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## The Effect Of Level Flour Turmeric (*Curcuma domestica* Val) Ration Toward Carcass Local Duck

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### Abstract

This study aimed to determine the effect of turmeric powder in the ration of the local duck carcass. This study uses 80 species of ducks Pitalah DOD male placed on the cage box 20 units. The research method experimentally using a randomized block design (RAK) with 4 treatments and 5 weight groups as replication. The treatments were given in this study are A (without turmeric powder / control), B (given turmeric powder 0.2%), C (given turmeric powder 0.4%) and D (given turmeric powder 0.6%). The parameters observed carcass weight, the percentage of part - carcass parts (breast and thigh) and carcass percentage. The results showed administration of turmeric powder in the ration effect is not significant ( $P > 0.05$ ) on carcass weight, the percentage of part - carcass parts (breast and thigh) and carcass percentage. Based on the results of this study concluded that given turmeric powder to the level of 0.6% in the diet did not affect carcass weight, the percentage of part - carcass parts (breast and thigh) and carcass percentage.

Keywords: turmeric powder, local duck, carcass

### 1. Introduction

Needs proteins derived from livestock increasing with increasing population and social welfare. To meet these needs, among others can be obtained from poultry such as chickens and ducks that contribute producing eggs and meat.

Ducks is one of waterfowl whose existence has long been fused with the life of the Indonesian people. Utilization duck as a protein source potential considering the ducks are more resistant to disease than broilers, has a pretty good adaptability and ducks have changed the efficiency of poor quality feed into meat and eggs (Akhadiarto, 2002).

Meat ducks began to demand by consumers because it has a savory taste different from other fattening poultry. This can be seen by the increase in the production of duck meat from year to year that in 2011 the production of meat reached 28 184 tonnes,

followed in 2012 rose to 33 610 tonnes and in 2013 reached 36 154 tonnes (Directorate General of Livestock, 2014).

However, the duck meat has weaknesses such as low levels of meat with a high fat content when compared to the broiler. The fat content in ducks is 8.2% per 100 g, the rate is higher than the broiler is 4.8% per 100 g (Srigandono, 1997), we need a breakthrough or innovation that ducks are able to produce a good carcass quality with meat is more worthy to be accepted by consumers. Good carcass can be obtained by adding the additive materials that can spur growth. Usually additional material given antibiotics based synthetic / chemical. This material is there that is not good for humans who consume them. This is caused by the onset of effect of residues in carcasses of ducks and if the use of antibiotics is done continuously, it will lead to resistance to

antibiotics to livestock. The presence of Salmonella sp resistance to antibiotics in ducks have been reported by Istiana (1997), proved that 70 isolates of Salmonella typhimurium found to be resistant to ampicillin by (30%), neomycin (12.8%), tetracycline (11.4%), streptomycin (8.6%), trimetropin (7.1%) and chloramphenicol (5.7%). These data indicate that some preparations antibiotics have lost their effectiveness and tend to cause microbial resistance is increasingly widespread. So, to anticipate this requires the ingredients that are natural are added to feed ducks.

One of the natural ingredients that can be added to the ration is turmeric (*Curcuma domestica* Val) in the form of flour, which functioned as a feed additive for duck. Results of laboratory analysis of ruminant nutrition and food chemistry faculty of Animal Husbandry livestock Padjadjaran University (2002), that the turmeric powder containing crude protein (12.23%), crude fiber (10.85%), fat (1.67%), ash (15 , 13%), calcium (0.13%), phosphorus (1.46%) and metabolizable energy (3247.63 kcal / g), also contain essential oil (3.18%) and yellow dye / curcumin ( 9.61%) (Results of analysis of the Research Institute for Medicinal and Aromatic Plants in Sinurat et al., 2009). Kurkuminoid turmeric contains three components, namely curcumin, desmetoksikurkumin, and bisdesmetoksikurkumin (Rukmana, 1994).

According Kusumawardhani (1988) in Pratikno (2010), the provision of turmeric in the diet can increase body weight, optimize feed conversion, and lower in fat. This is supported by research Rahmat and Kusnadi (2009), which tries to give turmeric to chicken broiler age of 2 weeks with a level (0%); (0.05%); (0.1%); (0.2%) and (0.4%) in hot and cold temperatures. Turmeric is given at the level (0.2%) can increase body weight gain in hot temperatures and shows the most efficient feed conversion values compared to all levels. In hot temperatures (30-33) °C

increase in body weight of 552 g in the control became 578 g with the value of the conversion ration (1.98) were significantly lower than in controls (2.16). This is because the high heat temperatures, turmeric has active compound curcumin form hydroxyl groups that facilitate curcumin hydrogen and donates electrons to free radicals, so that free radicals to be stable (Pietta, 2000). These results are consistent with research Bintang and Nataamijaya (2006) who reported that administration of saffron (0.04%) on broiler age of 35 days combined with lempuyang as much (0.02%), substantially improve carcass weight of 1475 g (in control) into 1749 g.

Dervish, Indo and Hasiyah (1991) adds that kurkuminoid compound in turmeric, has anti-bacterial properties that can improve the digestive process by killing harmful bacteria and stimulate the wall of the gallbladder to release bile so that it can accelerate fat metabolism. Added Purwanti (2008), the mechanism of curcumin and essential oil can enhance the appetite of livestock by speeding emptying of the stomach contents. According Yuniarti (2011) turmeric can increase the working organ of digestion of poultry, because turmeric has the function of stimulating the walls of the gallbladder secrete bile and stimulates the secretion of pancreatic fluid that contains enzymes amylase, lipase and protease are useful to improve digestion of feed ingredients such as carbohydrates, fats and proteins ,

Seeing some of the functions of turmeric on top of the many positive effects, the authors are interested in raising research titled "The Effect Level Giving Flour Turmeric (*Curcuma domestica* Val) In Rations To Carcass Local Ducks".

## 2. Material and Methods

### 2.1 Material Research

#### 2.1.1 Livestock duck

Animals used in this study were males aged Ducks Pitalah one day as many as 80 heads, comes from Nagari Pitalah, Tanah

Datar. In the first week is an adaptation of ducks are ducks to adjust to the new environment and the duck was introduced to the ration will be given during the study. Treatment started at the beginning of week 2 up to week 10.

### 2.1.2 Cages and Equipment

Cages used in this study is a wire cage crib pads sejumlah 20 units with enclosure size 75cm x 60cm x 50cm. The equipment used is a feed, drinking water, incandescent 60 watt, wagon, curtains cover, black plastic is great for pedestal box, bucket, digital scales with a capacity of 5000 grams, a black plastic bag, label paper, paperboard, rice husk, knife and stationery.

### 2.1.3. Rations Experiment

Materials used ration consists of: yellow corn, rice bran, soybean meal, fish meal, mix top and palm oil. Denaturant additive (turmeric powder) form of Turmeric from plantations owned by farmers in Koto Tuo, land in the area around the University of Andalas. Rations trial is based on the nutritional needs of local ducks by Bintang et al., (1997). Nutrient needs of local duck meat can be seen in Table 1, the content of nutrients and metabolic energy constituents of the ration can be seen in Table 2, the composition of the materials making up the ration can be seen in Table 3, and the content of nutrients and metabolic energy of the ration treatment can be seen in Table 4.

## 2.2 Research Methods

### 2.2.1 Research Design

This research was conducted by the experimental method, using a randomized block design (RBD). Ducks are used as many as 100 birds. Adaptation ducks for 1 week, then duck totaling 100 individuals have as many as 80 species and grouped into 5 groups based on body weight ranging from the lowest to the highest. Furthermore ducks were placed into a cage with a box of 20 units each - each

unit enclosure contains four ducks randomly. In one group was given 4 different treatment turmeric powder. The treatment consists of:

1. Treatment 1 was given turmeric powder in the ration experiment many ducks as (0%) per ration, called A as a control.
2. Treatment of turmeric powder 2 is supplied in the diet as many ducks trial (0.2%) per ration, which is referred to as B.
3. Treatment is given turmeric powder 3 in the diet as many ducks trial (0.4%) per ration, which is referred to as C.
4. Treatment of 4 is given turmeric powder in feed ducks trial as much (0.6%) per ration, known as D.

### 2.2.2 Implementation Research

The research was conducted in the form of an experiment with the stages of preparation, adaptation and treatment. In the preparation phase, the activities undertaken are made turmeric powder, set up and clean up where maintenance is used in such a way that cattle are comfortable, prepare the equipment enclosure and the procurement of feed materials research.

1. Preparation of powder turmeric (*Curcuma domestica* Val)

Turmeric powder made by turmeric washed first, pearled outer skin which is still lagging behind the roots and soil, then sliced thin - thinner.

**Table 1. Nutrients required by the Local Ducks**

Nutrient	Required	
	0-4 weeks	4-8 weeks
Protein (%)	20	16 – 18
Metabolis energy (kkal/kg)	2900 – 3000	2500 – 2800
Crud fiber (%)	7,60	8,20
Ca (%)	0,9 - 1,2	0,9 - 1,2
Fosfor avialale (%)	0,7 – 0,9	0,7 - 0,9

Source : Bintang et al., 1997

**Table 2. The content of nutrients and metabolic energy constituents of the ration :**

<b>Pakan</b>	<b>CP (%)</b>	<b>ME (kkal/kg)</b>	<b>CF (%)</b>	<b>CFib (%)</b>	<b>Ca (%)</b>	<b>P (%)</b>
corn*	8,04	3370	2,66	4,57	0,37	0,1
Rice meals**	10,60	1630	4,09	10,84	0,70	0,06
Crude of o soybean*	39,87	2240	1,67	0,29	1,3	0,29
Flour o fissh*	45,34	3080	3,55	2,89	3,42	1,31
Top mix**	-	-	-	-	5,38	1,14
Palm oil*	-	8600	100	-	-	-

Source: \* Wizna et al., 2008 \*\* Wahyu (1997)

**Table 3. The composition of the materials making up the ration can:**

<b>Nutrition</b>	<b>Account (%)</b>	
	<b>Ration 1 (starter)</b>	<b>Ration 2 (grower)</b>
Corn	50	49
Rice meal	15	22
Crude of soyban	14	13
Flour ofTurmeric	20	15
Top Mix	0,5	0,5
Minyak sawit	0,5	0,5
Total	100	100

**Table 4. The content of nutrients and metabolic energy of the ration treatment**

<b>Nutrition (%)</b>	<b>Ration 1</b>	<b>Ration 2</b>
Protein	20,26	18,26
Fat	3,39	3,45
Crude Fibre	5,40	5,91
Calsium	1,19	1,05
Fosfor	0,37	0,30
Energi metabolis (Kkal/kg)	2902,1	2806,1

Explained: a count based of table 2 dan 3

The slices are then aerated turmeric - aired for two days and put into oven with a temperature of  $\pm 50^{\circ} \text{C}$  for 1 day. Turmeric is then pulverized in a blender and filtered using a sieve into turmeric powder.

#### 2. Preparation of the Cage

Two weeks before the DOD entered, the cage is cleaned beforehand using water and detergent, then spraying the enclosure using formades that has been diluted with water, then liming. One day before the DOD entered, the cage is cleaned again, be the installation of incandescent lamps for each cage box and covered with a plastic curtain.

#### 3. Preparation ration research

The materials making up the ration research each weighted according to the composition of the ration treatment, then stir until evenly distributed. Stirring began with little material composition and continued with more material until it looks homogeneous composition.

#### 4. Treatment and placement of ducks in cages

Placement of treatment for each - each unit is done randomly in groups, namely by writing the letters and numbers on paper in accordance with the number of treatments and the group, namely: A1-A5, B1-B5, C1-C5, D1-D5. The numbers on the paper placed on the treatment enclosure.



Table 5. Requirements ration Ducks Age 0-10 weeks

Age (Weeks)	Ration/head/day (g)
DOD - 1	15
1 - 2	41
2 - 3	67
3 - 4	93
4 - 5	108
5 - 6	115
6 - 7	115
7 - 8	120
8 - 9	130
9 - 10	145

Description: Wakhid (2013)

### 5. Maintenance

Rationing is done in accordance with the needs of duck / day according Wakhid (2013), can be seen in Table 5. Rations are given three times a day ie morning (at 8:00 to 09:00 pm), lunch (13:00 pm) and evening (at 5:00 p.m. to 18:00 pm). Rations are given in the form of crumb (mash) ad libitum and drinking water are provided ad libitum.

### 6. Slaughter

Things - things to do in preparing for live ducks into carcasses are as follows:

1. gratification. Before the cut ducks were fasted for 12 hours to reduce the content of the digestive tract.
2. Slaughter of . Ducks is cut right on the neck close to the head, by cutting the jugular vein, carotid artery, esophagus and trachea.
3. Expenditure blood. After being cut ducks were left hanging with the head facing down for approximately 1 minute so that some of the blood out, then weighed.
4. Brewing (scalding). Ducks dipped in hot water at a temperature of about 90o C for ± 1 minute for easy hair removal.
5. Eviserasi. After manual plucking by hand, followed by evisceration of the abdominal cavity is done by making a horizontal incision

in the abdominal area which is between the end of the sternum to pubis. Viscera pulled out by hand slowly. Furthermore, the cutting head, neck and legs. Carcasses were weighed as a whole.

6. Separation of the thigh and chest, and then weighed.

### 3.2.3 Variables Observed

Carcass is part of a bird's body without blood, feathers, neck, head, legs and internal organs except the lungs - lungs and kidneys (Mulyono, 2004).

Thus, several variables were observed in this study are:

#### a. carcass weight

Carcass weight is the weight of the body after deducting duck feathers, blood, internal organs except the lungs and kidneys, neck, head and legs (mottle and Avens, 1985). Carcass weight is calculated in grams / tail.

#### b. The percentage of part - carcass parts (the percentage of the thigh and chest)

The percentage of carcass parts is obtained by dividing the weight of carcass parts (breast and thigh) with a carcass weight and then multiplied by 100% (Soeparno, 2005). The weight of the chest consists of the skin which is in the chest and the meat attached to the sternum bone along his bones. As for the weight of the thigh consists of the skin that are in the thigh, the flesh attached to the pelvic bone and femur plus meat separated at the joint between the femur and tibia.

#### c. percentage carcass

Carcass percentage is the ratio between carcass weight with a body weight is then multiplied by 100% (Soeparno, 2005).

## 3. Result and Discussion

### 3.1 The Effect of the Treatment of Carcass Weight

The average carcass weight of duck with the provision of turmeric powder

(*Curcuma domestica* Val) during the study are shown in Table 6.

Table 6. Mean Weight Per-head Duck Carcasses For Research

Treatment	carcasses (g/head)
A (0,0% Flour ofTurmeric)	881,80
B (0,2% Flour ofTurmeric)	869,80
C (0,4% Flour ofTurmeric)	857,00
D (0,6% Flour ofTurmeric)	863,60
SE	25,49

Description: Different was not significant (P> 0.05)

Results of analysis of variance shows that administration of powder turmeric (*Curcuma domestica* Val) in ration ducks showed no effect (P> 0.05) on carcass weight. This is because the provision of turmeric powder in an amount which can still be tolerated by ducks, from 0.2-0.6% in the ration has not been able to significantly influence carcass weight, so that the carcass weight gained nearly the same relative to the carcass weight control diet. In addition, administration of turmeric powder to the level of 0.6% does not affect the palatability of duck. This can be seen in the results of feed intake were not significant that treatment A (5173.85 g), treatment B (5108.65 g), treatment C (5252.73 g) and treatment D (5163.20 g). Although Purwanti (2008) suggested that curcumin contained in turmeric, has properties that can affect appetite by speeding emptying of the stomach so the appetite increase and accelerate spending bile in increasing the activity of the gastrointestinal tract. Allegedly, that the invisibility effect of turmeric powder in feed rations are also due to all treatment is based isoprotein and isoenergi, in accordance with the standard requirements in ducks , by equating the need for protein (feed phase starter as much as 0-4 weeks 20.26% and grower rations phase of 5-10 weeks of age as much as 18.26%) and energy (in the starter phase 2902.1 kcal / Kg and grower phase

2806.1 kcal / Kg). As stated Sudiyono and Purwatri (2007) that the carcass weight is affected by the consumption of feed, energy and protein content.

Rationing is also ad libitum, have an impact on feed consumption is relatively the same that gives the same effect on the body weight that treatment A (1391 g), treatment B (1378.40 g), treatment C (1349.80 g) and treatment D ( 1362.60 g) and carcass weight to be relatively equal. Anggorodi (1995) also states that the ducks were given rations ad libitum, would eat primarily to meet its energy needs and if the ducks were given rations with metabolizable energy content is low, then the ducks will consume more. This is in accordance with the opinion of Wahyu (1997), that the amount of feed consumed will determine the weight of life gained, the more rations consumed also increase the live weight produced, as well as carcass weight.

According to Ricardo (2014), the average carcass weight of ducks Pitalah 8 weeks old with extensive maintenance system is 464.14 g. While the results of studies using turmeric powder to 0.6% in the average carcass weight ration obtained is higher at 857 to 880.81 g at the time of harvest age of 10 weeks. This is because the system maintenance, age and different feed.

The results using turmeric powder up to 0.6% in the average carcass weight ration obtained almost identical to the results of research Chakra, Siti, Wiyana and Umiarti (2009) ie carcass weight Bali ducks aged 10 weeks ranged from 854 to 915.40 g using polar and Duck Mix additive as a partial replacement of commercial ration. But the results of this study is lower than the Matitaputty study (2002) that gets the average carcass weight Mandalung ducks aged 10 weeks of 1101.2 g. Differences in the carcass weight were produced, due to the type of feed given ducks and different. In accordance with the opinion of Tambunan (2007), that the carcass weight is influenced by the type of ducks, quantity and quality of rations in

addition to body weight, fatty, gender, age and activity. In addition, the rate of growth of livestock, genetic and non-carcass weight also affects the resulting carcass weight (Soeparno, 2005).

### 3.2. Treatment effect Against Percentage Carcass Parts (Breast and Thigh)

The average of the percentage of part - part duck carcass with the provision of turmeric powder (*Curcuma domestica* Val) during the study are presented in Table 7.

Results of analysis of variance shows that administration of powder turmeric (*Curcuma domestica* Val) in ration ducks showed no effect ( $P > 0.05$ ) on carcass weight. This is because the provision of turmeric powder in an amount which can still be tolerated by ducks, from 0.2-0.6% in the ration has not been able to significantly influence carcass weight, so that the carcass weight gained nearly the same relative to the carcass weight control diet. In addition, administration of turmeric powder to the level of 0.6% does not affect the palatability of duck. This can be seen in the results of feed intake were not significant that treatment A (5173.85 g), treatment B (5108.65 g),

treatment C (5252.73 g) and treatment D (5163.20 g).

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Table 7. Percentage Mean Duck Breast and Thigh Per Head For Research

Treatment	Breast (%)	Percentage of Thigh (%)
A (0,0% Flour of Turmeric)	27,20	24,50
B (0,2% Flour of Turmeric)	27,99	24,70
C (0,4% Flour of Turmeric)	26,98	24,13
D (0,6% Flour of Turmeric)	26,95	24,01
SE	0,71	0,49

Description: Different was not significant ( $P > 0.05$ )

Table 8. Percentage Mean Duck Breast and Thigh Per Head For Research

Treatment	Breast (%)	Percentage of Thigh (%)
A (0,0% Flour of Turmeric)	27,20	24,50
B (0,2% Flour of Turmeric)	27,99	24,70
C (0,4% Flour of Turmeric)	26,98	24,13
D (0,6% Flour of Turmeric)	26,95	24,01
SE	0,71	0,49

Description: Different was not significant ( $P > 0.05$ )



The results using turmeric powder up to 0.6% in the average carcass weight ration obtained almost identical to the results of research Chakra, Siti, Wiyana and Umiarti (2009) ie carcass weight Bali ducks aged 10 weeks ranged from 854 to 915.40 g using polar and Duck Mix additive as a partial replacement of commercial ration. But the results of this study is lower than the Matitaputty study (2002) that gets the average carcass weight Mandalung ducks aged 10 weeks of 1101.2 g. Differences in the carcass weight were produced, due to the type of feed given ducks and different. In accordance with the opinion of Tambunan (2007), that the carcass weight is influenced by the type of ducks, quantity and quality of rations in addition to body weight, fatty, gender, age and activity.

In addition, the rate of growth of livestock, genetic and non-carcass weight also affects the resulting carcass weight (Soeparno, 2005).

### 3.2. Treatment effect Against Percentage Carcass Parts (Breast and Thigh)

The average of the percentage of part - part duck carcass with the provision of turmeric powder (*Curcuma domestica* Val) during the study are presented in Table 8.

Results of analysis of variance (Appendix) shows that the provision of flour turmeric (*Curcuma domestica* Val) in ration ducks showed no effect ( $P > 0.05$ ) on the percentage of the chest and thigh. This is because the provision of turmeric powder up to 0.6% can still be tolerated by the ducks, so not working optimally in promoting digestion and growth in ducks including the growth of the thighs and chest. Although the Bintang and Nataamijaya (2006) reported that turmeric powder contains curcumin which is antibacterial to inhibit bacterial growth, especially in the gastrointestinal tract thereby enhancing growth, while turmeric essential oil is bacteriostatic against E.coli.

Provision of turmeric powder to 0.6% no real effect on the percentage of the thigh and chest ( $P > 0.05$ ) are also due to the provision of turmeric powder no real effect on carcass weight ( $P > 0.05$ ) carcass weight is obtained at treatment A (881.80 g), treatment B (869.80 g), treatment C (857 g) and treatment D (863.60 g) as a determinant of the size of the chest and thighs are relatively the same, so the percentage of part chest and thighs are relatively the same. This is because the percentage of the chest and thighs obtained from the comparison between the breast and thigh weight divided by the weight of the carcass, and then multiplied by 100% (Soeparno, 2005).

According to Lestari (2011), the percentage of the chest in ducks Alabio male age 10 weeks amounted to 31.88%. While the results of research using turmeric powder to 0.6% in the ration obtained a percentage of the lower part of the chest that ranged from 26.95 to 27.99%. However, these results are not much different from the research conducted Sudiyono and Purwatri (2007) that use enzymes in the ration of local duck male age 10 weeks, obtained a percentage of the chest of 26.96 to 29.02%. When compared with the research conducted Amaludin et al. (2013), the percentage of the chest is obtained in ducks culled Mojosari ranged from 21.87 to 23.78%, the research using turmeric powder to 0.6% in the ration is higher.

On the thigh, according to Sudiyono and Purwatri (2007) obtained a percentage of local male duck thigh at the age of 10 weeks with the addition of enzymes in rations ranged from 24.72 to 26.14%, not much different from the results of this study using turmeric powder to 0, 6% in the ration obtained the average percentage of thigh ranged from 24.01 to 24.70% at the age of 10 weeks harvest ducks. However, these results are lower than research conducted by Amaludin et al. (2013) to salvage the Mojosari duck thigh a percentage of 34.65 to 35.13%. The

difference of the results of this study allegedly by breeds and types of feed used.

Merkley et al. (1980) states that the feed is one of the factors that influence the percentage cuts on poultry carcasses consists of the chest, back, thighs and wings. The existence of food is very important for ducks because they contain substances - nutrients needed for the formation of carcass parts and components of the body (Rasyaf, 1989). The thigh is part of its growth earlier than other sections (Swatland, 1984). According Natasasmita (1990), the thigh in ducks showed the same growth rate with the body as a whole, in other words, has a thigh isogonik growth patterns or growth that is balanced with the development of his body while breasts have heterogenik growth that naturally caused by genetic factors.

### 3.3. The Effect of Treatment of Percentage Carcasses

The mean percentage of carcass ducks by administering turmeric powder (*Curcuma domestica* Val) during the study are presented in Table 9.

Results of analysis of variance shows that administration of powder turmeric (*Curcuma domestica* Val) in ration ducks showed no effect ( $P > 0.05$ ) on carcass percentage. This is caused by the administration of turmeric powder in an amount which can still be tolerated by ducks ranged between 0.2-0.6% in the ration, so it is not optimal to influence carcass weight and live weight as determinants of the large percentage of the carcass to be produced , Although the Stars and Nataamijaya (2006) reported that turmeric powder contains curcumin which is antibacterial to inhibit bacterial growth, especially in the gastrointestinal tract thereby enhancing growth, while turmeric essential oil is bacteriostatic against E.coli.

Table 9. The Mean Percent Per-Head Duck Carcasses For Research

Treatment	Carcass (%)
A (0,0% Flour of Turmeric)	63,35
B (0,2% Flour of Turmeric)	63,06
C (0,4% Flour of Turmeric)	63,47
D (0,6% Flour of Turmeric)	63,35
SE	0,38

Description: Different was not significant ( $P > 0.05$ )

Chattopadhyay et al. (2004) also mentions that curcumin can increase plasma levels and bicarbonate secretion of the pancreas, as well as increase the activity of lipase, amylase and pancreatic trypsin secreted.

Added Yasni et al. (1983) that curcumin and turmeric essential oil in a work capable of affecting the nerves and the pituitary gland that plays a role in secreting growth hormone.

According Brake and Havenstain (1993), carcass percentage associated with sex, age and body weight. Carcasses increase with age and body weight. Chakra (1986) states that the higher slaughter weight and carcass weight it will affect carcass percentage is higher. Soeparno (2005) added a carcass percentage is also influenced by the quality of the ration and the rate of growth. Sudiyono and Purwatri (2007) states that good growth will certainly produce a high weight and increased the percentage of carcasses optimally.

The results using turmeric powder to 0.6% in contrast to research obtained by Putri (2013) that the addition of turmeric juice into the feeding of ducks (20 ml / kg of feed) can improve carcass percentage of 54.40% (control diet) until 62.51% in hybrid ducks. The differences to this research are suspected by the shape of the processing of turmeric given and breeds. However, the research results with the use of turmeric powder up to 0.6% has the average percentage of carcass higher at 63.06 to 63.47% than the juice of turmeric them.

When compared with the results of research Chakra et al., (2009) which uses polar and Duck Mix additive as a partial replacement of commercial ration in Bali ducks, earned the average carcass percentage ranged from 57.72 to 58.73% and the research conducted Sudiyono and Purwatri (2007) which uses the addition of enzymes in the diet on a local male ducks aged 10 weeks, obtained carcass percentage ranged from 52.93 to 54.78%, the results of research using turmeric powder to 0.6% even this is also higher.

Udayana (2005) states that the low percentage of carcass weight is affected by the low cut anyway, because of the low weight cut parts - each part is wasted. Iskandar (2000) explains that the increasing age of ducks from age 5 to 10 weeks to bring improvements to the carcass weight percentage of 50-58% to 59-62%.

### Conclusion

Based on the results of this study concluded that administration of powder turmeric (*Curcuma domestica* Val) in the ration to the level of 0.6% did not affect carcass weight, the percentage of part - carcass parts (breast and thigh) and carcass percentage. Provision of turmeric powder into the ration has not been effective to improve carcass of local ducks. So that needs to be done further research by adding turmeric powder into drinking water or the provision of other form

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