

# THE EFFECT OF VARIATIONS IN A MIXTURE OF SOY TEMPE AND CATFISH ON THE PHYSICAL PROPERTIES, ORGANOLEPTIC PROPERTIES, AND PROTEIN CONTENT IN PELE NUGGETS AS AN ALTERNATIVE TO A HIGH-PROTEIN SIDE DISH

Nilna Deva Azkiya<sup>1</sup>, Noor Tifauzah<sup>2</sup>, Joko Susilo<sup>3</sup>  
Jurusan Gizi Polekkes Kemenkes Yogyakarta  
Jl. Tatabumi No. 3 Banyuraden, Gamping, Sleman, Yogyakarta  
(Email : [devaazkiya10@gmail.com](mailto:devaazkiya10@gmail.com))

## ABSTRACT

**Background :** One of the problems of malnutrition that was still high in Indonesia was short toddlers or stunting. Based on the results of the Indonesian Nutrition Status Survey (SSGI), the prevalence of stunting in 2021 was 24.4%. The survey results exceeded the provisions recommended by the World Health Organization (WHO) that the prevalence of stunting should be less than 20%. Lack of energy and protein (macronutrients) and micronutrients was one of the causes of stunting. Catfish was a type of freshwater fish that was widely consumed by Indonesian people, because catfish was affordable and easy to get and had quite high nutritional value. Nuggets were a type of ready-to-eat food product that was widely consumed by the public. Nuggets with soybean tempeh as the main ingredient were now starting to be known by the public, apart from the fact that tempeh was easy to get and the price was economical, soybean tempeh also had a high protein content.

**Objective :** To determine the effect of variations in a mixture of soybean tempeh and catfish on the physical properties, organoleptic properties and protein content of Pele Nugget as an alternative high-protein side dish.

**Method :** This type of research was a pure experiment with a Simple Random Design design. There were 4 treatments with a ratio of soybean tempeh and catfish of 100%:0%, 85%:15%, 80%:20%, 75%:25%. Physical property test data were analyzed descriptively. Organoleptic test data and protein levels were analyzed statistically.

**Results :** The physical properties of pele nuggets showed that the more catfish mixed in, the more grayish the resulting color, the more typical catfish aroma, the tastier the taste and the softer or softer the texture. Organoleptic properties showed that the nugget product with a mixture of catfish that the panelists liked most in terms of color, aroma, taste and texture was the C treated pele nugget (a mixture of 20% catfish). The more catfish mixed in, the protein content in pele nuggets decreased, because the protein content in soybean tempeh was higher than the protein content in catfish.

**Conclusion :** There was an influence of variations in the mixture of soybean tempeh and catfish on the physical properties of pele nuggets. There was no significant effect of variations in the mixture of soybean tempeh and catfish on the organoleptic properties and protein content of pele nuggets.

**Keywords :** Nugget, Pele Nugget, Soybean Tempeh, Catfish, Physical Properties, Organoleptic Properties, Protein Content

# PENGARUH VARIASI CAMPURAN TEMPE KEDELAI DAN IKAN LELE TERHADAP SIFAT FISIK, SIFAT ORGANOLEPTIK, DAN KADAR PROTEIN PADA NUGGET PELE SEBAGAI ALTERNATIF LAUK TINGGI PROTEIN

Nilna Deva Azkiya<sup>1</sup>, Noor Tifauzah<sup>2</sup>, Joko Susilo<sup>3</sup>  
Jurusan Gizi Polekkes Kemenkes Yogyakarta  
Jl. Tatabumi No. 3 Banyuraden, Gamping, Sleman, Yogyakarta  
(Email : [devaazkiya10@gmail.com](mailto:devaazkiya10@gmail.com))

## ABSTRAK

**Latar Belakang :** Salah satu masalah kekurangan gizi yang masih tinggi di Indonesia adalah balita pendek atau *stunting*. Berdasarkan hasil Survey Status Gizi Indonesia (SSGI) prevalensi *stunting* di tahun 2021 sebesar 24,4% hasil survey tersebut melebihi ketentuan yang direkomendasikan oleh Organisasi Kesehatan Dunia (WHO) bahwa prevalensi *stunting* seharusnya kurang dari 20%. Kekurangan energi dan protein (zat gizi makro) dan zat gizi mikro merupakan salah satu penyebab terjadinya *stunting*. Ikan lele merupakan salah satu jenis ikan air tawar yang banyak dikonsumsi oleh masyarakat Indonesia, karena harga ikan lele yang terjangkau dan mudah didapatkan serta memiliki kandungan nilai gizi yang cukup tinggi. Nugget merupakan salah satu produk olahan pangan siap saji yang banyak dikonsumsi masyarakat. Nugget dengan bahan utama tempe kedelai saat ini mulai dikenal oleh masyarakat selain karena tempe mudah didapatkan dan harga yang ekonomis tempe kedelai juga memiliki kandungan protein yang tinggi.

**Tujuan Penelitian :** Mengetahui pengaruh variasi campuran tempe kedelai dan ikan lele terhadap sifat fisik, sifat organoleptic, dan kadar protein pada Nugget Pele sebagai alternatif lauk tinggi protein.

**Metode Penelitian :** Jenis penelitian ini adalah eksperimen murni dengan desain Rancangan Acak Sederhana. Terdapat 4 perlakuan dengan perbandingan tempe kedelai dan ikan lele 100%:0%, 85%:15%, 80%:20%, 75%:25%. Data uji sifat fisik dianalisis secara deskriptif. Data uji organoleptic dan kadar protein dianalisis secara statistik.

**Hasil Penelitian :** Sifat fisik nugget pele menunjukkan semakin banyak campuran ikan lele maka warna yang dihasilkan semakin keabu-abuan, aroma semakin khas ikan lele, rasa semakin gurih dan tekstur semakin lembut atau empuk. Sifat organoleptic menunjukkan produk nugget dengan campuran ikan lele yang paling disukai panelis dari segi warna, aroma, rasa, dan tekstur adalah nugget pele perlakuan C (campuran 20% ikan lele). Semakin banyak campuran ikan lele maka kadar protein pada nugget pele menurun, karena kandungan protein pada tempe kedelai lebih tinggi dibandingkan dengan kandungan protein pada ikan lele.

**Kesimpulan :** Terdapat pengaruh variasi campuran tempe kedelai dan ikan lele terhadap sifat fisik nugget pele. Tidak terdapat pengaruh yang signifikan variasi campuran tempe kedelai dan ikan lele terhadap sifat organoleptic dan kadar protein nugget pele.

**Kata Kunci :** Nugget, Nugget Pele, Tempe Kedelai, Ikan Lele, Sifat Fisik, Sifat Organoleptik, Kadar Protein