VIABILITAS *Lactobacillus acidophilus* DALAM YOGURT YANG DISUPLEMENTASI EKSTRAK INULIN UMBI DAHLIA (*Dahlia pinnata L*)

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INTISARI

Penelitian ini bertujuan untuk mengetahui viabilitas *Lactobacillus acidophilus* dalam yogurt yang disuplementasi ekstrak inulin umbi dahlia. Penelitian dilakukan dengan menambah ekstrak inulin 40 mg/g total solid dan sebagai kontrol yogurt tanpa inulin. Susu pasteurisasi dinokulasikan 3% (v/v) starter yang terdiri dari *Lactobacillus bulgaricus* dan *Streptococcus thermophillus* dengan perbandingan 1:1 dan 2% probiotik *Lactobacillus acidophillus*. Fermentasi dilakukan pada suhu 42^{o}C sampai pH mencapai 4,5. Evaluasi yang dilakukan meliputi uji viabilitas, total bakteri asam laktat, serta uji kualitas kimia yang meliputi pH, keasaman, laktosa, protein, dan lemak. Data hasil penelitian dianalisis dengan analisis variansi *Completely Randomized* Design (CRD) pola faktorial 2x2, dan jika terdapat perbedaan yang signifikan diuji dengan *Duncan's Multiple Range Test* (DMRT). Hasil kualitas yogurt dengan penambahan ekstrak inulin 40 mg/g total solid yang meliputi viabilitas probiotik, total bakteri asam laktat, pH, keasaman, laktosa, protein, dan lemak sebelum fermentasi secara berurutan adalah 6,55 log CFU/ml; 7,93 log CFU/ml; 6,27; 0,33%; 4,72%; 3,78% dan 2,0% sedangkan rerata sesudah fermentasi secara berurutan adalah 7,73 log CFU/ml; 10,14 log CFU/ml; 4,59; 0,95%; 2,36%; 3,81% dan 2,6%. Penambahan inulin 40 mg/g total solid tidak mampu memacu pertumbuhan probiotik *Lactobacillus acidophillus* namun dapat mempertahankan kualitas kimia yogurt sinbiotik.

(Kata kunci: Umbi dahlia, Inulin, Yogurt, *Lactobacillus bulgaricus Streptococcus thermophillus* , *Lactobacillus acidophilus*).

VIABILITY OF *Lactobacillus acidophilus* IN YOGHURT SUPLEMENTED EXTRACT INULIN DAHLIA TUBER (*Dahlia pinnata* L)

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ABSTRACT

The aim of this study was to evaluate viability of *Lactobacillus acidophilus* in yoghurt supplemented with inulin extract of dahlia tuber. The study was conducted by adding extract inulin 40 mg/g total solid and yogurt without inulin as control. Pasteurised milk was inoculated with 3% (v/v) starters consisted of *Lactobacillus bulgaricus* and *Streptococcus thermophillus* with ratio 1:1 and 2% of *Lactobacillus acidophilus* as probiotic. Fermentation was conducted at temperature 42° C until pH reached 4.5. Parameter observed were probiotic viability, total of lactic acid bacteria and yogurt quality evaluation consisted of pH values, acidity, lactose, protein, and fat content. The data was analyzed using the analysis of variance Completely Randomized Design (CRD) 2x2 factorial pattern. Differences were tested using Duncan's Multiple Range Test (DMRT). The quality of yogurt with inulin extract supplementation at 40 mg/g total solid before fermentation as measured probiotic viability, total of lactic acid bacteria, pH value, acidity, lactose, protein, and fat were 6.55 log CFU/ml; 7.93 log CFU/ml; 6.27; 0.33%; 4.72%; 3.78% and 2.0% respectively, while the average after fermentation were 7.73 log CFU/ml; 10.14 log CFU/ml; 4.59; 0.95%; 2.36%; 3.81% and 2.0% respectively. The addition of inulin 40 mg/g total solid did not increase probiotic *Lactobacillus acidophilus*, however it was able to maintain the quality of sinbiotic yogurt.

(Keywords: Dahlia tuber, Inulin, Yoghurt, *Lactobacillus bulgaricus*, *Streptococcus thermophillus*, *Lactobacillus acidophilus*)