

PENGARUH PENAMBAHAN MADU *Trigona* sp. DAN LAMA FERMENTASI TERHADAP MUTU MIKROBIOLOGI, KIMIA, DAN ORGANOLEPTIK YOGHURT JAGUNG PULUT

[THE EFFECT OF *Trigona* sp. HONEY ADDING AND FERMENTATION TIME ON MICROBIOLOGICAL, CHEMICAL, AND ORGANOLEPTIC QUALITIES OF WAXY CORN YOGHURT]

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ABSTRACT

Yogurt can be made from pulut corn extract with the addition Trigona sp. honey as a source of LAB nutrition. This study aimed to determine the effect of Trigona sp. honey addition and fermentation time on microbiological, chemical, and organoleptic qualities of pulut corn yogurt. This study used a Completely Randomized Design (CRD) with two factors, first factor was concentration of honey (0 and 10%) and the second factor was fermentation time (0, 8, and 16 hour). Observed data were analyzed using analysis of variance (Analysis of Variance) at 5% significance level using Co-Stat software. The significant data were tested with the Tukey's HSD at the 5% level. The parameters observed included total LAB, viability of LAB, total lactic acid, pH value, and organoleptic qualities. The results showed that interaction of both factor significantly affected on parameter pH. Trigona sp. honey addition had a significantly affected on total LAB, total lactic acid, pH, aroma (hedonic) and color (scoring) of pulut corn yogurt. Fermentation time had a significantly affected on total LAB, total lactic acid, pH, aroma (hedonic and scoring), taste (hedonic and scoring) and consistency (scoring) of pulut corn yogurt. The treatment with the addition of 10% honey and 8 hours fermentation was the best treatment with total LAB 11.24 log CFU/ml, reduction of probiotic viability 0.11 log CFU/ml, total lactic acid 0.46%, pH value 4.07, and the criteria for organoleptic qualities aroma, taste, color, and consistency preferred by panelists were slightly pulut corn-aroma, slightly sour, yellowish white in color, and a little sediment.

Keywords: fermentation, *Trigona* sp. honey, pulut corn, yogurt

ABSTRAK

Yoghurt dapat dibuat dari sari jagung pulut dengan penambahan madu *Trigona* sp. sebagai sumber nutrisi BAL. Tujuan dari penelitian ini untuk mengetahui pengaruh penambahan madu *Trigona* sp. dan lama fermentasi terhadap mutu mikrobiologi, kimia, dan organoleptik yoghurt jagung pulut. Penelitian ini menggunakan metode Rancangan Acak Lengkap (RAL) dua faktor yakni penambahan madu *Trigona* sp. (0 dan 10%) dan lama fermentasi (0, 8 dan 16 jam). Data hasil pengamatan dianalisis menggunakan analisis keberagaman (*Analysis of Variance*) pada taraf nyata 5% menggunakan software *Co-Stat*. Nilai yang berbeda nyata diuji lanjut dengan uji lanjut Beda Nyata Jujur (BNJ) pada taraf 5%. Parameter yang diamati meliputi total BAL, viabilitas BAL, total asam laktat, nilai pH, dan mutu organoleptik. Hasil penelitian menunjukkan bahwa terdapat interaksi antara kedua faktor terhadap parameter pH. Penambahan madu *Trigona* sp. memberikan pengaruh yang berbeda nyata terhadap total BAL, total asam laktat, pH, aroma (hedonik) dan warna (skoring) yoghurt jagung pulut. Lama fermentasi memberikan pengaruh yang berbeda nyata terhadap total BAL, total asam laktat, pH, aroma (hedonik dan skoring), rasa (hedonik dan skoring) dan konsistensi (skoring) yoghurt jagung pulut. Perlakuan penambahan madu *Trigona* sp. 10% dan lama fermentasi 8 jam adalah perlakuan terbaik dengan total BAL 11,24 log CFU/ml, 0,11 log CFU/ml penurunan viabilitas probiotik, total asam laktat 0,46%, nilai pH 4,07 dan mutu organoleptik berupa aroma, rasa, warna, dan konsistensi disukai oleh panelis dengan masing-masing kriteria agak beraroma jagung pulut, agak berasa asam, berwarna kuning keputihan, dan sedikit endapan.

Kata kunci: fermentasi, madu *Trigona* sp., yoghurt, jagung pulut