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Physical and Microbiological of Broiler Chicken Meat Marketed on Stalls in the City of Denpasar, Bali Province

Apni Tristia Umiarti, Made Wirapartha, GAM Kristina Dewi* and Kartika Wardani

Laboratorium Poultry Science- Faculty of Animal Science, University of Udayana.

***Corresponding authors**
GAM Kristina Dewi,
Laboratorium Poultry Science- Faculty of Animal Science,
University of Udayana.

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Abstract

The study aims to find out the physical and microbiological quality of broiler chicken meat marketed in Lapak in Denpasar, Bali Province. Broiler chicken meat is a perishable food ingredient, in the community postharvest handling broiler chicken meat gets less attention from farmers and broiler collectors for will be marketed. Conditions in which the place used in carrying, transporting live chickens and used for selling broiler chicken meat in roadside stalls, knives for cutting, cutting boards (sliced boards), washcloths (napkins) are used by traders, so that a lot of losses are caused postharvest handling, especially broiler chicken meat. Research will be carried out for 3 months, with the target of producing broiler chicken meat with good quality and nutritional and microbiological content according to SNI marketed by sellers in Lapak in Denpasar City, in order to reduce damage to animal feed ingredients (meat broiler which is ASUH) so that consumers become healthy. The method used in this study is a Completely Randomized Design (CRD) with the treatment of 4 treatments of broiler chicken meat sold in Lapak in Denpasar City (RU = North Denpasar, RT = East Denpasar, RS = South Denpasar and RB = West Denpasar) with 5 replications and each replication consisted of 5 broiler chickens. The variables observed were broiler chicken carcasses, physical properties of chicken meat (commercial cuts, and the chemical quality of meat (protein, fat, cholesterol) and the microbial content (TPC) marketed. obtained. Research result had a not significantly different (P>0.05) on carcass weight, percentage carcass, and meet microba of broiler. From this study, it can be concluded that the carcass production of broiler chickens sold in Lapak in Denpasar North, Denpasar, Timur, Denpasar Barat and Denpasar Selatan had no effect on the weight of the cut, carcass fracture of the back, wing, and percentage of broiler chicken fracture.

Keywords : Broiler chicken meat, physical quality, stall, healthy

Introduction

An increase in the population in Denpasar City, Bali Province makes the need for fulfillment of animal protein sources sourced from Broiler chickens very high. Broiler chicken meat can be found and marketed in Traditional Markets, Supermarkets and Stalls and what is currently very trendy is the marketing of Stalls on the edge of the road. This is because buyers want to get broiler chicken meat that is faster and not crowded. in traditional markets, also do not buy at supermarkets because the price is cheaper. Broiler chicken traders in Lapak-Lapak also peddle using window displays with glass cabinets so that it will appeal to buyers passing along the road in Denpasar City. The sale of broiler chicken meat in the Traditional Market is displayed and the place to get chicken meat is very muddy and many look unattractive (Antari et al., 2017).

Seeing if there is anything needed, is the meat nailed to the stalls scattered in the city of Denpasar have the physical quality and microbial content in accordance with SNI No. 01-6366-2000 suitable for use by the community. Can also be sliced by beef from dead chickens and improperly cut meat, because there are already many who will uncover the disease for the people who consume it. According to SNI 7388: 2009 (BSN, 2009) that the maximum amount of TPC is 1 x 10^6 CFU/g. Therefore, meat is needed before meat is consumed.

This physical test is carried out to see the overall quality of the meat. By knowing the pH we can ensure that the meat is of good quality or not. Therefore, testing the physical properties of meat is indispensable. The government intensifies the livestock sector (ruminants and non ruminants), to increase the production of meat and eggs as a source of protein. Size of quality factors that determine the degree of perfection that will affect consumer acceptance of broiler chicken meat products. Physical quality of broiler (external) and microbiological meat in broiler chicken meat (internal). Nutritional factors that affect the quality of broiler chicken meat are the adequacy of

protein and amino acids and linoleic acid. Also carcass quality is influenced by before and after being cut.

According to Soeparno (2011) the factors before deduction are: genetic, species, nation, type of livestock, sex, age, feed including additives and stress. Factors after cutting that affect the quality of meat are methods of foraging, carcass pH, and meat, muscle types meat, additional ingredients including meat- damaging enzymes.

The results of the research by Antari et al., (2017) characteristics and microbiology of chicken meat marketed in East Denpasar Traditional Market are better than those in West Denpasar, North Denpasar and South Denpasar. Referring to the research results obtained and seeing the conditions in the field, it is necessary to conduct research on "Physical quality and microbiology of broiler chicken meat sold in Lapak in Denpasar City, Province of Bali".

Research Methods

Place and Length of Research

The research was carried out at the Laboratory of Poultry, Microbiology, and Technology of Animal Husbandry, Faculty of Animal Husbandry, Udayana University, Denpasar for 3 months.

Research Facilities and Infrastructure

The ingredients that will be used in this study include chemicals in the Laboratory and samples of broiler chickens taken in Lapak in Denpasar City. Infrastructure in this study are tools that are in the Poultry Animal Laboratory, Animal Production Technology, using knife tools, scissors, plastic bags, plastic trays.

Sampling and Preparation

Broiler chicken meat samples were taken simultaneously from Lapak-Lapak traders in Denpasar City. North Denpasar, South Denpasar, East Denpasar and West Denpasar. Samples were taken and placed in a plastic bag which was put in a plastic bag. Samples were taken to the Laboratory and ready to be randomly analyzed and analyzed.

The Research Design

The research used in this study was Completely Randomized Design (CRD) 4 Treatment: RU: Broiler Chicken Meat from Lapak in North Denpasar, RS: Chicken Broiler Meat from Lapak in South Denpasar, RB: Broiler Chicken Meat from Lapak in West Denpasar and RT: Broiler Chicken Meat from Lapak in East Denpasar. Each was repeated 5 times and each replication consisted of 5 tails so that the treatment total meat of broiler chicken used was 100 tail.

The variables observed:

- Carcass weight by weighing broiler chicken weight.
- Weight of commercial carcass pieces (chest weight, thigh weight, wing weight and back weight)
- Percentage of commercial carcass cut by calculating the cut weight of commercial carcass divided by carcass weight multiplied by 100%
- Meet microba

Data Analysis

The data obtained were alayzed by menas of variance, if there was a significant difference between treatments at 5% ($P<0.05$), it would be followed by Duncan's multiple range test (Steel and Torrie, 1993).

Results and Discussion

Quality of Chicken Meats Taken in Stalls in Denpasar

The quality of chicken broiler carcass meat sold in stalls scattered in the city of Denpasar varies greatly (Table 1). The carcasses sold are varied depending on the source of the chicken from the collectors both in terms of the age of the chicken being cut and the seeds of broiler chickens that are kept, as well as the time before being cut and after being cut and when marketed. This causes the carcass weight of chicken meat sold in stalls to be located on the side of Denpasar City Road is not significantly different ($P> 0.05$) in Table 1.

Treatment1					SEM
Variable2	RU	RT	RB	RS	
Carcas (g)	1507,00$^{a(3)}$	1502,70^{a}	1503,55^{a}	1504,00^{a}	5,43
Part of carcass(g)					
Chest	527,68^{a}	526,98^{a}	533,97^{a}	522,94^{a}	3,59
Thigh	468,28^{a}	467,45^{a}	465,71^{a}	465,13^{a}	2,97
Back	339,35^{a}	338,17^{a}	339,18^{a}	339,58^{a}	2,75
Wing	172,71^{a}	172,12^{a}	174,70^{a}	174,36^{a}	2,35
Part of carcass (%)					
Chest	35,01^{a}	35,07^{a}	34,85^{a}	34,77^{a}	3,12
Thigh	31,07^{a}	31,11^{a}	30,97^{a}	30,93^{a}	3,02
Back	22,52^{a}	22,50^{a}	22,56^{a}	22,58^{a}	2,05
Wing	11,39^{a}	11,32^{a}	11,62^{a}	11,78^{a}	2,20
Microba (CFU/g)	1,2x10$^{2(a)}$	1,45x10$^{2(a)}$	1,05x10$^{2(a)}$	1,25x10$^{2(a)}$	0,001

Table 1: The quality of chicken broiler carcass meat sold in stalls scattered in the city of Denpasar

Information

1. RU: Nort Denpasar; RT: East Denpasar; RB: West Denpasar; RU: South Denpasar.
2. Value with same letters in the same row show a not significant difference (P>0.05)
3. SEM : Standrard Error of The Treatment Means

The average carcass weight of broiler chickens sold in Lapak-Lapak in Denpasar city respectively 1507.00 (RU), 1502.70 (RT), 1503.55 (RB) and 1504.00 (RS) can be seen in Table 1. Statistically not significantly different (P> 0.05). This is because broiler chicken meat sold in Lapak-Lapak in Denpasar city has a homogeneous weight, possibly collectors of live chicken sellers circulating and cut in the city of Denpasar have uniform or uniform age and weight. The carcass weight of broiler chickens is influenced by the weight of the cut (Antari et al., 2017), the age of the chicken when cut (Soeparno, 2011), the weight obtained at sellers in Lamak-Lapak in Denpasar in accordance with SNI 01-3924 (1995) is large 1.2 - 1.5 kg.

The effect of treatment on broiler carcass weight in this study showed no significant differences in chest weight, thighs, wings and thigh weight. Chest weight in this study ranged between 522.94-533.97 g with chest weight in RB treatment showed the highest result 533.97 g and RS treatment showed the lowest result 522.94 g. Broiler meat chest weight marketed in RU, RT and LS stalls were 1.18%, 1.31% and 2.07% lower than LB, which were statistically not significantly different (P>0.05). Carcass pieces of broiler chicken breasts that were sold in Denpasar city stalls were not different (P>0.05). In Stalls in Denpasar City selling broiler chicken carcasses varies depending on the source of chicken from collectors both in terms of the age of the chicken being cut, the seeds of broilers kept, and the time before being cut and after being cut when marketed. This causes the chicken meat sold in the stalls to be on the side of the road to be different.

The fracture of the thigh carcass from the cut of commercial carcasses at RU as large as 468.28 treatments of RT, RB and RS was 0.17%, 0.55% and 0.68% lower than the RU statistically not significantly different (P>0.05). The back weight of each RU treatment was 0.03%, RT was 0.42 and 0.12% lower than the treatment of RS. Wing weight was 2.64%, 3.54% 0.94% lower than RS statistically significantly different (P<0.05). This result is different from Kiratikrankul et al. (2015) the chest and thigh carcass fracture significant and according to the results of Dewi et al. (2017) obtained significant chest and thigh weight from giving fermented dragon fruit skin to 7% in free-range chicken. The administration of fermented dragon fruit skin waste on back weight and percentage of back showed different results were not significant (P>0.05). The results of this study indicate that all treatments have relatively similar effects, in line with the results of Astuti et al. (2016) and the use of fermented dragon fruit peels up to 6% did not affect the fracture weight of broiler chickens aged 7 weeks.

The results of the study on the percentage of breasts and the percentage of thighs from broiler meat sold – Lapak -Lapak in Denpasar City ranged from 35.77 to 35.07% and 30.93 to 31-11% showed different results were not significant (P>0.05) (Table 1). The percentage of chest weight and the percentage of back showed different results were not significant (P>0.05). Percentage of fractured back and broiler chicken wings sold in Lapak-Lapak, Denpasar city respectively from low to high from 22.50%, 22.52%, 22.56% and 22.58%, percentage Broiler chickens' wings from low to high were 11.32%, 11.39%, 11.62% and 11.73%, statistically were showed no significant difference (P>0.05).

The percentage of chicken carcasses that are sold varies depending on the source of the chicken from the collectors both in terms of the age of the chicken being cut and the seeds of broiler chickens that are kept, as well as the time before being cut and after being cut and when marketed. This causes the percentage of breast, thighs, back and carcass wings of chicken meat sold in Lapak-Lapak located on the edge of Denpasar City not significantly different (P>0.05) in Table 1.

The results of this study indicate that all treatments have relatively similar effects, in line with the results of Astuti et al. (2016) and the use of fermented dragon fruit peels up to 6% did not affect the weight of chicken carcasses aged 7 weeks. According to Ilham (2012) almost the same wing weight and back weight in each treatment is caused by the fact that the wings and back are not the place where the main meat deposition occurs so that during growth, nutrients for meat formation are found in places where meat deposition occurs. Wings and backs are dominated by bones and lack the potential to produce meat.

Conclusion

From this study it can be concluded that the carcass production of broiler chickens sold in Lapak in Denpasar North, Denpasar, Timur, Denpasar Barat and Denpasar Selatan had no effect on the weight of the cut, carcass fracture of the back, wing, percentage of broiler chicken fracture.

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