

CASSAVA RICE ENRICHED WITH FISH PROTEIN

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Abstract

Diversification of food products is essential to Indonesia's food security. This research offers a method of converting two abundant local resources: cassava and fish into a rice substitute, through a flour mixing and granulation process. The result is a grain (analog rice) that is equal in nutrition to rice, with similar texture and good shelf life.

Keywords: analog rice, cassava, fish, substitute rice.

Materials and Methods

The materials used in this study are cassava and catfish obtained from traditional markets in Bandar Lampung, Indonesia. Cassava rice is made by processing cassava into cassava flour and mixed with catfish that has been processed into fish protein concentrate. Both materials are processed by granulator machine then steamed and dried.

Conclusions

Cassava rice enriched with catfish flour contains 9.11% protein, and contains fat, ash, moisture content and carbohydrates 0.84%, 2.99%, 9.61%, and 77.45%, respectively. This analog rice is suitable as a substitute material of rice.

References

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Introduction

Production of local biological material has the potential to become an alternative food source, cassava is a commodity that is easy to be cultivated and its production is abundant, besides cassava is also potential to be used as analog rice. The weakness of analog rice made from raw cassava flour is low protein content. While the source of protein that is easy to get is from fish, it is necessary to study analog rice that is made from raw cassava which is enriched with fish protein.

Result and Discussion

Table 1. The proximate analysis of Catfish protein concentrate and cassava flour (wet basis)

Constituents	Catfish protein concentrate	Cassava flour
Moisture (%)	11.68±0.37	11.20±0.64
Ash (%)	5.89±0.14	2.12±0.02
Fats (%)	4.52±0.06	2.97±0.24
Proteins (%)	68.62±0.14	0.42±0.60
Carbohydrates (%)	9.28±0.30	84.70±1.53

Table 2. Proximate analysis of Cassava rice

Contituents	Cassava rice enriched with fish protein	Cassava rice enriched with tuna fish protein	Rice
Moisture (%)	9.61±0.11	15.80	12.00
Ash (%)	2.99±0.49	0.37	1400
Fats (%)	0.84±0.26	0.59	2.70
Proteins (%)	9.11±0.46	7.53	7.90
Carbohydrates (%)	77.45±0.36	71.80	76.00

Catfish flour is rich in protein content, while cassava flour is the main ingredient of cassava rice, contains very little protein and contains many carbohydrates. Addition of catfish flour to cassava flour can increase protein content in cassava rice (Table 1). Cassava rice enriched with catfish flour protein content greater than cassava rice enriched with tuna flour and rice flour (Table 2).

