

## SIFAT FISIK, KADAR SERAT PANGAN DAN AKTIVITAS ANTIOKSIDAN STIK CAMPURAN TEPUNG PORANG (*Amorphophallus oncophyllus*) DAN DAUN KELOR (*Moringa oleifera*) SEBAGAI ALTERNATIF MAKANAN SELINGAN UNTUK OBESITAS

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### INTISARI

**Latar belakang:** Obesitas merupakan salah satu masalah kesehatan masyarakat yang harus segera ditangani salah satunya dengan perubahan pola makan yakni konsumsi makanan yang tinggi serat dan tinggi antioksidan. Pengembangan produk stik dengan campuran porang dan daun kelor dapat dijadikan makanan selingan alternatif bagi orang dengan obesitas karena tinggi serat pangan dan antioksidan. **Tujuan:** Penelitian ini bertujuan untuk mengetahui apakah ada pengaruh variasi campuran tepung porang dan daun kelor terhadap sifat fisik, kadar serat pangan dan aktivitas antioksidan stik. **Metode:** Penelitian ini merupakan jenis eksperimental dengan desain penelitian rancangan acak lengkap. Stik dibuat dengan variasi campuran tepung terigu, tepung porang dan daun kelor dengan empat perlakuan dan tiga kali ulangan. Selanjutnya dilakukan analisis sifat fisik secara subjektif dan objektif, kadar serat pangan dengan metode enzimatis-gravimetri, dan kadar antioksidan menggunakan metode DPPH. **Hasil:** Berdasarkan hasil pengujian sifat fisik, stik tepung porang dan daun kelor yang dihasilkan berwarna coklat kehijauan. Semakin banyak persentase tepung porang dan daun kelor maka warna stik akan semakin coklat gelap kehijauan. Tekstur stik tepung porang yang diuji secara objektif lebih renyah dibanding dengan stik kontrol. Sedangkan hasil pengujian secara subjektif, stik kontrol lebih renyah namun cenderung sulit dipatahkan, sebaliknya stik tepung porang dan daun kelor agak keras namun mudah dipatahkan. Semakin tinggi persentase daun kelor stik akan semakin berasa daun kelor dan semakin berbau langu khas daun kelor. Kadar serat pangan total stik tepung porang dan daun kelor berkisar antara 28,9-36,2%. Semakin banyak persentase tepung porang maka semakin tinggi pula kadar serat pangan stik. Aktivitas antioksidan IC50 stik tepung porang dan daun kelor tergolong ke dalam aktivitas sedang. Nilai IC50 tertinggi terdapat pada stik dengan persentase daun kelor sebanyak 15%. Semakin banyak jumlah daun kelor maka akan semakin tinggi aktivitas antioksidannya.

**Kesimpulan:** Variasi campuran tepung porang dan daun kelor berpengaruh signifikan ( $p < 0,05$ ) terhadap sifat fisik, kadar serat pangan dan aktivitas antioksidan stik

**KATA KUNCI:** tepung porang, daun kelor, obesitas, stik, serat pangan, antioksidan

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## PHYSICAL PROPERTIES, DIETARY FIBER CONTENT AND ANTIOXIDANT ACTIVITY OF PORANG FLOUR STICKS (*Amorphophallus oncophyllus*) and MORINGA LEAVES (*Moringa oleifera*) AS AN ALTERNATIVE SNACK FOR OBESITY

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### ABSTRACT

**Background:** Obesity is a public health problem that must be addressed immediately by changing diet and consuming foods that are high in fiber and high in antioxidants. The development of stick products with a mixture of porang and Moringa leaves can be used as an alternative snack for obese people because they are high in dietary fiber and antioxidants. **Purpose:** This study aims to determine whether there is an influence of variations in the mixture of porang flour and Moringa leaves on physical properties, dietary fiber content and antioxidant activity of sticks. **Methods:** This research is an experimental type with a completely randomized design. The sticks were made with variations of a mixture of wheat flour, porang flour and Moringa leaves with four treatments and two replications. Furthermore, analysis of physical properties, dietary fiber content was carried out using the enzymatic-gravimetric method, and antioxidant levels using the DPPH method. **Result:** Based on the results of physical properties analysis, the porang flour sticks and moringa leaves produced were greenish brown in color. The higher the percentage of porang flour and Moringa leaves, the darker the greenish brown color of the stick. The texture of the porang flour sticks tested objectively crispier than the control sticks. Meanwhile, subjective test results showed that the control sticks were crisper but tended to be difficult to break, whereas the porang flour and moringa leaf sticks were a bit harder but easy to break. The higher the percentage of Moringa leaves, the more Moringa leaves will taste and the more distinctive the smell of Moringa leaves will be. The total dietary fiber content of porang flour sticks and moringa leaves ranges from 28.9-36.2%. The higher the percentage of porang flour, the higher the fiber content of stick food. The IC50 antioxidant activity of porang flour sticks and Moringa leaves is classified as moderate activity. The highest IC50 value was found in sticks with a percentage of Moringa leaves of 15%. The greater the number of Moringa leaves, the higher the antioxidant activity. **Conclusion:** Variations in the mixture of porang flour and Moringa leaves have a significant effect ( $p < 0.05$ ) on the physical properties, dietary fiber content and antioxidant activity of sticks.

**KEY WORDS:** porang flour, moringa leaves, obesity, sticks, dietary fiber, antioxidants

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