dense texture when cut. This study aims to determine the effect of packaging type and storage duration on the physicochemical and sensory characteristics of temulawak cookies, as well as to determine the optimal storage duration and the most effective packaging type for maintaining the quality of temulawak cookies during storage at room temperature.*

*This study used a randomized group design (RAK). Factors studied included packaging type (polyethylene, polypropylene, and aluminum foil) and storage duration (15, 30, 45, and 60 days). The observed variables were physicochemical (moisture content, total phenolics, DPPH antioxidant activity, curcumin, lightness (L*), redness (a*), and yellowness (b*)) and sensory (color, fragrance, taste, aftertaste, texture, and overall). The data results were tested using ANOVA followed by DMRT testing at a 5% level if there was a significant effect, the friedman test, and the De Garmo effectiveness index test. The results showed that the storage time treatment had an effect on moisture content, phenol, DPPH antioxidant activity, curcumin, lightness (L*), and redness (a*), while the type of packaging treatment had a significant effect on moisture content. The best treatment was obtained at 15 days of storage for temulawak cookies with aluminum foil packaging, with physicochemical and sensory values of moisture content 3.34%, total phenols 9.09 mg GAE/mL, DPPH antioxidant activity 83.89% inhibition, curcumin 1.94 mg/mL, lightness (L*) 69.13, redness (a*) 8.20, and yellowness (b*) 53.35. In the color sensory test, 4.30 (yellowish brown), fragrance 2.30 (typical of temulawak), taste 3.80 (slightly sweet), aftertaste 4.43 (slightly bitter), texture 1.93 (very hard), and overall liking/overall 2.93 (slightly like).*



*Keywords: temulawak, microencapsulated, cookies*