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**PENGARUH PENAMBAHAN BEE POLLEN LEBAH KLANCENG (Trigona sp.) TERHADAP KUALITAS MIKROBIOLOGIS,
FISIKOKIMIA DAN AKTIVITAS ANTIOKSIDAN KEFIR SUSU KAMBING**
HAFIDH SHOFWAN M, Prof. Dr. Ir. Nurliyani., MS., IPM. ; Prof. Dr. Ir. Ali Agus, DAA., DEA., IPU.
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PENGARUH PENAMBAHAN *BEE POLLEN* LEBAH KLANCENG *(Trigona* sp.*)* TERHADAP KUALITAS MIKROBIOLOGIS, FISIKOKIMIA DAN AKTIVITAS ANTIOKSIDAN KEFIR SUSU KAMBING

Hafidh Shofwan Maajid
14/368209/PT/06839

INTISARI

Penelitian ini bertujuan untuk mengetahui kualitas mikrobiologis, kimia, fisik, aktivitas antioksidan dan organoleptik produk kefir susu kambing dengan penambahan *bee pollen* lebah Klanceng (*Trigona* sp.). Kefir susu kambing dibuat dengan menambahkan bubuk *bee pollen* lebah Klanceng (*Trigona* sp.) sebanyak 0%, 3%, dan 5%. Susu kambing diinokulasi dengan 5% kefir grain, kemudian diinkubasi pada suhu ruang selama 18 jam. Kefir susu kambing dinilai dari segi kualitas mikrobiologis (total bakteri asam laktat (BAL) dan total *yeast*, kualitas kimia (keasaman, nilai pH, protein, alkohol, total solids), kualitas fisik (viskositas), aktivitas antioksidan dan sensoris. Data hasil uji total BAL, total *yeast*, keasaman, nilai pH, protein, alkohol, *total solid*, viskositas dan aktivitas antioksidan dianalisis dengan *OneWay* ANOVA dan dilanjutkan dengan *Duncan's New Multiple Range Test* (DMRT). Analisis keasaman dan nilai pH selama penyimpanan 7 hari menggunakan *TwoWay* ANOVA. Data hasil pengujian organoleptik dianalisis menggunakan analisis non parametrik, uji hedonik Kruskal-Wallis dan di uji lanjut O*neWay* ANOVA. Hasil penelitian meunjukkan bahwa kefir susu kambing dengan penambahan *bee pollen* 0%, 3% dan 5% berpengaruh nyata ($P<0,05$) terhadap kualitas kimia yaitu dapat menaikan keasaman, protein, *total solid*, dan secara fisik dapat menaikan viskositas. Penambahan *bee pollen* 5% pada kefir susu kambing dapat meningkatkan kadar protein dari 3,61±0,43% menjadi 5,79±0,37%, serta dapat menaikan aktivitas antioksidan dari 10,61±1,15% sampai 53,54±1,75%. Penambahan *bee pollen* 3% dan 5% berpengaruh terhadap warna, tekstur dan daya terima. Kesimpulannya, kefir susu kambing dengan penambahan bubuk *bee pollen* 5% dapat menaikan kualitas fisikokimia dan aktivitas antioksidan.

Kata kunci: *Bee pollen*, lebah *Trigona* sp.,Kefir, Susu Kambing, Protein, Aktivitas Antioksidan.

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BEE POLLEN STINGLESS BEE KLANCENG (*Trigona* sp.) EFFECT ON MICROBIOLOGICAL PHYSICO-CHEMICAL CHARACTERISTIC AND ANTIOXIDANT ACTIVITY OF GOAT MILK KEFIR

HafidhShofwanMaajid
14/368209/PT/06839

ABSTRACT

The research was aimed to determine effect of *bee pollen* stingless bee (*Trigona* sp.) on microbiological and physico-chemical characteristic and antioxidant activity of goat milk kefir. Kefir goat milk was made by mixing 0%, 3% and 5% *bee pollen* powder stingless bee (T*rigona* sp.). Goat milk was inoculated 5% kefir grain, and than incubated at room temperature for 18 hours. Phsyco-chemical qualities (total solids, water content, pH value, acidity, viscosity, protein content, and alcohol content, microbiological qualities total lactic acid bacteria (LAB) and total *yeast*, antioxidant activity, organoleptic test were tested. The data total solid, protein content, alcohol content, viscosity, total LAB and total *yeast* tested with One Way ANOVA and continued by Duncan's New Multiple Range Test (DMRT). Data as pH value and acidity were analyzed *TwoWay* ANOVA analysis and organoleptic test with Kruskal-Wallis test and continued with *OneWay* ANOVA. The result showed that the addition of *bee pollen* powder 0%, 3% and 5% into goat milk kefir was significant ($p<0,05$) on chemical were increase acidity, protein content, total solids, and significant increase viscosity. The addition of *bee pollen* 5% into goat kefir could increasing protein content from 3,61±0,43% to 5,79±0,37% and than could increase antioxidant activity from 10,61±1,15% to 53,54±1,75%. The addition of *bee pollen* 3% and 5% were significant effect ($p<0,05$) on colour, texture and devotion. The conclusiong, addition 5% *bee pollen* into goat milk kefir could improve phsyco-chemical qualities and antioxidant activity.

Keywords: *Bee pollen*, *Stinglees bee (Trigona* sp.*)*, Kefir, Goat milk, Antioxidant Activity.