

RINGKASAN

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan bagian buah gowok terhadap karakteristik warna $L^*a^*b^*$ dan total padatan terlarut (TPT) pada yoghurt sinbiotik susu sapi. Penelitian ini digunakan bakteri asam laktat (BAL) seperti *Lactobacillus bulgaricus* dan *Streptococcus thermophilus* yang berperan dalam proses fermentasi susu menjadi yoghurt. Gowok dipilih sebagai bahan tambahan karena mengandung antosianin, flavonoid, fenol, dan gula sederhana yang berpotensi mempengaruhi warna serta total padatan terlarut yoghurt. Penelitian dilakukan menggunakan Rancangan Acak Lengkap (RAL) dengan 4 perlakuan dan 5 ulangan, yaitu P0, P1 (0,5%), P2 (0,5%), dan P3 (0,5%). Variabel yang diamati meliputi warna L^* , a^* , b^* , serta total padatan terlarut.

Hasil penelitian menunjukkan bahwa penambahan gowok memberikan pengaruh nyata ($P < 0,05$) terhadap warna yoghurt sinbiotik. Nilai L^* menurun setelah penambahan gowok, yang berarti warna yoghurt menjadi lebih gelap. Nilai L^* tertinggi terdapat pada P0 sebesar 63,77 dan terendah pada P2 sebesar 50,55. Pada parameter a^* , seluruh perlakuan menunjukkan peningkatan warna kemerahan akibat kandungan antosianin pada gowok. Nilai a^* tertinggi diperoleh pada perlakuan P2 sebesar 4,84, sedangkan terendah pada P0 sebesar 0,71. Nilai b^* juga meningkat setelah penambahan gowok, menunjukkan peningkatan warna kekuningan pada yoghurt. Perlakuan P2 menghasilkan nilai b^* tertinggi sebesar 17,01, sedangkan P0 terendah sebesar 7,84. Peningkatan ini dipengaruhi oleh kandungan pigmen dan kemungkinan terjadinya reaksi pencoklatan non-enzimatis seperti reaksi Maillard. Pada parameter total padatan terlarut, penambahan gowok tidak memberikan pengaruh nyata ($P > 0,05$), meskipun secara rata-rata terjadi peningkatan nilai TPT. Nilai TPT tertinggi terdapat pada perlakuan P2 sebesar 6,90 °Brix dan terendah pada P0 sebesar 6,30 °Brix.

Kesimpulan penelitian ini adalah penambahan gowok mempengaruhi warna $L^*a^*b^*$ yoghurt sinbiotik, tetapi tidak berpengaruh nyata terhadap total padatan terlarut. Perlakuan terbaik diperoleh pada penambahan kulit buah gowok (P1) karena menghasilkan tingkat kecerahan yang lebih baik sehingga akan lebih disukai konsumen.

Kata kunci: Bakteri Asam Laktat, Gowok, Total Padatan Terlarut, Warna $L^*a^*b^*$, Yoghurt Sinbiotik.

SUMMARY

This study aims to determine the effect of adding gowok fruit parts on the color characteristics $L^*a^*b^*$ and total soluble solids (TPT) in synbiotic cow's milk yogurt. In this study, lactic acid bacteria (LAB) such as *Lactobacillus bulgaricus* and *Streptococcus thermophilus* were used which play a role in the process of milk fermentation into yogurt. Gowok was chosen as an additional ingredient because it contains anthocyanins, flavonoids, phenols, and simple sugars that have the potential to affect the color and total soluble solids of yogurt. The study was conducted using a Completely Randomized Design (CRD) with 4 treatments and 5 replications, namely P0, P1 (0.5%), P2 (0.5%), and P3 (0.5%). The variables observed included color L^* , a^* , b^* , and total soluble solids.

The results showed that the addition of gowok had a significant effect ($P < 0.05$) on the color of synbiotic yogurt. The L^* value decreased after the addition of gowok, meaning the yogurt color became darker. The highest L^* value was found in P0 at 63.77 and the lowest in P2 at 50.55. In the a^* parameter, all treatments showed an increase in reddish color due to the anthocyanin content in gowok. The highest a^* value was obtained in treatment P2 at 4.84, while the lowest was in P0 at 0.71. The b^* value also increased after the addition of gowok, indicating an increase in the yellowish color of the yogurt. Treatment P2 produced the highest b^* value of 17.01, while P0 produced the lowest at 7.84. This increase was influenced by the pigment content and the possibility of non-enzymatic browning reactions such as the Maillard reaction. In the total soluble solids parameter, the addition of gowok did not have a significant effect ($P > 0.05$), although on average there was an increase in the TPT value. The highest TPT value was found in treatment P2 at 6.90 °Brix and the lowest at P0 at 6.30 °Brix.

The conclusion of this study is that the addition of gowok affects the $L^*a^*b^*$ color of synbiotic yogurt, but does not significantly affect the total dissolved solids. The best treatment was obtained by adding gowok fruit peel (P1) because it produced a better level of brightness so that it would be more preferred by consumers.

Keywords: Gowok, $L^*a^*b^*$ Color, Lactic Acid Bacteria, Synbiotic Yogurt, Total Dissolved Solids.