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THE QUALITY AND ORGANOLEPTIC VALUE OF TALIWANG CHICKEN DISHES BASED ON AGE OF SLAUGHTER

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ABSTRACT

Ayam Taliwang is a culinary specialty of Lombok Island, Indonesia, which is already internationally famous, especially among foreign tourists and has an impact on increasing tourist visits. This research aims to determine the standard slaughter age of superior native chicken to obtain the quality and organoleptic value of *Taliwang* chicken dishes that can be accepted by consumers. The materials used are 15 superior male village chickens and several spices for cooking *Taliwang* chicken. The method used was experimented in the laboratory and was designed based on a unidirectional Completely Randomized Design with 3 treatments and 5 replications: namely P1 = 6 weeks of age at slaughter, P1 = 7 weeks of age at slaughter, and P2 = 8 weeks of age at slaughter. Antioxidant content was measured using the DPPH (1,1-diphenyl-2-picryl hydrazyl) method; cholesterol profile was measured using the enzymatic colori-metric method, nutritional profile was measured using the proximate analysis method and organoleptic values were carried out using human senses as the main tool for measuring product acceptance. Research data such as antioxidant content, cholesterol profile, nutritional profile, and organoleptic values were analyzed using analysis of variance and continued with the Duncan Multiple Range Test. The research results showed that the antioxidant, cholesterol profile, nutritional profile and oganoleptic value of *Taliwang* chicken dishes based on age at slaughter were sequentially: Antioxidants range from 71.17-94.88%; total cholesterol 32.20-46.84 mg/dL; HDL (high-density lipoprotein) 5.44-7.42 mg/dL; LDL (low-density lipoprotein) 1.10-5.64 mg/dL; protein content 28.34-30.56%; fat content 10.00-13.38%, organoleptic value (aroma, taste and tenderness) is accepted by consumers. Statistically it can be proven that the age of slaughter has a very significant effect ($P<0.01$) on the antioxidant content and taste of Taliwang chicken dishes, a significant effect ($P<0.05$) on the LDL content and aroma, while on the HDL content as well as nutrition and tenderness no significant effect ($P>0.05$). Conclusion: Male native chickens aged 7 weeks are cut to produce Taliwang chicken products that have high antioxidant content (94.88%), low total cholesterol (32.20 mg/dL), and low LDL (1.10 mg/dL), high HDL (7.42 mg/dL), protein above fresh meat protein (26.55%), normal fat (13.38%) with a fragrant aroma value, a taste that consumers like and is classified as tender.

Key words: Antioxidants, cholesterol profile, Taliwang chicken dish, nutritional profile, organoleptic

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INTRODUCTION

Taliwang chicken dish (TCD) is a traditional dish typical of Lombok Island, West Nusa Tenggara, Indonesia which has been famous since the Selaparang Kingdom. The spices used in making TCD consist of: local spices such as curly red chilies, cayenne pepper, garlic, shallots, grilled shrimp paste, brown sugar, lime, thick coconut milk, cooking oil, and salt [1]. It is called TCD because this dish was first introduced by the Karang Taliwang community in Cakranegara District, Mataram, West Nusa Tenggara, during the war between the Selaparang Kingdom and the Karang Asem Kingdom of Bali [2]. It is further said that because of its specific processing method with distinctive spices, TCD has been designated as a typical dish of Lombok Island and has become a culinary tourism object.

Local and foreign tourists are very fond of TCD, so many restaurants in Mataram City always serve TCD with various flavors, from simple to very spicy [3]. The main ingredient for making TCD is young kampung chicken with special *Taliwang* spices and is usually served with other typical Lombok foods [4]. The process of making TCD is very simple, namely by adding typical Lombok spices which have a spicy and savory taste. The ingredients needed to make TCD are 1 young kampung chicken, cooking oil, lime, and a number of spices such as curly red chilies, cayenne pepper, galangal, shallots, garlic, tomatoes, grilled shrimp paste, and brown sugar [5].

The quality and organoleptic value of processed broiler products such as TCD depend on internal factors such as type of poultry, sex, age at slaughter and external factors (treatment before slaughter, slaughter facilities and processing methods [6, 7, 8]. The age of livestock before slaughter can affect the quality of processed meat including Taliwang chicken dishes [6]. The older the slaughter age of livestock causes the muscle fiber bonds between actin and myosin to become stronger so that the meat structure becomes more compact with shorter connective tissue fibers [8, 9].

Cholesterol is a precursor of primary bile salts formed in the liver and stored in the form of conjugated bile salts in the gallbladder to be gradually secreted in the digestive tract [10]. Conjugated bile salts are secreted into the small intestine to help absorb dietary fat, cholesterol, hydrophilic vitamins, and other fat-soluble components. Bile salts are one of the main components of bile made and secreted by the liver which functions to help digest fat and help absorb nutrients [10]. High bile salt production causes the process of fat digestion and nutrient absorption to run perfectly, so that livestock production in the form of meat or eggs contains low cholesterol levels [11].

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Cholesterol and triglyceride levels have recently received a lot of attention, because both cholesterol and triglycerides are factors that cause coronary heart disease. Free-range chicken meat is a commodity that has low fat and cholesterol content [10]. It is explained that male native chickens fed with ground corn and soybean meal have blood cholesterol levels of 131.76-163.53 mg/dL, HDL (high density lipoprotein) 41.44-50.40 mg/dl and LDL (Low Density Lipoprotein) of 45.68-78.09 mg/dL. Dietary fiber can help lower fat and cholesterol levels in the blood. This is because fiber can bind fat and cholesterol in the small intestine so that it is not absorbed into the bloodstream [10].

Organoleptic testing is known as sensory evaluation. Sensory evaluation is defined as a scientific measurement to analyze the characteristics of materials received by the senses of sight, taste, smell, touch, and hearing and to interpret the reactions received as a result of the sensing process [12]. Research related to the study of the quality of Taliwang chicken dishes is still very limited**,** while culinary information on Taliwang dishes is one of the causes of the increase in tourist visits, both foreign and domestic tourists. Previous research results reported that the protein content of Taliwang chicken dishes circulating in Mataram City ranged from 27.34-28.91% with a cholesterol content ranging from 16.7%-23.3% [13]. The water content of vacuum-packed Taliwang chicken stored for 6 days was 53.51% and was still preferred by consumers, while the non-vacuum packaging was 54.55% and was less preferred by consumers [14]. This study was conducted with the aim of determining the standard slaughter age of native chickens in order to obtain the quality and organoleptic value of TCD that are acceptable to consumers.

MATERIALS AND METHODS

Research Materials

The materials used in this research were 15 male superior free-range chickens obtained from professional free-range chicken breeders, 1 package of TCD seasonings consisting of: dried red chilies or cayenne peppers, shallots, garlic, tomatoes, shrimp paste, grilled, and brown sugar. The research equipment consists of: frying pan, Liquefied Petroleum Gas, knife, chicken burner, sutil, spice grinder (blender), oil filter, fryer, fire for grilling the chicken and other necessary equipment.

Research Methods

Fifteen superior male native chickens were divided into three treatments with five replications based on a Completely Randomized Design with a one-way pattern: P1: slaughter age 6 weeks; P2 = slaughter age 7 weeks and P3 = slaughter age 8 weeks.

Making TCD

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***Taliwang* chicken dish cooking formula**:
The formula for making TCD is presented in Table 1.

How to Make TCD:

1. Coat the chicken with lime juice and salt. Grill the chicken until it is half cooked.
2. Grind the spices until smooth, including: shallots, garlic, curly red chilies, candlenuts and grilled shrimp paste.
3. Saute ground spices in cooking oil (temperature 50-60^{0}C) until boiling and a distinctive aroma is smelled. Add coconut milk, salt, and brown sugar little by little.
4. Add the chicken to the spice mixture and cook over low heat until it is fully cooked and the spices are absorbed.
5. Grill the chicken again, brushing it with the remaining spices until a specific aroma emerges.

The appearance of TCD as a sample for testing quality and organoleptic value is presented in Figure 1.

Figure 1: Taliwang chicken dishes

Research Variables:

a. Antioxidant content was measured using the DPPH (1,1-diphenyl-2-picryl hydrazyl) method [15] with the formula:

$$\text{Antioxidant Activities (\%)} = \frac{(A\ DPPH - A\ Sample)}{(A\ DPPH)} \times 100$$

Method of measuring antioxidants:

- A total of 1g of sample was added to 9mL of methanol and then vortexed.
- The samples were macerated for 24 hours.

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- The sample was filtered with Whatman filter paper to separate the residue from the filtrate.
- Take 1 mL of sample then add 2 mL of 0.1mm DPPH solution
- The mixture is shaken until homogeneous, covered with aluminum foil, then incubated in a dark room for 30 minutes.
- Measure absorbance at a wavelength of 517nm
- Record the results of the abroban measurements, and the calculation of the antioxidant content is carried out using the formula above.

b. Cholesterol content using the enzymatic colori-metric method [16].

Method of measuring cholesterol:

Method of measuring cholesterol, LDL and HDL:

- Chloroform extract which contains cholesterol from the material is reacted with acetic acid anhydride and concentrated sulfuric acid
- The reaction results in color and absorbance measured at a wavelength of 420 nm.
- The meat of Taliwang chicken is weighed at 50 g
- The Taliwang chicken meat is crushed with a waring blender
- The extracted sample (clear color) was divided into two parts.
- The first part is dripped using the Lieberman-Burchard measuring solution.
- The second part was dripped using the control Lieberman-Burchard solution.
- The color that appears can be read with a spectrophotometer at a wavelength of 340 nm.

c. The nutritional content of TCD feed was determined using the proximate analysis method [17].

Measuring the protein content of Taliwang chicken dishes:

- Prepare a sample of 1.5 g of material and put it into a clean and dry Kjeldahl flask.
- Add 2 g K_2SO_4, 1 g $CuSO_4$, 25 ml H_2SO_4 and boiling stones (3 pieces), then distributed with a turbine system with weak, medium and high heating until it is clear green, then cooled to room temperature.
- The results of the destruction were diluted with distilled water until the volume reached 100 ml and 3 boiling stones were added, then 20 ml of 40% NaOH was added carefully.
- The distillation results were collected with 20 ml of 3% H_2BO_3 and BCG indicator mix was added.
- Distillation is stopped when the volume in the collection flask has reached 100 ml and Titration using H2SO4.
- The calculation of crude protein content can be calculated using the formula:

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$$\text{Protein content} = \frac{\textit{ml titration} \times 0.1 \times 0.014 \times 6.26}{\text{Sample weight}} \times 100\%$$

Measuring the fat content of Taliwang chicken dishes:

- Fat-free filter paper is placed in an oven at 105^{O}C for 1 hour, then cooled in a desiccator for 1 hour and weighed.
- Weigh 1.5 g of sample, then wrap it in filter paper that has received treatment 1. Put it in the oven at 105^{O}C for 8 hours. Then cooled in a desiccator for 1 hour and weighed.
- The upright cooling flask and Soxhlet extraction apparatus are assembled in such a way, then placed on a water bath.
- The circuit is filled with petroleum benzene until it is completely down and put into a collection flask. Repeat until the extraction tool is full.
- Extraction is stopped when the liquid in the Soxhlet flask is clear.
- The sample was removed from the extraction tool and the petroleum benzene was evaporated, then placed in an oven at 105^{O}C for 4 hours, then cooled in a desiccator for 1 hour and then weighed.
- Calculating crude fat content using the formula = $\frac{C-D}{E} X\ 100\%$; C= Paper Weight + Sample, D= Paper Weight +Sample 105^{O}C, dan E= Paper Weight + Extraction

Measurement of water content:

- The clean porcelain cup is placed in an oven at 105^{o}C for 1 hour, then cooled in a desiccator for 1 hour and weighed.
- Weigh 1.5 g of sample. Put it in a porcelain cup and bake it at 105oC for 8 – 12 hours, hen cool in a desiccator for 1 hour. After that, it is weighed every 1 hour and is done 3 times until the weight is constant.
- Calculate water content with the formula: Water content = $\frac{B-C}{D} X\ 100\%$; B= Cup Weight; C= Cup Weight + Sample and D= Cup Weight + Sample 105^{0}C

d. Organoleptic value is carried out using human senses as the main tool for measuring product acceptance [18].

Methods of organoleptic assessment

- Determine twenty semi-trained panelists who are physically and mentally healthy and not color blind. The panelist ratio is 50% male and 50% female.
- Panelists were gathered and given a brief explanation of the purpose and objectives of conducting organoleptic tests.

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- Panelists are guided to occupy the organoleptic testing room which is divided so that each panelist occupies a separate room.
- Setting assessment standards with indicators:
    - Fragrance: unpleasant (1-3); pleasant (>3-6), very pleasant (>6-9)
    - Taste: not delicious (1-3); delicious (>3-6), very delicious (>6-9)
    - Tenderness: not tender (1-3); tender (>3-6); very soft (>6-9).

Data Analysis

The results of the study were analyzed using one-factor Analysis of Variance based on a Completely Randomized Design and continued with the Duncant Multiple Test with a 5% confidence level using the SPSS version 25 program [19]. The reason for using one factor analysis of variance is because the research material is homogeneous in terms of chicken type, gender, sampling location, type of feed given and cage management.

RESULTS AND DISCUSSION

Antioxidant Value and Cholesterol Profile of TCD

The results of the study on the effect of slaughter age on the antioxidant content and cholesterol profile of TCD are presented in Table 2.

The results of the One-way Anova showed that age of slaughter had a very significant effect ($P<0.01$) on the antioxidant content of TCD, had a significant effect ($P<0.05$) on the HDL content and had no significant effect ($P>0.05$) on HDL content. Antioxidants in TCD range from 71.17-94.88%. The antioxidant content of TCD with a slaughter age of 7 weeks was higher (94.88%) and significantly different ($P<0.05$) compared to the antioxidants of TCD with a slaughter age of 8 weeks (80.92%) and a slaughter age of 6 weeks (71.17%).

The increase in antioxidants in TCD at 7 weeks of slaughter is attributed to the meat fibers' ability to bind the spices more effectively compared to TCD at 6 weeks of slaughter. It is said that the more Taliwang chicken spices are absorbed by the connective tissue of the meat, the more it will cause the accumulation of antioxidants that come from Taliwang chicken spices such as shallots, garlic, tomatoes and curly red chilies. Chickens slaughtered at a young age (6 weeks) have a higher water content, which reduces the meat fibers' ability to bind spices in TCD [8]. Chickens slaughtered at 8 weeks of age have a higher subcutaneous fat content, which can inhibit the absorption of some TCD cooking spices into the meat fibers [13].

Differences in antioxidant content at each slaughter age of poultry are caused by variations in nutritional composition. The content of antioxidant compounds can be influenced by the availability of nutrients in a food ingredient, so that differences in

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the amount of fat or protein in a food ingredient can result in differences in antioxidant content [20]. Antioxidants are substances that function to neutralize free radicals that can damage cells. Free radicals can attack various body components, such as proteins, unsaturated fatty acids, lipoproteins, DNA, and carbohydrates [21].

Livestock such as chickens, cows, ducks and other animals basically do not have antioxidant reserves in their bodies, therefore if there is excessive exposure to free radicals, the body requires antioxidant intake from outside through the provision of feed containing antioxidants such as avocado seed waste flour [20]. Antioxidants in livestock play an important role in maintaining health, production performance, and reproduction. Antioxidants synthesized in livestock body tissues: ascorbic acid, coenzyme Q (CoQ), carnitine, taurine, antioxidant enzymes [21].

The antioxidant content in TCD comes not only from the chicken meat, but also from the spices used [22]. The antioxidant properties found in spices that are often used as cooking spices can persist after being heated or cooked. Various plants found in Indonesia and commonly consumed contain antioxidants, such as onions which contain organosulfur which has antioxidant properties [23].

Cayenne pepper contains secondary metabolites that are beneficial for human health such as antioxidants and carotenoids [22]. The antioxidant content of cayenne pepper is determined by the variety and level of ripeness. Antioxidant compounds contained in cayenne pepper include vitamin C, carotenoids and capsaicin. The antioxidant capacity of chili fruit can reach 110.67 mg/g [23, 24].

Organosulfur and phenolic compounds as antioxidants contained in garlic play a very important role in preventing damage to cells and organs from the oxidation process [25]. The antioxidant content of local garlic ranges from 10.61-13.61%. Flavonoid, phenolic and tannin compounds found in garlic are compounds responsible for antioxidant activity. Red onion skin contains chemical compounds that have potential as antioxidants, namely flavonoids, polyphenyls, saponins, terpenoids, steroids and alcolids [20, 26].

The antioxidant activity of flavonoid, phenolic and tannin compounds is because these three compounds are phenolic compounds, namely compounds with an -OH group bound to the carbon of the aromatic ring. This phenol compound has the ability to donate hydrogen atoms so that DPPH radicals can be reduced to a more stable form [27]. The free radical scavenging activity of phenolic compounds is influenced by the number and position of phenolic hydrogens in the molecule. The more hydroxyl groups a phenolic compound has, the greater the antioxidant activity produced [28, 29].

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The cholesterol content of TCD (Table 2) ranges from 32.20-46.84 mg/dL). The cholesterol content of TCD made from superior native chickens aged 7 weeks (32.20%) is lower than the cholesterol content of TCD aged 8 weeks (35.84 mg/dl) and 6 weeks (46.84 mg/dL) but is not statistically significantly different (P>0.05). It is said that the cholesterol content of chicken meat is 152.67 mg/dL or 79 mg/dL for chicken breast [30]. The results of this study show that the cholesterol content of cooked TCD is lower than the average cholesterol content in raw chicken meat and is also lower than the normal range of blood cholesterol levels in chickens, namely 52-148 mg/dL [31]. The low cholesterol content in TCD is caused by the process of grilling TCD which can cause the fat bonds in the skin and between the meat fibers to break down and the fat melts during grilling, thus creating a specific aroma for grilled TCD.

The fat content in the skin and meat greatly influences the cholesterol content of processed meat, including TCD [32, 33]. Processed chicken meat from chickens slaughtered at 8 weeks of age has a higher cholesterol content compared to chickens slaughtered at 6 weeks and 7 weeks of age. This is because in chickens that are raised until the age of 8 weeks, their body fat is not used as a source of energy for growth but is stored in the blood and flesh, which can cause the cholesterol content of the meat to increase [34].

The HDL content in TCD ranges from 5.44-7.42%, this result is still considered normal because the standard for normal blood HDL is > 20 mg/dL [33]. The increase in HDL levels indicates that the increase in the age of chicken slaughter is followed by an increase in the HDL content of Taliwang chicken dishes [34]. High HDL levels prevent the risk of atherosclerosis by transporting cholesterol from peripheral tissue to the liver and reducing excess cholesterol [35]. Lipoprotein is part of HDL which transports lipids from the periphery to the liver [36].

Molecules that are small compared to other lipoproteins are called HDL, so they can pass through vascular endothelial cells and enter the intima to transport back cholesterol that has accumulated in macrophages [33]. Another advantage of HDL is that it has antioxidant properties that can prevent LDL oxidation [32]. It is said that HDL levels are influenced by the environment (diet) and genetics [11].

The results of the study showed that LDL from TCD ranged from 1.10-5.64 mg/dL. The results of the Duncan test showed that cooking TCD with the main ingredient of free-range chicken meat at a slaughter age of 7 weeks produced low LDL (1.10 mg/dL) compared to a slaughter age of 6 weeks (5.64 mg/dL) and a slaughter age of 8 weeks (3.82 mg/dL). The results of this study provide an illustration that the 6-week slaughter age produces TCD containing LDL in the normal range. Normal blood LDL levels are <130 mg/dL [33].

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Nutritional Profile of TCD

The results of research on the effect of slaughter age on the nutritional profile of *taliwang* chickens are presented in Table 3.

The results of the One-way Anova showed that the age of slaughter did not have a significant effect (P>0.05) on the water, protein and fat content of TCD. The water content of TCD ranges from 54.89-56.99%. The water content of TCD cooked at 8 weeks of slaughter age (54.89%) is relatively lower than that of TCD cooked at 6 weeks of slaughter age (56.61%) and 7 weeks of slaughter age (56.99%), It is said that the older the cutting age, the lower the water content, while the fat content will increase [8].

Fresh meat has a water content of 63.22% [31], 65-80% [34]. The results of the study showed that the water content of TCD was below the water content of fresh meat, this was because in making TCD, the frying and baking processes were carried out which could reduce the water content of the meat.

The protein content of TCD ranges from 26.55-30.56% higher compared to the protein content of fresh meat, namely superior chicken meat which ranges from 22.71% [31]; 16-22% [8]. It is said that the protein content of chicken meat is negatively correlated with water content [35]. The results of this study provide an overview that the protein content of TCD is higher compared to the protein content of fresh meat, this is because the addition of protein to TCD is due to a number of spices used such as red chilies, garlic, shallots and pepper containing protein [36].

Table 3 shows that the fat content of TCD that are 7 weeks old at slaughter is higher (13.38%) compared to the fat content of *taliwang* chicken dishes that are 6 weeks old at slaughter (10.30%) and TCD that are 8 weeks old at slaughter (10.00%). The high or low-fat content of processed meat, including TCD, is caused by the age of slaughter, the fatness level of the chicken, and the length of the frying process [17]. It is said that the accumulation of body fat in chickens is influenced by many factors, including chicken strain, gender, age, ration quality, and environmental factors such as cage, season, temperature, and humidity [32].

Organoleptic Value of *Ttaliwang* Chicken Cuisine

The results of research on the effect of age of slaughter on the organoleptic value of TCD are presented in Table 4

The results of the One-way Anova showed that age of slaughter had a very significant effect (P<0.01) on the fragrance of TCD, had a significant effect (P<0.05) on taste and had no significant effect on tenderness. The results of the panelists' assessment of the aroma of TCD (Table 4) based on slaughter age ranged from 4.96 to 5.63 (classified as delicious) and were very significantly different (P<0.01)

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between slaughter age of 6 weeks (5.63) and slaughter age of 7 weeks (4.96) and slaughter age 8 weeks (5.60).

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The difference in fragrance from the panelists' assessments occurred because there were differences in the nutritional composition of meat with different cutting ages. It is said that the natural interaction between fragrance components and nutritional components in food such as carbohydrates, proteins and fats and consumer acceptance is very relative [37]. Furthermore, it is said that the fragrance component is closely related to the concentration of the fragrance component in the vapor phase in the mouth.

The results of the panelists' assessment of the taste of TCD (Table 4) based on slaughter age ranged from 5.70 to 6.33 (classified as delicious) and the taste at 6 weeks of slaughter age (6.33) was significantly different ($P<0.05$) from the taste. at 7 weeks of slaughter age (5.70) and 8 weeks of slaughter age (5.74). Taste is greatly influenced by chemical compounds, temperature, concentration and interactions with other flavor components [36]. Differences in assessment of the taste of TCD occur due to differences in the chemical composition of chicken at different slaughter ages. The taste of a processed product is influenced by several factors, including cooking method, addition of salt and seasonings [38]. Small molecules released by food during heating, chewing, etc. react with receptors in the mouth or nasal cavity which determine the taste of the meat and good quality meat has a relatively savory taste [36].

Sweet, bitter, sour and salty tastes are sensory qualities related to the sense of taste [36]. It is said that taste is one of the important factors that determines consumer acceptance of food products. The complexity of a taste is produced by the diversity of natural perceptions. Taste is influenced by three factors, namely smell, taste and oral stimulation (hot and cold) [38].

The results of the panelists' assessment of the tenderness of TCD (Table 4) based on age at slaughter ranged from 5.23 to 5.78 (classified as tender) and were not significantly different between treatments. The difference in tenderness that does not occur in TCD based on the age of slaughter is caused by the fibers of the meat of free-range chickens at the age of slaughter of 6, 7 and 8 weeks still forming unstable fiber bonds, that is, if they receive the same treatment in the roasting and frying process, the fiber bonds will quickly experience the same breakdown so that the level of tenderness is relatively the same. Another causal factor is that before the slaughtering process, the chickens receive the same treatment, namely that the chickens are fasted for approximately 6 hours, so that the chickens do not experience stress [8]. Livestock that do not experience stress before slaughter can produce tender meat [7].

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CONCLUSION AND RECOMMENDATIONS FOR DEVELOPMENT

Male native chickens aged 7 weeks are cut to produce Taliwang chicken products that have high antioxidant content (94.88%), low total cholesterol (32.20 mg/dL), and low LDL (1.10 mg/dL), high HDL (7.42 mg/dL), protein above fresh meat protein (26.55%), normal fat (13.38%) with a fragrant aroma value, a taste that consumers like and is classified as tender. The strategy that can be carried out in an effort to develop culinary Taliwang chicken dishes is to maintain the quality of processed products and increase promotional activities with a digital marketing system.

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CONFLICTS OF INTEREST

There is no conflict of interest between the authors.

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Table 1: TCD cooking formula

Number	Material name	Quantity
1.	Male village chicken	1 head
2.	Salt	1 tablespoon
3.	Lime juice	2 tablespoons
4.	Brown sugar	2 tablespoons
5.	Cooking oil	5 tablespoons
6.	Coconut cream	1/2 coconut grain
7.	Red onion	10 pieces
8.	Garlic	6 cloves
9.	Curly red chilies	5 cloves
10.	Pecan nuts (roasted)	5 cloves
11.	Sweet soy sauce (stork brand)	4 tablespoons
12.	Burnt shrimp paste	1 tablespoon

Source: https://ejournal.stpmataram.ac.id/JRT/article/view/989/774 [5]

Table 2: Average antioxidant value and cholesterol profile of TCD based on slaughter age

Variables	Slaughter age treatment (weeks)			Sig.
	P1	P2	P3	
Antioxidant (%)	(71.17±2. 60)^{b}	(94.88±0. 36)^{a}	(80.92±4. 30)^{c}	0.00
Cholesterol (mg/dL)	(46.84±17. 14)^{a}	(32.20±13. 07)^{a}	(35.84±9. 37)^{a}	0.25
HDL (mg/dL)	(5.44±2. 25)^{a}	(7.42±3. 43)^{a}	(5.64±1. 73)^{a}	0.43
LDL (mg/dL)	(5.64±2. 27)^{a}	(1.10±0. 57)^{b}	(3.82±3. 37)^{ab}	0.03

Description: Different superscripts in the same row indicate significant (P<0.05) and very significant (P<0.01) differences; Sig= significant

Table 3: Nutritional profile of TCD based on slaughter age

Variables	Slaughter age treatment (weeks) ^{NS}			Sig.
	P1	P2	P3	
Water content (%)	56.61±4.05	56,99±2.39	54.89±2.58	0.537
Protein (%)	28.34±3.16	26.55±1.93	30.56±5.51	0.290
Fat (%)	10.30±1.89	13.38±3.08	10.00±1.78	0.075

Description: NS= Non-significant (P>0,05); Sig= significant

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Table 4: Average organoleptic test value of TCD based on slaughter age

Variables	Slaughter age treatment (weeks)			Sig.
	P1	P2	P3	
Fragrance	(5.63±0. 25)[a]	(4.96±0. 29)[b]	(5.60±0. 32)[a]	0.005
Flavor	(6.33±0. 27)[a]	(5.70±0. 27)[b]	(5.74±0. 45)[b]	0.022
Tenderness	(5.78±0. 56)[a]	(5.24±0. 20)[a]	(5.23±0. 43)[a]	0.099

Description: Different superscripts in the same row indicate a significant difference (P<0.05); Sig = Significant

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