Proximate Composition and Sensory Characteristics of Bee Products Incorporated Bio yogurt

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Consumption of probiotic yogurt offers several health benefits, including aiding digestion, strengthening the immune system, and improving bone health. Bee products, such as bee honey, royal jelly, and bee pollen, are recognized for their nutritional richness and functional properties. The current study evaluated the proximate composition and sensory attributes of bee products incorporating Bio yogurt. This involves replacing synthetic preservatives with natural alternatives to counteract food deterioration. Yogurts were prepared with the addition of 2% probiotic culture (ABT-5) and refrigerated at 4°C. The experiment was conducted with four treatments, including a control without any bee products (T1) and enriched variants with 0.6% royal jelly (T2), 5% bee honey (T3), and 0.5% bee pollen (T4). Proximate composition analysis, such as protein, ash, carbohydrates, fat, and moisture content, was determined following the AOAC guidelines and standard methods. The sensory assessment was conducted based on a 9-point hedonic scale. The highest protein content (4.83%) and ash content (1.04%) were observed in T4, while the highest carbohydrate content (21.33%) was found in T3. The highest fat content (3.91%) and moisture content (76.72%) were recorded in T1. Statistically significant variations were observed in proximate compositions among treatments, and the majority of the above parameters are aligned with the standard range established by SLS. The sensory characteristics of yogurts, such as aroma, taste, and overall acceptability, were significantly different ($p<0.05$) among the four treatments. No significant difference ($p>0.05$) was observed either in color or texture. The addition of 0.5% bee pollen in yogurt significantly shows the highest value for all sensory attributes. The study highlights the benefits of incorporating bee products to improve quality, suitability for consumption, and sensory attributes. Future work is recommended to analyze the composition and functional properties of bee products and explore their impact at varying concentrations on yogurt formulation.

Keywords: Bee products, Bio yogurt, Proximate composition, Sensory attributes