

## PERBEDAAN KANDUNGAN VITAMIN C, MINERAL (NATRIUM, KALIUM, ZAT BESI), DAN VISKOSITAS *SPORT ENERGY GEL* DENGAN PENAMBAHAN TEPUNG PISANG KLUTUK (*Musa Balbisiana Colla*)

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### INTISARI

**Latar Belakang:** Saat berolahraga tubuh membutuhkan asupan energi, cairan, dan elektrolit yang cukup. Salah satu produk nutrisi olahraga yang dapat dikonsumsi dalam olahraga adalah *sport energy gel*. Pisang klutuk merupakan bahan pangan sumber karbohidrat yang masih kurang pemanfaatannya di Indonesia, padahal mengandung sejumlah vitamin dan mineral yang dapat memenuhi kebutuhan elektrolit tubuh selama olahraga.

**Tujuan:** Penelitian ini bertujuan untuk mengembangkan produk *sport energy gel* dengan penambahan tepung pisang klutuk dan menguji kandungan vitamin C dan mineral (natrium, kalium, zat besi), serta viskositas produk.

**Metode:** Penelitian ini merupakan penelitian *true experimental* menggunakan Rancangan Acak Lengkap (RAL) dengan empat kelompok perlakuan, yaitu F0 (0%), F1 (2%), F2 (4%), F3 (8%).

**Hasil:** Perbedaan konsentrasi tepung pisang klutuk mempengaruhi kandungan vitamin C, mineral, dan viskositas produk *sport energy gel*. Hasil rata-rata kandungan vitamin C sebesar 31,57 µg/g, natrium sebesar 3737,06 mg/kg, kalium sebesar 2682,82 mg/kg, zat besi sebesar 20,15 mg/kg, dan hasil rata-rata viskositas sebesar 5235,00 cP.

**Kesimpulan:** Terdapat perbedaan yang nyata ( $p < 0,05$ ) pada kandungan vitamin C dan natrium *sport energy gel* dengan penambahan tepung pisang klutuk. Namun, tidak terdapat perbedaan yang nyata pada kandungan kalium, zat besi, dan viskositas *sport energy gel* dengan penambahan tepung pisang klutuk.

**Kata Kunci:** *Sport energy gel*, pisang klutuk, vitamin C, mineral, viskositas

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## THE EFFECT OF ADDITION OF KLUTUK BANANA FLOUR (Musa Balbisiana Colla) ON MICRONUTRIENT CONTENT (VITAMIN C, SODIUM, POTASSIUM, IRON) AND VISCOSITY OF SPORT ENERGY GEL

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### ABSTRACT

**Background:** When exercising, the body needs sufficient energy, fluids, and electrolytes. One of the sports nutrition products that can be consumed during exercise is sport energy gel. Klutuk banana is a food source of carbohydrates that is still underutilized in Indonesia, even though it contains a number of vitamins and minerals that can meet the body's electrolyte needs during exercise.

**Objective:** This study aimed to develop a sport energy gel product with the addition of banana flour and to determine the content of vitamin C and minerals (sodium, potassium, iron), and viscosity of product.

**Methods:** This study was a true experimental study using a Completely Randomized Design (CRD) with four treatment groups, namely F0 (0%), F1 (2%), F2 (4%), and F3 (8%) with different concentration of banana flour and maltodextrin.

**Results:** Differences in the concentration of banana flour affect the content of vitamin C, minerals, and viscosity of the sport energy gel products. The average of vitamin C content was 31.57 µg/g, sodium 3737.06 mg/kg, potassium 2682.82 mg/kg, iron 20.15 mg/kg, and average results of viscosity is 5235.00 cP.

**Conclusion:** There was a significant difference ( $p < 0.05$ ) in the vitamin C and sodium content of sport energy gel with the addition of klutuk banana flour. However, there was no significant difference in the potassium, iron, and viscosity content of sport energy gel with the substitution of klutuk banana flour.

**Keywords:** Sport energy gel, klutuk banana, vitamin C, minerals, viscosity

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