

**Differences in Fat Levels in Duck Meat (*Anas domesticus*)
With the Addition of Sinom Leaf
(*Tamarindi folium*)**

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ABSTRACT

Indonesia has a variety of traditional drinks that are efficacious for health, of course this is very useful for maintaining health. Sinom leaf is a traditional drink that contains flavonoid and tannin active substances that can reduce fat and increase the body's immune system. In addition, tamarind leaves also contain saponins, pro vitamin A, vitamin C, minerals, calcium, phosphorus, phenol compounds, antioxidant, pectin and organic acids. In 100 grams of duck meat contains 28.6 grams of fat so that innovation in progressing is needed to reduce the fat content of the duck meat. The research was carried out experimentally, namely by using quantitative gravimetric methods with a soxhlet tool. Examination of the fat content of duck meat by boiling and adding 5 grams, 10 grams and 20 grams of sinom leaves resulted in fat content of 19.45%, 13.13% and 8.34%. The value (r) in the statistical test shows 0.984 which indicated that there is a significant effect on reducing fat content by boiling sinom leaves.

Keywords : Duck Meat, Sinom Leaves, Fat Content.

INTRODUCTION

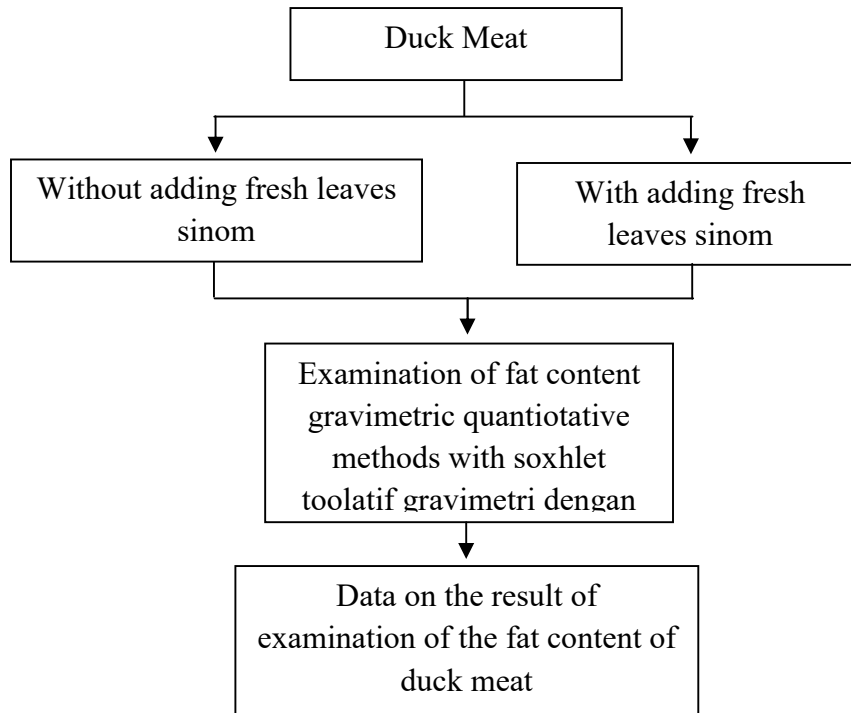
In this modern era, busy work and daily activities cause people to diet and exercise which has an impact on decreasing health levels. Consuming fatty foods such as processed duck meat can lead to various disease such as stroke, arteriosclerosis and coronary heart disease, of course if the amount of exercise consumption and without being balance with adequate exercise will cause the risk of disease. In 100 grams of duck meat contains 28.6 grams of fat, of course innovations are needed that can be done to reduce fat levels in the food to be consumed, one of which is by adding ingredients that contain active substance that can reduce fat levels in the food.

Sinom leaf is one of the traditional ingredients that can reduce fat levels, containing flavonoid and tannin active substances as well as other substances such as : saponin, pro vitamin A, vitamin C, minerals, calcium, phosphorus, phenol compounds, antioxidants, pectin and organic acid. Kadar Lemak dianalisa dengan metode quantitative gravimetri dengan alat soxhlet. This method requires an analytical balance instrument to obtain a very precise sample weight. So that in this study the aim was to determine the effect of adding sinom leaves to the fat content of duck meat.

MATERIALS AND METHODS

The type of research used is experimental laboratory with gravimetric quantitative analysis using soxhlet apparatus.

The research material used was 5 grams of rejected duck thigh meat without bone and skin which was obtained at the Darmo Trade Center (DTC) market. Samples were taken fresh after being cut and then analyzed for fat content without storage in the refrigerator, then treated according to the operational framework as follows :



Procedure :

- a. Boiling with water :
Separate the duck meat from the bones and skin, boil 5 grams of duck meat for 30 minutes with 250 ml of water. Drain the duck meat stew.
- b. Boiling with 5 grams sinom leaves:
Separate the duck meat from the bones and skin, Boil 5 grams of duck meat with 5 grams of fresh sinom leaves, namely fresh sinom leaves put in 250 ml of boiling water for 30 minutes. Drain the duck meat stew.
- c. Boiling with 10 grams sinom leaves:
Separate the duck meat from the bones and skin, Boil 5 grams of duck meat with 10 grams of fresh sinom leaves, namely fresh sinom leaves put in 250 ml of boiling water for 30 minutes. Drain the duck meat stew
- d. Boiling with 20 grams sinom leaves:
Separate the duck meat from the bones and skin, Boil 5 grams of duck meat with 20 grams of fresh sinom leaves, namely fresh sinom leaves put in 250 ml of boiling water for 30 minutes. Drain the duck meat stew.

Calculation of fat concentration

Prepare a sample container or flask in the soxhlet apparatus, weight 5 grams of the material on filter paper, put in a soxhlet, extracted using diethyl ether solvent, flow water through a condenser, heat on a heater. After the extraction is complete, dry the flask by heating it at 105°C for 30 minutes. Transfer to a desiccator for 1 hour and then weigh.

$$\text{Fat Level} \quad : \quad \frac{B - A}{C} \times 100\%$$

Note : A : weight empty flask (gram)
B : weight empty flask+ residu (gram)
C : weight sample(gram)

RESULT AND DISCUSSION

From the results of the study obtained the following results : Boiling treatment with water/negatif control was 23.24%. In duck meat that had been boiled with 5 grams of sinom leaves, the fat

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decreased to 19.45%.in duck meat that has been boiled with 10 grams of sinom leaves, the fat conten decreased higher to 13.14%. Meanwhile, the fat content of duck meat boiled with 20 grams of sinom leaves decreased very sharply to 8.34%. So that it can be displayed using a table like the one below :

Sampel	Boiling Duck meat without fresh sinom leaves (%)	Boiling Duck meat with 5 grams fresh sinom leaves (%)	Boiling Duck meat with 10 grams fresh sinom leaves (%)	Boiling Duck meat with 20 grams fresh sinom leaves (%)	Anova (P)	r
A	24,72	20,33	13,72	7,97	0,000	0,984
	24,70	20,31	13,70	7,97		
B	22,89	18,12	11,93	9,22		
	22,85	18,16	11,95	9,21		
C	22,13	19,92	13,78	7,83		
	22,17	19,88	13,78	7,87		
Mean	23,24	19,45	13,14	8,34		

Based on the results of the homogeneity test, the value (p) on the fat content was 0.682. When compared with the value of $\alpha=0.05$, then the value (p) >0.05 so that it can be concluded that H_0 is accepted, which means data analysis of the fat content of bonesless duck meat and boiled skin without the addition of fresh sinom leaves and with addition of fresh sinom leaves. As much as 5 grams, 10 grams and 20 grams are identical (homogeneous), then the statistical data is continued to Anova.

Based on the results of the Anova test, the value (p) value is 0.000. When compared with the value of $\alpha=0.05$, then the value (p) value <0.05 so it can be concluded that H_0 is rejected so that H_1 is accepted, which means that there is an effect of sinom leaves on reducing fat content in boiling duck meat.

Anova advance test (post Hoc Tests), Anova follow-up test is conducted to find out which averages have different values. So it can be concluded that there is an effect of fat content between the treatment of duck meat boiled with 5 grams, 10 grams and 20 grams of sinom leaves with duck meat boiled with water.

In the data analysis result, an influence test (R) was also carried out which aims to determine the strength of the effect of the ability of fresh sinom leaves on the fat content of duck meat. The result of the effect test are marked with a value of 0-1. From the result of the analysis of the influence test, a value (r) of 0.984 is obtained which indicates a strong influence on the addition of fresh sinom leaves to the fat content duck meat.

DISCUSSION

Effort to reduce fat levels in food, especially meat, have been widely carried out a variety of food processing methods. The result of Meiarso's research (2005) related to several methods of processing enthog meat that can reduce fat content higher by roasting, grilling and pressing compared to the boiled methods.

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In addition to variation in meat processing methods, several studies have added herbal ingredients to reduce fat content in meat. Lilik's research (2019) gave a higher reduction in meat fat content at 45 minutes of boiling time compared to 25 minutes with the addition of 90 % pineapple extract.

Israwati (2021) showed that the addition of young jackfruit 10%, 20% and 30% had a significant effect on the fat content of shredded beef. Haliza (2018) and Nurrokhmah (2018) also investigated the reduction in fat content by giving lime extract, which resulted in the highest reduction in fat content (83.55%) in beef tripe with a concentration of lime peel extract with a soaking time of 30 minutes. The presence of 7% citric acid in lime dissolves some of the fat and flavonoid content in lime juice acts as an antioxidant and essential oils that can dissolve fat (Kinanti, 2015).

The results of the study of giving fresh sinom leaves to 64% decrease in fat content of duck meat in the group given 20 grams of sinom leaves, was the highest reduction in fat content when compared to other groups. The decrease in fat content in meat is due to the presence of antioxidants and flavonoids in sinom leaves which act as bioactive components that inhibit the fat oxidation process. (Akbar, 2018).

CONCLUSION

From the research above, it was found that sinom leaves had an effect on reducing fat in duck meat.

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