

EFEKTIVITAS KOMBINASI METODE PENGERINGAN TERHADAP KANDUNGAN NUTRISI *YELLOW MEALWORM* (*Tenebrio molitor*) SERTA STUDI POTENSINYA UNTUK PAKAN HEWAN

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INTISARI

Telah dilakukan penelitian mengenai efektivitas kombinasi metode pengeringan terhadap kandungan nutrisi *yellow mealworm* (*Tenebrio molitor*) serta studi potensinya untuk pakan hewan. Penelitian ini bertujuan untuk menunjukkan pengaruh gabungan proses pengeringan terhadap komposisi nutrisi pada *yellow mealworm* dan menjelaskan studi potensi *yellow mealworm* sebagai sumber pakan hewan.

Penelitian ini diawali dengan mengeringkan larva *yellow mealworm* menggunakan metode pengeringan *sun drying*. Hasil pengeringan metode *sun drying* dibagi menjadi dua kemudian dikeringkan kembali masing-masing dengan metode pengeringan *freeze drying* dan metode *oven drying*. Sampel hasil pengeringan dari masing-masing kombinasi metode kemudian dihaluskan dan diuji kadar air, kandungan protein dan kandungan lemaknya. Masing-masing sampel diuji kandungan asam aminonya menggunakan analisis HPLC. Hasil uji nutrisi dari masing-masing sampel kemudian dibandingkan dengan baku mutu pakan ternak yang telah dikeluarkan oleh Badan Standardisasi Nasional.

Hasil penelitian menunjukkan kadar air dari sampel *sun-freeze drying* sebesar 8 % sedangkan kadar air dari sampel *sun-oven drying* sebesar 2 %. Kadar protein dari sampel *sun-freeze drying* adalah 30,01 % sedangkan sampel *sun-oven drying* mengandung 30,98 % protein. Kadar lemak yang teruji dari sampel *sun-freeze drying* adalah 28 % dan kadar lemak yang teruji dari sampel *sun-oven drying* sebesar 34 %. Hasil menunjukkan bahwa sampel yang dikeringkan dengan metode *sun-oven drying* memiliki kadar nutrisi yang lebih tinggi daripada sampel metode *sun-freeze drying*. Kadar protein, kadar lemak dan kadar air hasil uji masing-masing sampel melebihi baku mutu standar pakan ternak menurut Standar Nasional Indonesia Pakan Ternak sehingga *yellow mealworm* sangat potensial untuk dijadikan pakan ternak.

Kata kunci: *freeze drying*, nutrisi, *oven drying*, *yellow mealworm*.

***EFFECTIVITY OF COMBINATION OF DRYING METHODS TOWARDS
THE NUTRITIONAL CONTENT OF YELLOW MEALWORM (*Tenebrio
molitor*) AND ITS POTENTIAL STUDIES FOR ANIMALS FEED***

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ABSTRACT

A research about effectivity of combination drying methods towards the nutritional content of yellow mealworm (*Tenebrio molitor*) and its potential studies for farm animals feed has been conducted. The purpose of this research is to show the effect of combination of drying method to the nutrient composition of yellow mealworm and to describe its potential studies as an animal feed.

The research was begun with drying yellow mealworm larvae using sun drying method. The sample then divided into two drying process using oven and freeze drying method. The dried sample of each method mashed and analyzed for the water content, protein content and fat content. Amino acid composition of each sample was determined using High Performance Liquid Chromatography. The result of nutrient analysis was compared to quality standard of animal feed issued by National Standardization Agency of Indonesia.

Nutrients analysis showed that sun-freeze dried sample has 8 % water content and the sun-oven dried sample has 2 % water content. The protein content of sun-freeze dried sample is 30.01 % while the sun-oven dried is 30.98 %. The fat content of sun-freeze dried sample is 28 % while the sun-oven dried is 34 %. The results showed the sun-oven dried sample has higher nutrient composition than the sun-freeze dried sample. Protein, fat and water content of each sample exceeded the quality standard of The Indonesian National Standard of animal feeds.

Keywords: freeze drying, nutrient, oven drying, yellow mealworm.