

ABSTRAK

Singgih Tri Saputro. Penelitian dengan judul “Kelenturan, pH, dan Kadar Air Keju Mozzarella dengan Penambahan Ekstrak Kayu Secang (*Caesalpinia sappan* L.) yang Berbeda” dilaksanakan di Laboratorium Teknologi Hasil Ternak, Fakultas Peternakan, Universitas Jenderal Soedirman, Purwokerto pada tanggal 23 April sampai dengan 29 April 2025. Tujuan dari penelitian ini adalah untuk mengetahui persentase terbaik dan pengaruh penambahan ekstrak kayu secang (*Caesalpinia sappan* L.) yang Berbeda terhadap Kelenturan, pH, dan Kadar Air Keju Mozzarella. Materi penelitian yang digunakan yaitu Susu Sapi 19.600 g, Kayu Secang 500g, Asam Sitrat 50g, Aquadest 500g, Garam 50g, dan Rennet Hewani 20 ml. Metode penelitian yang digunakan adalah penelitian eksperimental dengan Rancangan Acak Lengkap (RAL) dengan 5 Perlakuan dan 4 Ulangan. Perlakuan yang diberikan adalah perlakuan kontrol (P0), penambahan ekstrak kayu secang 1% (P1), penambahan ekstrak kayu secang 2% (P2), penambahan ekstrak kayu secang 3% (P3), penambahan ekstrak kayu secang 4% (P4). Data dianalisis menggunakan analisis variansi dan uji lanjut orthogonal polinomial. Hasil analisis menunjukkan penambahan ekstrak kayu secang berpengaruh nyata terhadap Kelenturan (mm) dan pH, sedangkan tidak berpengaruh nyata terhadap kadar air keju mozzarella. Rataan Kelenturan adalah $159,61 \pm 18,5$ (P0), $111,48 \pm 13,58$ (P1), $83,65 \pm 2,75$ (P2), $68,78 \pm 2,1$ (P3), $55,78 \pm 3,29$ (P4), rataa pH adalah $5,3 \pm 0,09$ (P0), $5,35 \pm 0,09$ (P1), $5,41 \pm 0,08$ (P2), $5,52 \pm 0,1$ (P3), $5,6 \pm 0,12$ (P4), dan rataa kadar air $53,26 \pm 4,92$ (P0), $56,04 \pm 2,84$ (P1), $55,48 \pm 6,63$ (P2), $57,25 \pm 3,02$ (P3), $51,63 \pm 7,38$ (P4) Kesimpulannya, penambahan ekstrak kayu secang yang semakin meningkat akan menurunkan kelenturan, meningkatkan pH dan mengubah kadar air keju mozzarella.

Kata Kunci : keju mozzarella, susu sapi, ekstrak kayu secang, kelenturan, pH, kadar air.

ABSTRACT

Singgih Tri Saputro. The research with the title "Flexibility, pH, and Moisture Content of Mozzarella Cheese with Different Additions of Sappan Wood Extract (*Caesalpinia sappan* L.)" was conducted at the Animal Product Technology Laboratory, Faculty of Animal Husbandry, Universitas Jenderal Soedirman, Purwokerto on April 23 to April 29, 2025. The purpose of this study was to determine the best percentage and the effect of the addition of different secang wood extract (*Caesalpinia sappan* L.) on the flexibility, pH, and moisture content of Mozzarella Cheese. The research materials used were Cow's Milk 19,600 g, Secang Wood 500g, Citric Acid 50g, Aquadest 500g, Salt 50g, and Animal Rennet 20 ml. The research method used is experimental research with a completely randomized design (CRD) with 5 treatments and 4 replicates. The treatments given were control treatment (P0), addition of 1% secang wood extract (P1), addition of 2% secang wood extract (P2), addition of 3% secang wood extract (P3), addition of 4% secang wood extract (P4). Data were analyzed using analysis of variance and orthogonal polynomial further test. The results of the analysis showed that the addition of sappan wood extract significantly affected the flexibility (mm) and pH, while it did not significantly affect the moisture content of mozzarella cheese. The average of flexibility was 159.61 ± 18.5 (P0), 111.48 ± 13.58 (P1), 83.65 ± 2.75 (P2), 68.78 ± 2.1 (P3), 55.78 ± 3.29 (P4), mean pH was 5.3 ± 0.09 (P0), 5.35 ± 0.09 (P1), 5.41 ± 0.08 (P2), 5.52 ± 0.1 (P3), 5.6 ± 0.12 (P4), and mean moisture content was $53, 26 \pm 4.92$ (P0), 56.04 ± 2.84 (P1), $55, 48 \pm 6.63$ (P2), 57.25 ± 3.02 (P3), 51.63 ± 7.38 (P4) In conclusion, the increasing addition of sappan wood extract will reduce flexibility, increase pH and change the water content of mozzarella cheese.

Keywords: mozzarella cheese, cow's milk, sappan wood extract, flexibility, pH, moisture content.