

Pertumbuhan Bakteri Probiotik (*Bifidobacterium bifidum* dan *Lactobacillus plantarum*) dalam Medium Campuran Tepung Talas (*Colocasia esculenta* L. Schott var. Boring) dan Kedelai Bubuk

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Diterima 19 Oktober 2012, direvisi 4 April 2013

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh proporsi campuran kedelai bubuk dan tepung talas terhadap pertumbuhan bakteri probiotik *Bifidobacterium bifidum* dan *Lactobacillus plantarum*. Percobaan dilakukan dengan menggunakan Rancangan Acak Kelompok dengan dua faktor yaitu proporsi tepung talas : kedelai bubuk pada medium fermentasi (6% : 9%, 7,5% : 7,5%, dan 8% : 7%) dan jenis bakteri probiotik (*Bifidobacterium bifidum* dan *Lactobacillus plantarum*) dengan 3 kali ulangan. Hasil penelitian menunjukkan bahwa perlakuan proporsi tepung talas : kedelai bubuk pada medium fermentasi berpengaruh nyata ($\alpha=0,05$) terhadap penurunan derajat keasaman (pH). Sedangkan perlakuan jenis isolat probiotik (*Bifidobacterium bifidum* dan *Lactobacillus plantarum*) berpengaruh nyata ($\alpha=0,05$) terhadap peningkatan total BAL, penurunan derajat keasaman (pH), penurunan total gula dan penurunan kadar pati. Serta tidak terdapat interaksi antara kedua perlakuan. Perlakuan terbaik diperoleh pada perlakuan proporsi medium fermentasi tepung talas : kedelai bubuk sebesar 8% : 7% dengan isolat probiotik *Lactobacillus plantarum*. Hasil nilai akhir total *Lactobacillus plantarum* $4,24 \times 10^{10}$ CFU/ml, derajat keasaman (pH) 3,32, total gula 19,29%, dan kadar pati 6,53%.

Kata kunci: probiotik, medium fermentasi, kedelai bubuk, tepung talas, *Bifidobacterium bifidum*, *Lactobacillus plantarum*.

ABSTRACT

This study aimed to determine the effect of mix proportions of soy powder and taro flour on the growth of probiotic bacteria *Bifidobacterium bifidum* and *Lactobacillus plantarum*. The experiments were performed using a randomized block design with two factors: the proportion of taro flour: soybean powder on the fermentation medium (6%: 9%, 7.5%: 7.5%, and 8%: 7%) and type of probiotic bacteria (*B. bifidum* and *L. plantarum*) with 3 replications. The results showed that treatment of taro flour and soybean powder on fermentation medium significantly ($\alpha = 0.05$) decrease the degree of acidity (pH). While the treatment of probiotic (*B. bifidum* and *L. plantarum*) isolates significantly ($\alpha = 0.05$) increase the total BAL, reduced the degree of acidity (pH), decreased total sugar and starch content. There is no interaction between the two treatments. The best treatment was obtained from the proportion of taro flour fermentation medium: soybean powder of 8%: 7% for *L. plantarum* isolates with the total *L. plantarum* of $4,24 \times 10^{10}$ CFU/ml, the degree of acidity (pH) of 3.32, and total sugar and starch content of 19.29%, 6.53%, respectively.

Key word: probiotics, fermentation medium, soybean powder, taro flour, *Bifidobacterium bifidum*, *Lactobacillus plantarum*.

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