RINGKASAN

ISMIARTI. Penelitian berjudul Pengaruh Penambahan Madu Dengan Level yang Berbeda Terhadap pH dan Total Bakteri Asam Laktat *Stirred* Yogurt Rendah Lemak. Penelitian dilakukan pada tanggal 26 November - 22 Desember 2015 di Laboratorium Teknologi Hasil Ternak Fakultas Peternakan Universitas Jenderal Soedirman Purwokerto. Tujuan penelitian yaitu untuk mempelajari pengaruh penambahan madu dengan level yang berbeda terhadap pH dan total Bakteri Asam Laktat (BAL) *stirred* yogurt rendah lemak. Materi yang digunakan terdiri atas 15,75 l susu sapi rendah lemak dan 3,75 g *starter* bakteri kering (*Lactobacillus bulgaricus*, *Streptococcus thermophilus*, dan *Lactobacillus acidophilus*). Variabel yang diukur yaitu pH dan total bakteri asam laktat. Metode penelitian yang digunakan yaitu metode eksperimen menggunakan Rancangan Acak Lengkap (RAL) dengan 6 kali ulangan dan 5 perlakuan. Perlakuan terdiri atas : P0 (yogurt tanpa penambahan madu), P1 (yogurt dengan penambahan madu 3%), P2 (yogurt dengan penambahan madu 4,5%), P3 (yogurt dengan penambahan madu 6%) dan P4 (yogurt dengan penambahan madu 7,5%). Data dianalisis berdasarkan analisis variansi dan dilakukan uji lanjut menggunakan uji orthogonal polynomial. Hasil analisis menunjukkan bahwa penambahan madu pada *stirred* yogurt rendah lemak tidak berpengaruh nyata terhadap pH ($P>0,05$), namun berpengaruh nyata terhadap total bakteri asam laktat ($P<0,05$). Rata-rata nilai pH *stirred* yogurt rendah lemak yaitu 3,96. Total bakteri asam laktat *stirred* yogurt rendah lemak tanpa penambahan madu dan penambahan madu 3, 4,5, 6, dan 7,5% berturut-turut yaitu 8,30 ± 0,410 log cfu/ml, 9,98 ± 1,003 log cfu/ml, 9,23 ± 0,928 log cfu/ml, 9,67 ±1,014 log cfu/ml dan 9,11 ± 0,645 log cfu/ml. Kesimpulan penelitian yaitu karakteristik *stirred* yogurt rendah lemak yang disimpan selama tujuh hari pada suhu 6^{O}C, nilai pH tidak dipengaruhi oleh penambahan madu hingga 7,5%, namun mempengaruhi total BAL. Penambahan madu dengan level 3% menghasilkan yogurt terbaik karena mampu menghasilkan total BAL tertinggi.

Kata Kunci: *stirred* yogurt rendah lemak, pH, bakteri asam laktat.

SUMMARY

ISMIARTI. Research entitled Effects of Different Levels of Honey on pH and Total of Lactic Acid Bacteria of Low Fat Stirred Yoghurt. The research was conducted from November 26th until December 22th, 2015 at Animal Product Technology Laboratory of Jenderal Soedirman University, Purwokerto. Purpose of the research was to study effects of different levels of honey on pH and total of Lactic Acid Bacteria (LAB) of low fat stirred yoghurt. A total of 15.75 l low fat cow's milk and 3.75 g freezed dried yoghurt starter containing *Lactobacillus bulgaricus*, *Streptococcus thermophylus*, and *Lactobacillus acidophilus* were used. Variables measured were pH and total of lactic acid bacteria. A Completely Randomized Design (CRD) with 6 replications and 5 treatments were employed. Treatments included : P0 (yoghurt without honey), P1 (yoghurt with 3% of honey), P2 (yoghurt with 4.5% of honey), P3 (yoghurt with 6% of honey), and P4 (yoghurt with 7.5% of honey). Data were analyzed by analysis of variance and continued with orthogonal polynomial. The results showed that adding honey to low fat stirred yoghurt has no significant effect on pH ($P>0.05$), but has significant effect on total of lactic acid bacteria ($P<0.05$). The average pH of low fat stirred yoghurt was 3.96. The total counts of lactic acid bacteria for low fat stirred yoghurt without and with 3, 4.5, 6, and 7.5% honey were 8.30 ± 0.410 log cfu/ml, 9.98 ± 1.003 log cfu/ml, 9.23 ± 0.928 log cfu/ml, 9.67 ±1.014 log cfu/ml, and 9.11 ± 0.645 log cfu/ml, respectively. In conclusion, characteristic of low fat stirred yogurt stored 7 days at 6^{O}C, pH was unaffected by adding honey up to 7.5%, but it was affected on total of lactic acid bacteria. Adding 3% honey causes the highest count of lactic acid bacteria.

Keyword : low fat stirred yoghurt, pH, lactic acid bacteria.