

PENGARUH SUPLEMENTASI WHEY PADA SUSU FERMENTASI DENGAN BAKTERI ASAM LAKTAT TERHADAP KEASAMAN, VISKOSITAS DAN DAYA TERIMA

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan *whey* pada susu fermentasi terhadap keasaman, viskositas dan daya terima menggunakan bakteri asam laktat (*Lactobacillus acidophilus*, *Bifidobacterium sp.*, *Lactobacillus casei*) yang diinkubasi selama 24 jam pada suhu 39°C. Susu sapi segar diinokulasi starter bakteri asam laktat (*Lactobacillus acidophilus*, *Bifidobacterium sp.*, *Lactobacillus casei*) masing-masing sebanyak 5% volume per volume secara steril. Terdapat dua macam perlakuan yaitu susu fermentasi tanpa penambahan *whey* dan susu fermentasi dengan penambahan *whey* sebanyak 5% volume per volume. Sampel diambil dari masing-masing perlakuan pada jam inkubasi ke 0, 2, 4, 6, 8, 24 untuk diuji perubahan nilai pH, kadar keasaman setara asam laktat, viskositas, senyawa odor yang mempengaruhi daya terima dan sensoris. Data yang diperoleh, dianalisis dengan menggunakan rancangan Split Plot. Nilai pH dan kadar keasaman setara asam laktat dianalisis menggunakan rancangan Split Plot, nilai viskositas dan kadar asetaldehid, asam asetat dan aseton dianalisis menggunakan rancangan *One way ANOVA*, dan dilanjutkan uji *Duncan's New Multiple Range Test* sedangkan uji sensoris dianalisis menggunakan rancangan *K Independent Samples* metode Kruskal Wallis. Hasil analisis statistik menunjukkan penambahan *whey* memberikan pengaruh yang nyata ($P < 0,05$) terhadap kadar keasaman setara asam laktat (0,56 vs 0,63), dan tidak nyata terhadap nilai viskositas (375 vs 325), nilai pH (4,50 vs 4,16) dan daya terima (2,53 vs 2,93). Hasil penelitian menunjukkan bahwa penambahan *whey* dapat digunakan sebagai faktor pendorong untuk pertumbuhan bakteri asam laktat, meningkatkan keasaman setara asam laktat dan pH serta memperpendek waktu inkubasi.

(Kata kunci : Susu fermentasi, Bakteri asam laktat, *Whey*, Keasaman, Viskositas, Daya Terima)

**EFFECT OF WHEY SUPPLEMENTATION IN FERMENTED MILK WITH
LACTIC ACID BACTERIA OF ACIDITY, VISCOSITY AND CONSUMER
ACCEPTANCES**

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ABSTRACT

The research was conducted to evaluate acidity, viscosity and sensory effect of fermented milk with lactic acid bacteria made by addition of cheese whey that incubated 24 hours at 39°C. Dairy fresh milk steril inoculated by lactic acid bacteria starter (*Lactobacillus acidophilus*, *Bifidobacterium sp.*, *Lactobacillus casei*) as much as 5% volume/volume. There are two kind of treatment that is sample with no addition of cheese whey and sample with addition 5% of whey. Samples from each treatment incubated on 0, 2, 4, 6, 8, and 24 hours, then measured of pH, acidity, viscosity, odor that effecting of consumer acceptances and sensorys. Data analyzed by Split Plot Design. pH and acidity analyzed by Split Plot Design, viscosity and acetaldehyd, acetate acid and acetone analyzed by *One way ANOVA Design*, and sensorys analyzed by *K-Independent Sample Kruskal Wallis Design*. Statistic analyzed showed that supplementation of whey gave significant effect ($P < 0.05$) on acidity (0.56 vs 0.635) and not significant of viscosity measurement (375 vs 325), pH (4.50 vs 4.16) and consumer acceptances (2.53 vs 2.93). The conclusion of this study indicated that whey can used as growth factor for lactic acid bacteria development, increasing acidity and pH and decrease incubation time.

(Key words : Fermented milk, Lactic acid bacteria, Whey, Acidity, Viscosity, Consumer acceptances)