BIBLIOGRAPHY

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ABSTRACT

This study was conducted at the Meat Processing Laboratory under the Department of Animal Science, College of Agriculture, Benguet State University, La Trinidad, Benguet to determine the carcass characteristics of rabbits fed with galinsoga, watercress, and chayote leaves. It also aimed to find out the meat traits of the rabbits through organoleptic evaluation.

The dietary treatments involved are: T_1-25g commercial feeds + galinsoga, T_2-25g commercial feeds + watercress, and T_3-25g commercial feeds + chayote leaves.

Results showed that rabbits fed with T_1-25g commercial feeds + galinsoga, T_2-25g commercial feeds + watercress, and T_3-25g commercial feeds + chayote did not differ in terms of slaughter weight; carcass weight; carcass length; dressing percentage; percentages of full and empty GIT; percentages of major cuts; percentages of lean and bone; appearance, aroma, tenderness, juiciness, and taste of lapan. The differences among the treatments were not significant.

In terms of over-all acceptability, lapan from rabbits fed with galinsoga, watercress, and chayote leaves are all acceptable based on the result of the organoleptic test.

INTRODUCTION

Rabbit meat or "lapan" is a nutritious delicacy. It contains less cholesterol compared to other kinds of meat. The cholesterol content of rabbit meat is 164 milligrams per 100 grams. According to United States Department of Agriculture (2008), it contains 795 calories per pound and 63 percent of its fatty acids come from unsaturated fats. Both levels are lower than the other kinds of meat. The USDA also indicates that rabbit meat is the highest of all meats in the percentage of protein content. This makes it suitable for people who are trying to lose weight or are on a diet for health purposes.

The meat of a young rabbit is different from a mature one. Young rabbit's flesh is tender, fine grained and a bright pearly pink in color. These rabbits may be cooked in the same way as a young poultry. The mature meat rabbit is firm, coarse grained and the muscle fiber is slightly darker in color and less tender. The color of the fat is creamier than that of a fryer or young one. Braising or stewing is the best method in cooking the meat of larger rabbits because their meat is tougher (daviddwaren22.hubpages.com).

Rabbit's meat can be of help to people in many ways. It can be a source of alternative income by selling it to the local market. It can also be added to diet especially to those obese people who needs small amount of fat.

Some of the grasses given to rabbits which are locally available and abundant are *galinsoga*, watercress, and chayote leaves. This study was all about the carcass characteristics of rabbit fed with *galinsoga*, watercress, and chayote leaves.

Most people of today are still unaware of the importance of eating rabbit meat. This is because it is not a native delicacy here in the Philippines. So with the unpopularity of rabbit meat as a very good food, this study will serve as a guide and provide additional

knowledge to the readers as well as raisers about the importance of rabbit meat. This study will also help those who want to have a further study on rabbits.

This study was conducted to determine the carcass characteristics of rabbit fed with T_1-25 g commercial + *galinsoga* (*ad libitum*), T_2-25 g commercial + watercress (*ad libitum*), and T_3-25 g commercial +chayote leaves (*ad libitum*). Specifically, it aimed to:

1. determine the slaughter weight, carcass weight, carcass length, and dressing percentage of rabbits fed with T_1-25 g commercial + *galinsoga*, T_1-25 g commercial + watercress, and T_1-25 g commercial +chayote leaves;

2. determine the weight of viscera, gastrointestinal tract and

3. compute for percent lean and bone of rabbits fed with T_1-25 g commercial + *galinsoga*, T_2-25 g commercial +watercress, and T_3-25 g commercial + chayote leaves.

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This study was conducted at the Meat Processing Laboratory under the Department of Animal Science, College of Agriculture, Benguet State University, La Trinidad, Benguet on September 2012.

REVIEW OF LITERATURE

The New Zealand is the most popular breed for commercial meat production, although hybrids are gradually replacing purebreds. Weight of a full-grown New Zealand white is 4-5 kilograms with a production of about 2 kilogram of meat at 8-10 weeks of age (Pond and Pond, 2000).

Rabbit meat also called “lapan”, is the primary white mat that is very fine in texture and low fiber content. Because of the low fiber content, it is easy to digest which is desirable for individuals having difficulty in chewing their food (Warren, 2002).

Rabbit meat is highly digestible, tasty, and low calorie food often recommended by nutritionists over the other kinds of meat. Moreover, large rabbit industry integration is becoming more important and the development of the rabbit meat production is forcing processing plants to improve slaughter capacities by using high-speed and automated slaughter lines (World Rabbit Science, 2004).

The office of home economics, state relations of the United States Department of Agriculture has made an extensive test and has stated that domestic rabbit meat is the most nutritious meat known to man. Rabbit has 795 calories per pound, poultry 810, veal 840, turkey 1190, lamb 1420, beef 1440, and pork 2050. Rabbits will produce 6 pounds of meat on the same feed and water as a cow will produce 1 pound of meat on the same feed and water (USDA, 2008). Cholesterol level in rabbit meat is much lower than chicken, turkey, beef, and pork (Alabama, A. and M. University, 1989).

Maddul (1999) cited that the digestive system of rabbits allows utilization of the forage based diet effectively despite its being a non-ruminant. Consequently, rabbits are well suited to low energy fibrous feedstuffs and are less adapted to high energy ingredients

such as cereals grains. Thus, fibrous such as fodders or fresh forage are typically the basal ingredients of rabbit diet. For small-scale rabbit raising, feeding greens such as grass, vegetable tops, carrots, and other succulent feeds may be feasible, but it is not practical on a commercial scale.

Galinsoga

An annual dicot species of the family *asteraceae* is a common herb that is often found in disturbed habitats and agriculture areas in many parts of the temperate and subtropical areas of the world. *Galinsoga parviflora* is considered to be a common weed in several crops of major importance, such as wheat, corn, cotton, tobacco, sugar beet, tomato, pepper, potato, bean, onion, cabbage, and others. It is frequently found in gardens and uncultivated areas. *Galinsoga parviflora* competes strongly particularly with irrigated crops of short height and might also hinder crop harvest (Damalas, 2008).

Grubben *et al.,* (2004) as cited by Guinyang (2005) stated that *Galinsoga parviflora* contains 88.4 g water, 653 KJ energy, 3.2g protein, 0.4g fat, 5.2g carbohydrates, and 1.1g fiber for every 100g of its edible portion.

Galinsoga is better than talinum in terms of gain in weight and feed conversion ratio (Quintos, 2012).

Watercress

Watercress contains 11 kcal energy, 1.29 protein, 0.10 fat, and 0.5g dietary fiber. According to Bonar (1986) watercress makes a fine salad either on its own or mixed with other leaves. It contains range of vitamins including A, B, C, D, and E and various minerals such as iron, manganese, iodine, phosphorus, calcium and has considerable medicinal

properties. Phillips and Rix (1993) wrote that watercress has been recognized as valuable salad plant since Roman times, primarily as a source of vitamins to protect against scurvy.

Chayote Leaves

According to the Philippine Food composition as published by Portugal *et. al* (1997) as cited by Aspilan (2006), chayote contains 35% edible portion, 440 energy (Kcal), 46 protein, 9 ash per 100 grams. And also, according to Baliaga (1985) as cited by Aspilan (2006), 20% of the chayote leaves in the ration of rabbits is not detrimental to the growth of the animal.

The result of the study of Aspilan in 2006 on the effects of chayote leaf meal on broiler chicken proved that the dressed weight and dressing percentage of the broiler chicken fed with chayote leaf meal is as good as the dressed weight and dressing percentage of broiler chicken fed with commercial feed. This infers that in order to produce an optimum dressed weight and dressing percentage, we can use natural, available, and cheap but nutritious chayote leaf meal instead of buying expensive commercial feeds.

Bautista and Mabesa (1997) stated that green leafy vegetables such as Chinese cabbage, pechay, kangkong, mustard, saluyot, young leaves of sweet potato, ampalaya, sitao, gabi, chayote, squash, malunggay, and katuray are rich in vitamin A and vitamin C.

Organoleptic Evaluation

According to FAO (2012), organoleptic evaluation consists in describing the attributes of food, in this special case of meat and meat products that can be perceived by the sense organs. The attributes to be evaluated are appearance, color, texture and consistency, smell and taste.

Appearance.

The way meat looks, either as a carcass or as boneless meat cuts, has an important impact on its objective or subjective evaluation. Grading is an objective evaluation method in this context. Traditional methods of carcass grading after slaughter involve the aspect of beef or pork sides, poultry carcasses, etc. Skilled graders are able to classify different carcasses by checking the size, the volume of muscular tissue, fat layers, etc. Although in modern grading procedures more and more technical equipment has been incorporated, visual methods are still in use. They can be of special value in most developing countries where no extremely sophisticated methods are needed. The way the consumers or the processors check the appearance of meat is subjective. Differences will be registered in the relation of lean meat and fat including the degree of marbling or in the relation of bones and lean meat. Furthermore, unfavorable influences can be detected such as unclean meat surfaces, surfaces too wet or too dry, or unattractive blood splashes on muscle tissue. Processed meat, on the other hand, can roughly be evaluated by its appearance according to the different raw materials of which the product is composed and where the use of some components is exaggerated (for instance too many particles of visible fat or connective tissue, etc.). Special product treatments (for instance chilling, freezing, cooking, curing, smoking, drying) or the kind and quality of portioning and packaging (casings, plastic bags, and cans) will be recognized by evaluating the appearance.

Color. Under normal circumstances the color of meat is in the range of red and may differ from dark red, bright red to slightly red; but also pink, grey and brown colors may occur. In many cases the color indicates the type and stage of the treatment to which the meat has been subjected, as well as the stage of freshness. In judging meat color, some

experience is needed to be able to distinguish between the colors which is typical for a specific treatment or which is typical for specific freshness. Furthermore, meat deriving from different species of animals may have rather different colors, as can easily be seen when comparing beef, pork and poultry meat. The natural color of fresh meat, except poultry meat, is dark red, caused by the muscle pigment, myoglobin. Fresh meat surfaces which have been in contact with the air for only a short period turn into a bright red color because of the influence of the oxygen in the air. Oxygen is easily aggregated to the myoglobin and drastically changes the color of the meat surfaces exposed to it. On the other hand, in the absence of oxygen, for example in meat cuts packaged in impermeable plastic bags, meat surfaces remain or become dark red again. The same conditions generally prevail in the interior of meat cuts which are not reached by oxygen. Changes from dark red to bright red are therefore typical and are normal reactions of fresh meat. Meat which is in the process of losing its freshness, however, no longer shows a bright red color, even when intensively exposed to the air, because of the partial destruction of the red meat pigment which results in a grey, brown or greenish color. Once these conditions occur the consumer has to decide, after carefully checking the appearance, together with testing smell and taste, whether the meat has to be discarded as a whole or whether use can be made of some parts which so far have not been altered. Remarkable changes in the meat color occur when fresh meat has been boiled or cooked. It loses its red color almost entirely and turns to grey or brown. The reason for this is the destruction of the myoglobin through heat treatment. On the other hand, it has long been known that after pickling (curing) fresh meat with curing ingredients (nitrite), the meat color remains red during longer storage periods, after ripening, drying and even after intensive heat treatment. Obviously the

original meat color has not been conserved, but a chemical reaction has taken place during the curing process transforming the unstable pigment of the fresh meat into a stable red pigment. This is the typical color shown in sausages of all types, raw and cooked hams, corned beef, etc. It should also be noted that cured products have a longer shelf-life than fresh meat because of the conserving effect of the curing salt. However, cured products will also deteriorate under unfavorable conditions, cooked cured products sooner than raw cured products. Cured products with a decreasing keeping quality can be recognized when the red color becomes pale or changes to grey or green.

Texture and consistency (tenderness and juiciness). Meat prepared for the consumer should be tender and juicy. Meat tenderness depends on the animal species which the meat originates. Lamb, pork, and poultry meat are sufficiently tender after slaughter, but beef requires a certain period of maturation to achieve optimal eating quality. Texture and consistency, including juiciness, are important criterion, still neglected by many consumers, for the eating quality of meat. Often consumers do not know the eating quality of meat can be upgraded by ripening, especially in the case of beef and similar meats. There is also a great deal of consumer negligence in how to prepare meat. It should be cooked to become sufficiently tender, but cooking should not be too intense otherwise the meat becomes dry, hard, and with no juiciness. The simple way to check the consistency of foods is by chewing. Although this test seems easy, in practice it is rather complicated. Taste panelists needs experience, particularly when the different samples have to be ranked, for example, which sample is the toughest, the second toughest or the most tender. The texture is of less importance in meat products such as cured or canned products, sausages etc., because they are either made of comminuted meat and/or meat which has undergone heat

treatment or long maturation periods and will therefore generally be tender. On the other hand, inadequate processing methods (too intensive cooking, curing, comminuting) may cause losses in the desired consistency and juiciness, and the best way to check this is by chewing (www.fao.org., 2012).

Smell and taste (aroma and flavor). These characteristics are related to each other to a certain extent because they have to be evaluated together for the reliable determination of a product's flavor. The smell of fresh meat should be slightly acidic, increasing in relation to the duration of the ripening period because of the formation of acids such as lactic acid. On the other hand, meat in decomposition generates an increasingly unpleasant odor owing to substances originating from the bacterial degradation of the meat proteins, such as sulfur compounds, mercaptane, etc.

The freshness of meat is generally indicated by its smell together with its appearance and color. Sorting out deteriorated meat is mandatory from the point of view of the product's palatability. It is also important because of the fact that high bacterial contamination of meat in decomposition could be accompanied by food-poisoning bacteria (pathogens), which have a deleterious impact on consumers' health. On the other hand, the best fresh meat can also be heavily contaminated with food-poisoning bacteria because these micro-organisms do not cause organoleptic alterations by destruction of meat proteins. Food poisoning can therefore only be avoided by proper hygienic meat handling. The flavor of fresh meat can also be checked by putting small samples (approx.10 pieces of 1 cm3 each) in preheated water of 80˚C for about five minutes (boiling test). The odor of the cooking broth and the taste of the warm meat samples will indicate whether the meat is fresh or in deterioration or subject to undesired influences, for instance rancidity of the

meat fat, and a typical meat flavor due to the feed and the sex (boar taint) of the animal or treatment with veterinary drugs shortly before slaughter. When processing the meat, the smell and taste of the meat products can differ a great deal owing to heat treatment and the use salt, species and food additives. Every meat product has its typical smell and taste, and the test person should know about it. Changes in these qualities indicate the use of improper raw materials or a deterioration of the meat product during storage. Experience is required to become acquainted with the typical flavor (smell and taste) of foods. Only four basic taste components—sweet, sour, bitter, and salty—will be perceived by the taste buds. These receptors are small papillae located in certain areas of the tongue. However, the overall flavor consists of smell and taste produced by the meat components and influenced and covered by spices and those compounds produced by ripening or heat treatment. Flavor test panelists should be aware of these special cases. Panelists should not smoke or eat spicy meals before starting the test and should rinse their mouth frequently with warm water during the test. Sensory evaluation plays an important role in the examination of meat and meat products. Not only does scientific sensory evaluation with skilled panelists using special test programs and point systems give reliable results, but useful results can also be obtained in a simple way at the consumer level. For the average consumer sensory evaluation, it is the only way to decide whether or not he or she should buy or eat a certain product. In developing countries, consumers do not receive sufficient information and training on this point, although it is often the only means available for quality control. Sensory evaluation is easy to understand and to perform. What is needed is a basic knowledge of the composition of foods and their typical texture, color, and flavor (www.fao.org., 2012).

MATERIALS AND METHODS

Experimental Materials

The materials that were used in the study were six (6) four months old rabbits, bolo, knife, containers, chopping board, weighing scales, tape measure, cleaning tools, digital camera, record book, and pencil.

Experimental Treatments

Two (2) rabbits were taken from each of the three treatments from a previous study which utilized the following treatments:

T_1- 25g commercial feed + Galinsoga (*ad libitum*)

T_2-25g commercial feed + watercress (*ad libitum*)

T_3-25g commercial feed + chayote leaves (*ad libitum*)

Slaughtering of Rabbits

Six heads of four-months-old rabbits were used in the study. Before they were slaughtered, they were not given any amount of forage. During the slaughtering, the rabbit was suspended by its hind legs. The jugular vein was cut with a sharp knife. To allow complete bleeding, the head was immediately removed. It was cut across the back of the head down to the tip of the jaw. The feet were removed and then the skin was cut at the hock joints of the legs across the lower part of the body. The tail was removed and the skin was pulled down and forward from the body. A slit was made from the lower part of the abdomen near the anus to the mid-point of the lowest rib making sure not to puncture the intestine. The internal organs and the other gut contents were removed and weighed during evisceration. The dressed carcass was weighed. The organ weights were taken and

expressed as percentage of the slaughter weight. The carcass was washed with clean water to remove hair and any other dirt or debris. The length of the dressed carcass was measured from the atlas vertebrae to the base of the tail. The lean from each carcass was removed and then weighed and expressed as percentage of the carcass weight. The bone without flesh was weighed and expressed as percentage of the carcass weight.

Organoleptic Test

An organoleptic test was done to determine the acceptability of the rabbit meat from the different treatments. Twenty samples from the whole carcass were taken from each treatment and were used for the test. Organoleptic evaluation consists in describing the attributes of food, in this special case of meat and meat products that can be perceived by sense organs. The attributes evaluated are texture and consistency, smell, and taste.

Data Gathered

1. Slaughter weight (kg). This was the weight of the live rabbit before slaughter (Figure 1).

Figure 1. Weighing the rabbits for slaughter weight

2. Carcass Weight (kg). This was the weight of the carcass with the head, tail, feet, and viscera removed (Figure 2).

Figure 2. Weighing the rabbits' carcass

3. Carcass length (inch). This was the length of the carcass from the atlas vertebrae to the base of the tail (Figure 3).

Figure 3. Measuring the carcass length

4. Weights of the major cuts (kg). This was taken by weighing the major cuts such as hind legs (includes legs and thigh), front legs (includes legs and shoulder), ribs, belly, and loin (Figure 4).

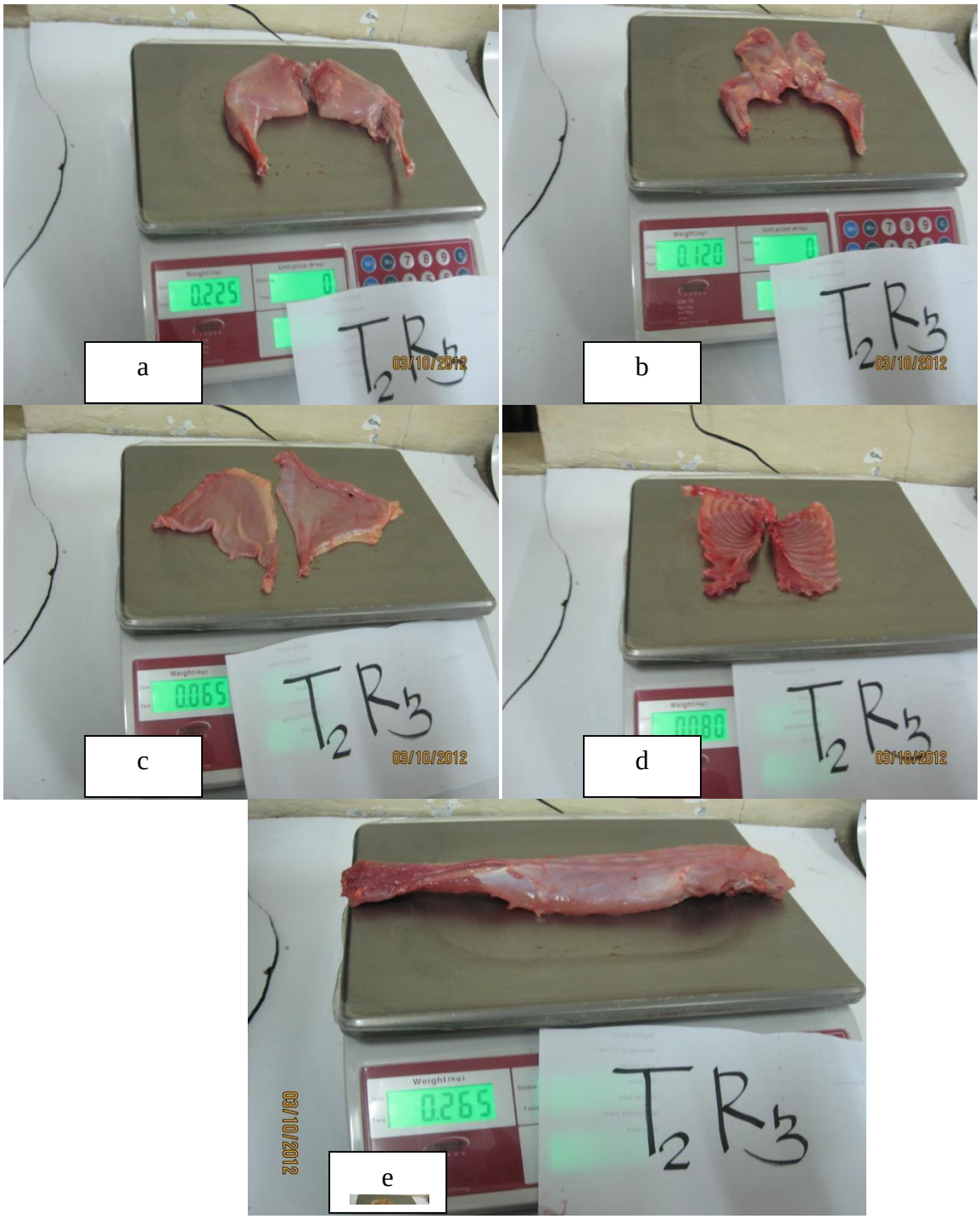

Figure 4. Major cuts of rabbit: (a) hind legs; (b) front legs; (c) belly; (d) rib; (e) loin

5. Weight of viscera (kg). This was taken by weighing the heart, liver, lungs, kidney, full GIT, and empty GIT (Figure 5).

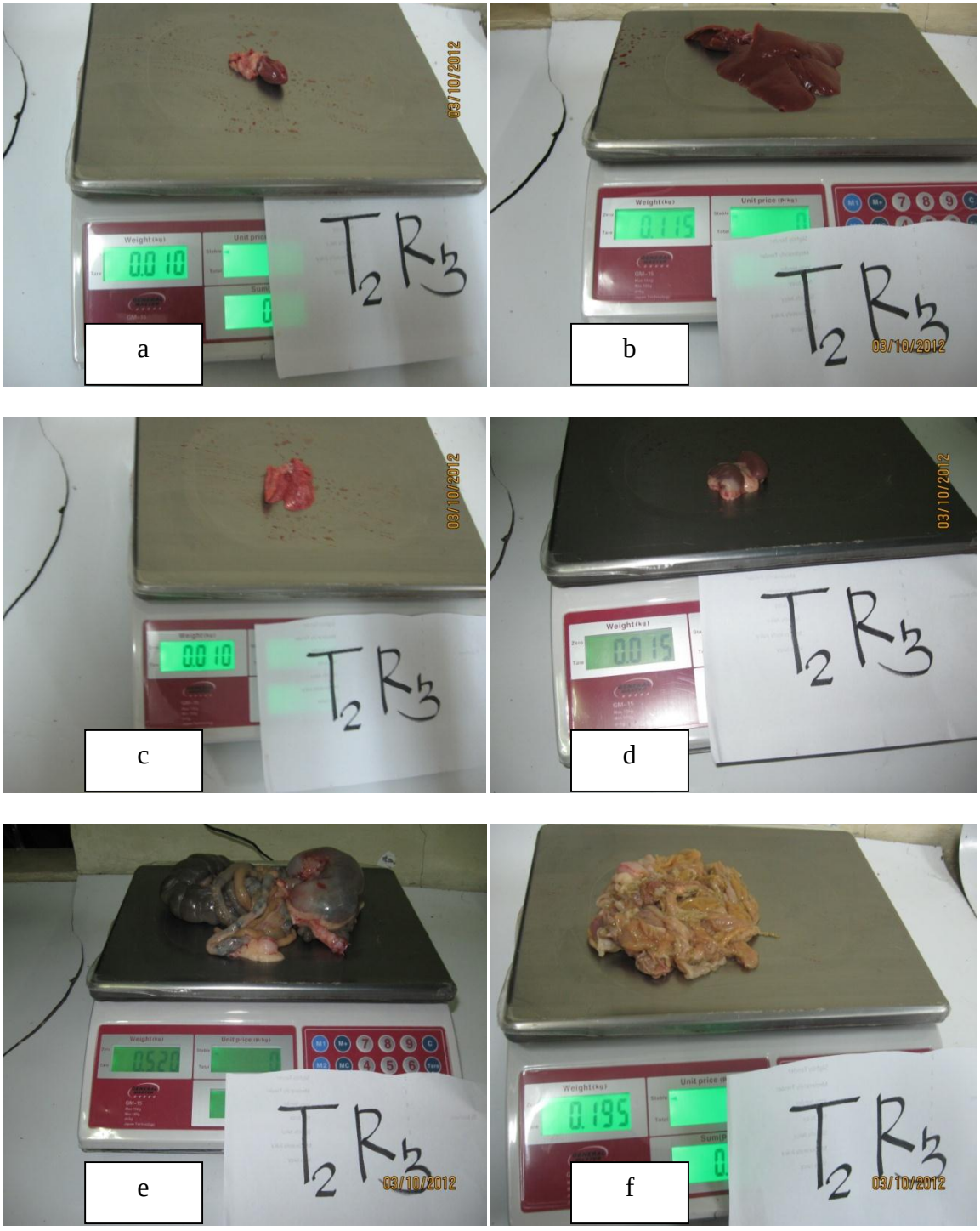

Figure 5. Internal organs of rabbit: (a) heart; (b) liver; (c) lungs; (d) kidney; (e) full GIT; (f) empty GIT

6. Weight of lean (kg). This refers to the weight of all the lean that was separated from each carcass after deboning excluding the lean from the head, neck, and spinal cord (Figure 6).

Figure 6. Weighing the lean

7. Weight of bone (kg). This was the weight of the rabbit's bone separated from each carcass excluding the bones from the head, neck, and spinal cord (Figure 7).

Figure 7. Weighing the bone

Data Computed

1. Dressing percentage (%). This was obtained by dividing the carcass weight by the slaughter weight and multiplied by 100.

$$\text{Dressing Percentage (\%)} = \frac{\text{Carcass weight (kg)}}{\text{Slaughter weight (kg)}} \times 100$$

2. Percentage of the major cuts (%). This was obtained by dividing the weight of major cuts by the carcass weight and multiplied by 100.

$$\text{Percentage of cut (\%)} = \frac{\text{Weight of cut (kg)}}{\text{Carcass weight (kg)}} \times 100$$

3. Percentage of the viscera (%).This was obtained by dividing the viscera weight by the slaughter weight and multiplied by 100.

$$\text{Percentage of viscera (\%)} = \frac{\text{Viscera weight (kg)}}{\text{Slaughter weight (kg)}} \times 100$$

4. Percentage of lean (%). This was obtained by dividing the lean weight by the carcass weight and multiplied by 100.

$$\text{Percent lean (\%)} = \frac{\text{Lean weight (kg)}}{\text{Carcass weight (kg)}} \times 100$$

5. Percentage of bone (%). This was obtained by dividing the bone weight by the carcass weight and multiplied by 100.

$$\text{Percent bone (\%)} = \frac{\text{Bone weight (kg)}}{\text{Carcass weight (kg)}} \times 100$$

6. Percentage of head (%). This was obtained by dividing the head weight by the slaughter weight and multiplied by 100.

$$\text{Percent head (\%)} = \frac{\text{Head weight (kg)}}{\text{Slaughter weight (kg)}} \times 100$$

7. Percentage of pelt (%). This was obtained by dividing the pelt weight by slaughter weight and multiplied by 100.

$$\text{Percent pelt (\%)} = \frac{\text{Pelt weight (kg)}}{\text{Slaughter weight (kg)}} \times 100$$

8. Texture and consistency/tenderness and juiciness, smell and taste (aroma and flavor). This was obtained through organoleptic testing of cooked meat that was rated by the panel of tasters composed of 20 people.

Data Analysis

All the data on the carcass of rabbits were subjected to Analysis of Variance for Completely Randomized Design (CRD). Treatment means were compared by the Duncan's Multiple Range Test (DMRT).

RESULTS AND DISCUSSION

Slaughter Weight, Carcass Weight and Dressing Percentage

Table 1 shows the mean slaughter weight carcass weight, and dressing percentage of the rabbits as affected by the different treatments.

Statistical analysis revealed no significant differences between the weights of the rabbits from the different treatments at the time of the slaughter. This means that the slaughter weights are more or less the same.

In terms of carcass weight, statistical analysis proved that the carcass weights of the rabbits as affected by the different treatments are more or less the same. This means that the different experimental treatments did not affect the rabbits to reach significantly different carcass weight.

On the dressing percentage, rabbits given T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves obtained the dressing percentages of 49.83%, 44.86%, and 49.67%, respectively. Even though there are obvious numerical differences between the treatment means, statistical

Table1. Mean Slaughter Weight, Carcass Weight and Dressing Percentage

TREATMENTS	SLAUGHTER WEIGHT (kg)	CARCASS WEIGHT (kg)	DRESSING PERCENTAGE (%)
25g CF + Galinsoga	2.09[a]	1.04[a]	49.83[a]
25g CF + Watercress	2.04[a]	0.92[a]	44.86[a]
25g CF + Chayote Leaves	2.05[a]	1.02[a]	49.67[a]

Means with the same letter are not significantly different at 0.05 by DMRT.

analysis revealed that these differences are not significant. It implies that the dressing percentages of the rabbits fed with the different feedstuffs are more or less the same. The dressing percentages of the rabbits from the different treatments were below the average dressing percentage of rabbits which is 58.2 % for mature New Zealand rabbits (http://www.msstate.edu/dept/poultry/rabslau.htm#percent, 2012).

Weight of Head and Pelt Expressed as Percentage of the Slaughter Weight

Table 2 presents the percentages of head and pelt as affected by the different treatments. Percentages of pelt coming from rabbits given with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves are 13.41%, 12.26%, and 13.17%, respectively. Statistical analysis revealed that there are no significant differences between the data that can be attributed to the imposed treatments. It means that the data on pelt are more or less the same regardless of the feedstuffs given to the rabbits.

In terms of the percentage of the rabbit's head, those that are fed with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g

commercial feeds + chayote leaves have the percentages of 5.86%, 8.83%, and 7.69%, respectively. Basing on the statistical analysis, the differences between the data are not differently significant. It implies that the data on head percentages are more or less similar in all the treatments as that which were given the different experimental feedstuffs. The T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves did not cause any effect that

Table 2. Means for head and pelt expressed as percentage of the slaughter weight

TREATMENTS	PELT	HEAD
25g CF + Galinsoga	13.41[a]	5.86[a]
25g CF + Watercress	12.26[a]	8.83[a]
25g CF + Chayote Leaves	13.17[a]	7.69[a]

Means with the same letter are not significantly different at 0.05 by DMRT

could make the data on the head percentages to be significantly different across the treatments.

Internal Organs of the Rabbits

Table 3 shows the percentages for the internal organs as affected by the different treatments. Statistical analysis showed that the data on the rabbit's internal organs were more or less similar in all treatments because the differences are significant enough to be attributed to the different feedstuffs fed to the rabbits.

Carcass Length

Table 4 shows the mean carcass length of the slaughtered rabbits as affected by the different treatments. It shows that rabbits given T_2- 25g commercial feeds + watercress have a mean of 13.90 inches while rabbits given T_3- 25g commercial feeds + chayote leaves have a mean of 13.55 inches and the ones given T_1- 25g commercial feeds + galinsoga have a mean of 13.25 inches. Statistical analysis reveals that the treatments are not significantly different in terms of carcass length. It means that the different feedstuffs did not affect the carcass length of the rabbits. It also shows that the rabbits fed

Table 3. Means for internal organs expressed as percentage of the slaughter weight

VISCERA	TREATMENTS		
	1	2	3
Heart	0.24[a]	0.37[a]	0.24[a]
Lungs	0.60[a]	0.61a	0.49[a]
Kidney	0.72[a]	0.74[a]	0.73[a]
Liver	3.59[a]	4.55[a]	3.80[a]
Full GIT	17.24[a]	22.13[a]	18.13[a]
Empty GIT	8.50[a]	8.36[a]	9.26[a]

Means with the same letter are not significantly different at 0.05 by DMRT

Table 4. Mean carcass length

TREATMENTS	LENGTH (inches)
25g CF + Galinsoga	13.25[a]
25g CF + Watercress	13.90[a]
25g CF + Chayote Leaves	13.55[a]

Means with the same letter are not significantly different at 0.05 by DMRT

with these different feedstuffs are less comparable to each other in terms of carcass length.

Major Cuts of Rabbit

Table 5 shows the mean percentages of the major cuts such as loin, ribs, belly, hind legs, and front legs as affected by the different treatments.

In the percentage of loin, rabbits given T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the mean percentages of 30.87%, 33.24%, and 32.69%, respectively. Statistical analysis revealed that there are no significant differences between the treatments that can be attributed to the imposed experimental treatments.

Statistical analysis revealed that differences between the hind leg percentages are not significant. Experimental rabbits given T_1- 25g commercial feeds + galinsoga, T_2-25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the mean percentages of 29.50%, 27.33%, and 26.55%, respectively. This means that the rabbits fed with these different feedstuffs are more or less the same and are less comparable to each other.

For the percentages of the front legs, experimental rabbits given T_1- 25g commercial feeds + galinsoga, T_2-25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the mean percentages of 16.11%, 15.99%, and 14.51% respectively. Statistical analysis revealed that the treatment means are more or less similar because the differences are not significant.

In terms of the percentage of the belly, rabbits given T_3- 25g commercial feeds + chayote leaves have a mean of 11.27% while rabbits given T_1- 25g commercial feeds + galinsoga and T_2- 25g commercial feeds + watercress have the means of 8.69% and 7.18% respectively. Statistical analysis shows that the treatment means are not significantly different from each other. This infers that the treatment means for percentages of belly are more or less similar to each other. For the mean percentage of

Table 5. Means for major cuts expressed as percentage of the carcass weight

TREATMENTS	LOIN	RIBS	BELLY	HIND LEGS	FRONT LEGS
25g CF + Galinsoga	30.87[a]	9.32[a]	8.69[a]	29.50[a]	16.11[a]
25g CF + Watercress	33.24[a]	10.08[a]	7.18[a]	27.33[a]	15.99[a]
25g CF + Chayote Leaves	32.69[a]	10.81[a]	11.27[a]	26.55[a]	14.51[a]

Means with the same letter are not significantly different at 0.05 by DMRT

the ribs, rabbits given T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress and T_3- 25g commercial feeds + chayote leaves have the means of 9.32%, 10.08%, and 10.81%, respectively. The treatment means are more or less similar because

the result of the statistical analysis is not significant and this makes the treatments less comparable in terms of rid percentage.

Lean and Bone

Table 6 shows the mean percentage of lean and bone as affected by the different treatments. In the mean percentage of the lean, rabbits given T_3- 25g commercial feeds + chayote leaves have the mean of 55.03% while rabbits given T_1- 25g commercial feeds + galinsoga have a mean of 54.23% and rabbits given T_2- 25g commercial feeds + watercress have a mean of 49.75%. In terms of the mean percentage of the bone, rabbits given T_2- 25g commercial feeds + watercress have the mean of 8.97% while rabbits given T_1- 25g commercial feeds + galinsoga have a mean of 8.64% and rabbits given T_3- 25g commercial feeds + chayote leaves have a mean of 7.13%.

Statistical analysis revealed that there are no significant differences among the treatment means in terms of the percentage of lean and bone. This means that the rabbits

Table 6. Means for lean and bone expressed as percentage of the carcass weight

TREATMENTS	LEAN	BONE
25g CF + Galinsoga	54.23[a]	8.64[a]
25g CF + Watercress	49.75[a]	8.97[a]
25g CF + Chayote Leaves	55.03[a]	7.13[a]

Means with the same letter are not significantly different at 0.05 by DMRT

given with these different feedstuffs were not affected in terms of the percentage of lean and bone. It also shows that rabbits given with these different feedstuffs are less comparable to each other in terms of the percentages of lean and bone.

Organoleptic Test

Table 7 shows the organoleptic test for the carcass in terms of appearance as affected by the different treatments.

Rabbits fed with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the means of 3.30, 3.20, and 3.20 respectively in terms of appearance. The means of the different treatments are on the scale of 2.51-3.50 which is moderately desirable. This means that the treatment means are more or less the same on appearance.

Table 8 shows the result of the organoleptic test for aroma as affected by the different treatments.

In terms of the aroma, rabbits fed with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the means of 3.43, 3.25, and 3.18 respectively. All the treatment means are also on

Table 7. Result of the organoleptic test for appearance

TREATMENTS	MEAN	VERBAL DESCRIPTION
25g CF + Galinsoga	3.30	Moderately desirable
25g CF + Watercress	3.20	Moderately desirable
25g CF + Chayote Leaves	3.20	Moderately desirable

Table 8. Result of the organoleptic test for aroma

TREATMENTS	MEAN	VERBAL DESCRIPTION
25g CF + Galinsoga	3.43	Like Moderately
25g CF + Watercress	3.25	Like Moderately
25g CF + Chayote Leaves	3.18	Like Moderately

the scale of 2.51-3.50 where in the verbal description is like moderately. This also means that the different treatments are more or less the same in aroma.

Table 9 shows the result of the organoleptic taste for tenderness as affected by the different treatments.

For the tenderness, rabbits fed with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the means of 3.10, 2.90, and 2.78 respectively. All the different means are on the same scale of 2.51-3.50 which connotes moderately tender characteristics. This implies that the different treatments are more or less the same in terms of tenderness.

Table 10 shows the result of the organoleptic test for juiciness as affected by the different treatments.

In terms of the juiciness, rabbits fed with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the means of 2.85, 2.50, and 2.83 respectively. Treatment 1 and treatment 3 fall under moderately juicy while treatment 2 falls under slightly juicy.

Table 11 shows the organoleptic test for taste as affected by the different treatments.

For taste, rabbits fed with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the means of 3.40, 3.05, and 3.23 respectively. The scale of the different treatment means falls under the verbal description moderately good, which means that the different treatments are more or less comparable and implies that they are more or less the same in terms of taste.

Table 12 shows the result of the organoleptic test for acceptability as affected by the different treatments.

In terms of acceptability, rabbits fed with T_1- 25g commercial feeds + galinsoga, T_2- 25g commercial feeds + watercress, and T_3- 25g commercial feeds + chayote leaves have the means of 3.48, 3.05, and 3.15 respectively. The means of all the treatments are on the same scale of 2.51-3.50 which is like moderately in verbal description. This implies that the tasters accepted the coked lapan on average rating because they moderately like it.

Table 9. Result of the organoleptic test for tenderness

TREATMENTS	MEAN	VERBAL DESCRIPTION
25g CF + Galinsoga	3.10	Moderately Tender
25g CF + Watercress	2.90	Moderately Tender
25g CF + Chayote Leaves	2.78	Moderately Tender

Table 10. Result of the organoleptic test for juiciness

TREATMENTS	MEAN	VERBAL DESCRIPTION
25g CF + Galinsoga	2.85	Moderately Juicy
25g CF + Watercress	2.50	Slightly Juicy
25g CF + Chayote Leaves	2.83	Moderately Juicy

Table 11. Result of the organoleptic test for taste

TREATMENTS	MEAN	VERBAL DESCRIPTION
25g CF + Galinsoga	3.40	Moderately Good
25g CF + Watercress	3.05	Moderately Good
25g CF + Chayote Leaves	3.23	Moderately Good

Table 12. Result of the organoleptic test for acceptability

TREATMENTS	MEAN	VERBAL DESCRIPTION
25g CF + Galinsoga	3.48	Like Moderately
25g CF + Watercress	3.05	Like Moderately
25g CF + Chayote Leaves	3.15	Like Moderately

SUMMARY, CONCLUSION, AND RECOMMENDATION

Summary

The study was conducted to determine the carcass characteristics of rabbits fed with galinsoga, watercress, and chayote leaves. It was conducted at the Meat Processing Laboratory at Benguet State University, La Trinidad, Benguet on November 2012. The treatments that were used are as follows: T_1- 25g commercial feeds + Galinsoga (control), T_2- 25g commercial feeds + Watercress, and T_3- 25g commercial feeds + Chayote leaves. The treatments were replicated two times. Six rabbits were used in the study following the Completely Randomized Design (CRD).

Statistical analysis revealed that there were no significant differences between the treatments in terms of slaughter weight, carcass weight, carcass length, dressing percentage, percentages of the major cuts (loin, belly, ribs, hind, and front legs), percent head, percent pelt, percentages of the viscera (lungs, liver, heart, kidney, full, and empty GIT), percent lean ,and percent bone. This means that the data are less comparable to each other in terms of the above mentioned carcass parameters. In terms of over-all acceptability, lapan from rabbits fed with 25g commercial feeds + galinsoga, 25g commercial feeds + watercress, and 25g commercial feeds + chayote leaves are all on the average parameter basing on the result of the organoleptic test.

Conclusion

Based on the results, it is concluded that giving the different forages such as galinsoga, watercress, and chayote leaves did not adversely affect the carcass traits and meat characteristics of the rabbits.

Recommendation

It is therefore recommended that any of the experimented forages like galinsoga, watercress, and chayote leaves can be given to rabbits to attain more or less the same results in terms of carcass traits and meat characteristics.

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