

**THE EFFECT OF THE FORMULATION OF BANANA KEPOK  
(*Musa balbisiana*) AND MORINGA LEAF (*Moringa oleifera* Lam.)  
EXTRACT ON THE CHARACTERISTICS OF ETAWA GOAT MILK  
SYNBIOTIC DRINK**

**ABSTRACT**

**By**

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Synbiotic drinks are processed products that utilize probiotic bacteria and prebiotic compounds. This study aims to determine the effect of adding kepok banana skin extract formulations and moringa leaves on the characteristics of etawa goat milk synbiotic drink. This study used a complete randomized block design (RAKL) with a single factor and four replications. The treatment in this study was kepok banana peel extract from moringa leaves. Treatments P1 (0%: 5%), P2 (1%: 4%), P3 (2%: 3%), P4 (3%: 2%), P5 (4%: 1%), and P6 (3%: 0%) The data obtained was processed by analysis of variance, and the data was further tested by the Least Significant Difference (LSD) test. The parameters observed were total LAB, total lactic acid, pH, scoring method sensory test, and hedonic method sensory test, and the best treatment was tested for its antioxidant activity. The results showed that the treatment affected the total LAB, total lactic acid, pH, scoring method sensory test, and hedonic method sensory test. The best treatment was obtained in the P5 treatment with a total lactic acid bacteria yield of  $1,89 \times 10^9$  CFU/mL (9.28 log CFU/mL), total lactic acid 0.64%, color parameter scoring test 1.79 (yellowish white), sour flavor 4.31 (sour), and bitter taste 4.00 (not bitter). The hedonic test for flavor parameters yielded a score of 3.53 (rather like), color 3.03 (rather like), and overall acceptance of 3.38 (rather like), antioxidant activity of 47,619%.

Keywords: Probiotics, prebiotics, synbiotics, kepok banana peels, moringa leaves.

**PENGARUH FORMULASI EKSTRAK KULIT PISANG KEPOK  
(*Musa balbisiana*) DAN DAUN KELOR (*Moringa oleifera Lam.*)  
TERHADAP KARAKTERISTIK MINUMAN SINBIOTIK SUSU  
KAMBING ETAWA**

**ABSTRAK**

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Minuman sinbiotik merupakan produk olahan dengan memanfaatkan bakteri probiotik dan senyawa prebiotik. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan formulasi ekstrak kulit pisang kepok dan daun kelor terhadap karakteristik minuman sinbiotik susu kambing etawa. Penelitian ini menggunakan rancangan acak kelompok lengkap (RAKL) dengan faktor tunggal dan empat kali ulangan. Perlakuan dalam penelitian ini yaitu ekstrak kulit pisang kepok : daun kelor. Perlakuan P1 (0% : 5%), P2 (1% : 4%), P3 (2% : 3%), P4 (3% : 2%), P5 (4% : 1%), P6 (3% : 0%). Data yang diperoleh diolah dengan analisis sidik ragam, dan data diuji lanjut dengan uji Beda Nyata Terkecil (BNT). Parameter yang diamati yaitu total BAL, total asam laktat, pH, uji sensori metode skoring, uji sensori metode hedonik, dan perlakuan terbaik diuji aktivitas antioksidannya. Hasil penelitian menunjukkan bahwa perlakuan berpengaruh terhadap total BAL, total asam laktat, pH, uji sensori metode skoring, dan uji sensori metode hedonik. Perlakuan terbaik diperoleh pada perlakuan P5 dengan hasil total bakteri asam laktat  $1,89 \times 10^9$  CFU/mL (9,28 log CFU/mL), total asam laktat 0,64%, uji skoring parameter warna 1,79 (putih kekuningan), flavor asam 4,31 (asam), dan rasa pahit 4,00 (tidak pahit). Uji hedonik parameter flavor menghasilkan skor 3,53 (agak suka), warna 3,03 (agak suka), dan penerimaan keseluruhan 3,38 (agak suka), aktivitas antioksidan 47,619%.

Kata kunci : Probiotik, prebiotik, sinbiotik, kulit pisang kepok, daun kelor.