

THE EFFECT OF VARIATIONS IN MIXING CATFISH WITH CARROTS IN CILOK ON PHYSICAL PROPERTIES, ORGANOLEPTIC PROPERTIES, ACCEPTABILITY, AND PROTEIN CONTENT AS AN ALTERNATIVE HIGH-PROTEIN SNACK FOR SCHOOL CHILDREN

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ABSTRACT

Background: School-age children are vulnerable to nutritional problems, especially protein deficiency, which has an impact on growth. Data from the 2020 Indonesia Health Profile shows a deficit in protein intake in children aged 9-12 years of 39.8% (boys) and 49.9% (girls). Cilok is a popular tapioca-based snack that is high in carbohydrates but low in protein. Innovation by adding catfish as a source of animal protein and carrots as a source of fiber and vitamins is expected to increase the nutritional value of cilok and be well received by children.

Objective: To determine the effect of variations in mixing catfish with carrots in cilok on physical properties, organoleptic properties, acceptability and protein content as an alternative high-protein snack for school children.

Method: This type of research is a pseudo-experimental with a Simple Randomized Design design. There were 4 treatments with the ratio of catfish and carrots 100%:0%, 85%:15%, 80%:20%, 75%:25%. Physical properties and acceptability test data were analyzed descriptively. Organoleptic test data and protein content were analyzed statistically.

Results: The physical properties of catfish carrot cilok showed that the more the mixture of catfish and carrots, the more grayish the cilok color, the more distinctive the aroma of cilok fish, the more savory the cilok taste, and the more tender the cilok texture. Organoleptic properties show in terms of color, aroma, taste and texture is cilok catfish carrot treatment C (80% catfish: 20% carrot). Acceptability of carrot catfish cilok can be well received by grade 4 students of SDN Patran with 100 grams of consumption meeting 94% of energy needs and 124% of PMT-AS protein needs. The more catfish mixture, the higher the protein content in carrot catfish cilok.

Conclusion: There is an effect of mixing variations of mixing catfish and carrots on physical properties, organoleptic properties only on the flavor parameter namely 0,008 ($p>0,05$) value, and protein content of catfish carrot cilok namely 0,021 ($p>0,05$) value. The level of acceptability of catfish carrot cilok with variations in mixing catfish and carrots can be well received at 88%.

Keywords: Cilok, Catfish, Carrot, Physical Properties, Organoleptic Properties, Acceptability, Protein Content

**PENGARUH VARIASI PENCAMPURAN IKAN LELE DENGAN
WORTEL PADA CILOK TERHADAP SIFAT FISIK, SIFAT
ORGANOLEPTIK, DAYA TERIMA, DAN KADAR PROTEIN SEBAGAI
ALTERNATIF JAJANAN TINGGI PROTEIN BAGI ANAK SEKOLAH**

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ABSTRAK

Latar Belakang: Anak usia sekolah rentan mengalami masalah gizi, terutama kekurangan protein, yang berdampak pada pertumbuhan. Data Profil Kesehatan Indonesia 2020 menunjukkan defisit asupan protein pada anak usia 9–12 tahun sebesar 39,8% (laki-laki) dan 49,9% (perempuan). Cilok merupakan jajanan populer yang berbahan dasar tapioka, tinggi karbohidrat namun rendah protein. Inovasi dengan menambahkan ikan lele sebagai sumber protein hewani dan wortel sebagai sumber serat dan vitamin diharapkan dapat meningkatkan nilai gizi cilok serta diterima baik oleh anak-anak.

Tujuan: Diketuainya pengaruh variasi pencampuran ikan lele dengan wortel pada cilok terhadap sifat fisik, sifat organoleptik, daya terima dan kadar protein sebagai alternatif jajanan tinggi protein bagi anak sekolah.

Metode: Jenis penelitian ini adalah eksperimental semu dengan desain Rancangan Acak Sederhana. Terdapat 4 perlakuan dengan perbandingan ikan lele dan wortel 100%:0%, 85%:15%, 80%:20%, 75%:25%. Data uji sifat fisik dan daya terima dianalisis secara deskriptif. Data uji organoleptik dan kadar protein dianalisis secara statistik.

Hasil: Sifat fisik cilok lele wortel menunjukkan semakin banyak campuran ikan lele dan wortel maka warna cilok semakin keabuan, aroma cilok semakin khas aroma ikan, rasa cilok semakin gurih, dan tekstur cilok semakin empuk. Sifat organoleptik menunjukkan dari segi warna, aroma, rasa dan tekstur adalah cilok lele wortel perlakuan C (80% ikan lele : 20% wortel). Daya terima cilok lele wortel dapat diterima dengan baik oleh siswa kelas 4 SDN Patran dengan konsumsi 100 gram memenuhi 94% kebutuhan energi serta 124% kebutuhan protein PMT-AS. Semakin banyak campuran ikan lele maka kadar protein pada cilok lele wortel lebih tinggi.

Kesimpulan: Terdapat pengaruh variasi pencampuran pencampuran ikan lele dan wortel terhadap sifat fisik, sifat organoleptik hanya pada parameter rasa nilai 0,008 ($p>0,05$) dan kadar protein cilok lele wortel nilai 0,021 ($p>0,05$). Tingkat daya terima cilok lele wortel dengan variasi pencampuran ikan lele dan wortel dapat diterima dengan baik yaitu 88%.

Kata Kunci: Cilok, Ikan Lele, Wortel, Sifat Fisik, Sifat Organoleptik, Daya Terima, Kadar Protein