

Drying Effect for Amino Acid Composition of Worms Lawar *Perinereis cf. cultrifera* (BLEEKER 1840) Wearlilir Waters from Kei Islands Maluku Southeast District

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Abstract - The purpose of this study was to determine the effect of drying on the amino acid composition of the worm lawar *Perinereis cf. cultrifera* (Bleeker 1840). The method used is a natural drying process with artificial sun with electric oven and then analyzed the amino acid composition by GC (Gas Kromotografi). Result obtained for the solar drying process there are 14 types of amino acids with the composition: 0.890 mg/g Alanine, 0.746 mg/g Alanine, 0.096 mg/g Alpha-amino Butyric acid, 2,090 mg/g Valine, 0.088 mg/g amino Beta Isobutyric ACIC, threonine, 0.913 mg/g Aspartic acids, 16,505 mg/g Hydroxyproline, 15,361 mg/g Glutamic acid, 0.581 mg/g Phenylalanine, 2.254 mg/g Alpha-amino adipic acids, 0.868 mg/g Ornithine, 0.959 mg/g Lysine, 1,209 mg/g histidine, 0.993 mg/g of tyrosine, while the artificial drying (oven) there are 12 types of amino acids which are: 0.673 mg/g Alanine, 0.046 mg/g Glycine, 0.0678 mg/g Alpha-amino Butyric acid, 0.224 mg/g Valine, 2.803 mg/g Threonine, 0.297 mg/g Serine, 0.068 mg/g Methionine, 22,015 mg/g Hydroxyproline, 1.282 mg/g Phenylalanine, 0.782 mg/g Alpha-amino adipic acids, 0.952 mg/g Ornithine, Lysine 1,049.

Keywords: effect, amino acid composition, Lawar, *Perinereis cf. cultrifera*, drying

1. INTRODUCTION

One potential alternative materials as feed additives is tanh worm because it contains high protein and amino acids complete. The chemical composition of earthworm *Lumbricus rubellus*

flour was 65.63% protein content [1] as well as the amino acid proline approximately 15% of the total 62 amino acids [2], while the type of *L. Terrestrial earthworms* for flour containing 32.60% crude protein [3], excavatus *Perionyx earthworm* flour containing 57.2% crude protein and contains essential amino acids that is complete. [4] with the administration of earthworm powder (TCT) as a poultry feed proved to accelerate the growth of live weight, increase muscle tissue formation, and improve feed efficiency. [5] also reported the antimicrobial activity found in earthworms. *Eisenia foetida* earthworms have glikolipoprotein mixture of G-90 and has inhibitory against *Staphylococcus* sp. higher than the antibiotic Gentamicin 10 mg and 20 mg Enrofloxacin.

Lawar worms *Perinereis cf. cultrifera* (Bleeker 1840) marine chemical composition 13% especially high protein [6], this can allow for amino acids that can be used as a source of fish feed. Amino acids are proteins that influence the heating process will provide value to the quality of the amino acid lawar worms. This study aims to look at the effect of heating on the chemical composition of the amino acids.

2. EXPERIMENTAL

2.1 Materials

The material used is a worm lawar *Perinereis cf. cultrifera* (Bleeker 1840).

2.2 Methods

The method used three stages: The first stage penggeringan: worm lawar *Perinereis cf. cultrifera* (Bleeker 1840) penggeringan sunlight and electric oven.

The second phase: sample preparation, sample smoothing worms *Perinereis cf.cultrifera* The hird stage: analysis of amino acid composition by GC.

3. RESULTS AND DISCUSSIONS

3.1. Kromotogram-GC Worms Lawar

From the results obtained from the GC kromotogram show that type of amino acid that is owned by worms highest lawar Hydroxyproline is an amino acid 16.505 mg/g of sample, and glutamic acid 15.361 mg/g of sample using the direct method of drying by the sun (natural), whereas with penggeringan artificial electric oven is the highest amino acid Hydroxyproline 22. 015 mg / g of sample and acid glutanicnya lost or absent due to the heating (Fig.1).

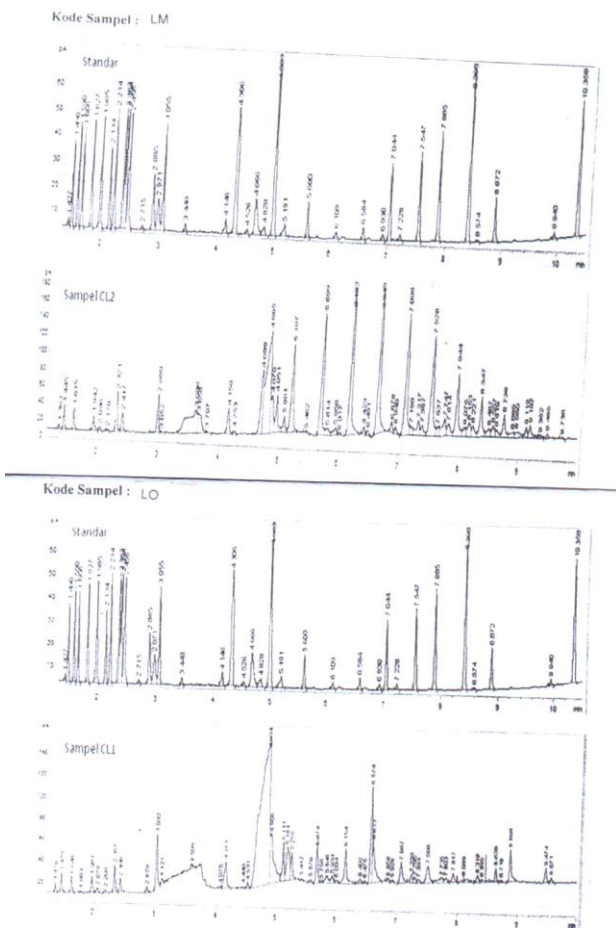


Fig.1. Lm : Kromatogram Lawar with drying sun
Lo : Kromatogram Lawar with Oven Electric

3.2. Amino Acid Composition

Amino acids are needed by the children for future growth, is histidine and arginine. The process of drying in the sun has a histidine content of 1,209 mg / g sample, while the oven is not found penegeringan histidine. Functions indispensable amino acids few examples of amino acids contained in the worm lawar feninalanin mmerupakan beginners and both of them form a

Table 3.1. Composition spesies amino acid worms lawar drying with sun

<i>Spesies amino acid</i>	<i>presentase (mg/g sampel)</i>
<i>Alanine</i>	0,890
<i>Alpha Amino Butyric acid</i>	0,746
<i>Valine</i>	0,096
<i>Beta amino isobutyric acid</i>	
<i>Threonine</i>	2,090
<i>Aspartic acids</i>	0,088
<i>Hydroxyproline</i>	0,913
<i>Glutamic acid</i>	16,505
<i>Phenylalanine</i>	15,361
<i>Alpha-amino adipic acids</i>	0,581
<i>Ornithine</i>	2,254
<i>Lysine</i>	0,868
<i>Histidine</i>	0,959
<i>tyrosine</i>	1,209
	0,993

Table 3.2. Composition spesies amino acid worms lawar drying sintetis with Oven electric

Spesies amino acid	Presentase (mg/g sampel)
<i>Alanine</i>	0,673
<i>Glycine</i>	0,046
<i>Alpha Amino Butyric acid</i>	0,678
<i>Valine</i>	0,224
<i>Threonine</i>	2,803
<i>Serine</i>	0,297
<i>Methionine</i>	0,068
<i>Hydroxyproline</i>	22,015
<i>Phenylalanine</i>	1,282
<i>Alpha-amino adipic acids</i>	0,782
<i>Ornithine</i>	0,952
<i>Lysine</i>	1,049

tyrosine tyrosine and epinephrine, arginine, ornithine, citrulline, had a role in the synthesis of urea in the liver. [7]. Glycine can be fused with toxic substances and produce no toxic compounds and then excreted. Glycine also acts on synthetic porphyrin of hemoglobin and is also a constituent of glycolic acid. Essential histidine to histamine synthetic. Creatine is formed from arginine, glycine, and methionine, with phosphate to form creatine phosphate, glutamine and asparagine amino group which is cadanga respectively generated by glutamic acid and aspartic acid. All kinds of essential amino acids and non-essential both very important for the growth and development of children found available in full on the worm lawar *Perinereis cf. cultrifera* (Bleeker 1840) in the village of East Maluku Wearlilir.

4. CONCLUSION

The conclusion from this study is that there is:

- 1 . Drying with sunlight there are 14 types of *amino acids* .
2. Electric Oven drying there are 12 types of *amino acids*.

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