BIBLIOGRAPHY

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ABSTRACT

The study was conducted at the Meat Laboratory, Animal Science Department, Benguet State University on October-December 2012 to determine the carcass characteristics of the rabbit fed T_1-50 grams commercial feed+300 grams galinzoga, T_2-50 grams commercial feed+300 grams sweetpotato vine, and T_3-50 grams commercial feed+300 grams kangkong vine in terms of slaughter weight, carcass weight, carcass length, dressing percentage, percent minor cuts, percent major cuts, percent internal organs, percent pelt, percent lean and bone.

Six rabbits weighing 2 kilograms each from the different treatment were used as experimental animals following the Complete Randomize Design. Each treatment was replicated twice. The treatments were as follows: T_1-50 grams commercial feed+300 grams galinzoga, T_2-50 grams commercial feed+300 grams sweetpotato vine, and T_3-50 grams commercial feed+300 grams kangkong vine.

Significant differences among the treatments were observed in terms of the percent liver. Rabbit fed with T_2-50 grams commercial feed+300 grams sweetpotato vine recorded the heaviest liver with a mean of 4.13%. The differences among the treatments in terms of slaughter weight, weight, carcass weight, carcass length, dressing percentage, percent minor cuts, percent major cuts, percent internal organs (lungs,kidney, Full and empty GIT) percent pelt, percent lean and bone were not significant.

INTRODUCTION

Rabbit belong to family Leporidae and order Lagomorphia and it is known popularly as the *Oryctolagos cuniculus (*Templeton 1968). Raising of rabbits is easy because it has high reproductive rate and rabbit meat contains slight amount of uric acid and low content of cholesterol (Maddul, 1999).Raising of rabbit is for meat, wool, fur purposes and use as pets or biochemical research as laboratory animals. The meat of rabbit is the best food in the world because it has plenty of meat and a little bone. It is also a good source of amino acids that are needed by our body. The meat is a very nutritious food suitable for patient under special diets, weight diet reduction and low sodium diet.

Animals that are fed with forages have low growth rate, the carcass has lesser fat and leaner meat, darker meat and tender. Using forages is the best way to produce high quality of meat and forages are safe to be eaten by the animals because this ration does not contain any chemical substance that will affect our health.

When animals are fed with such forages, the meat is more nutritious and delicious than those animals that are fed with commercial feeds. Meat of rabbit is one of the most preferred luxurious foods but because of high cost of feeds, some producers find the alternative source of feeds and supplement to meet the excellent quality of carcass rabbit (Banglay, 2012).

The idea of the study was focused on the carcass characteristic of rabbit fed and to know which of the following is the best that would produce high quality of meat.

The experiment result can serve as a guide to rabbit raisers and this study could find the alternative source of feed supplement to produce excellent quality meat that can help

the rabbit raisers to increase the source of their income by selling them at higher cost to the market and to help those people who needs small amount of fat for their diet.

The study was conducted to determine the carcass characteristics of rabbit fed with T_1-50 grams commercial feed+300 grams galinzoga, T_2-50 grams commercial feed +300 grams sweetpotato vine, and T_3-50 grams commercial feed+300 grams kangkong vine.

Specifically, the study aimed to:

1. determine the slaughter weight, carcass weight and dressing percentage of rabbit fed with T_1-50 grams commercial feed+300 grams galinzoga, T_2-50 grams commercial feed+300 grams, sweetpotato and T_3-50 grams commercial feed+300 grams kangkong vine;

2. determine the weight of viscera, gastrointestinal tracts; and

3 compute the percent lean and bone of rabbit fed with T_1-50 grams commercial feed+ 300 grams galinzoga, T_2-50 grams commercial feed+300 grams sweetpotato vine, and T_3-50 grams commercial feed+300 grams kangkong vine.

This study was conducted at the Meat Laboratory, Animal Science Department, Benguet State University on October to December 2012.

REVIEW OF LITERATURE

Rabbits are herbivores but it is a common practice to give them concentrates before they are provided with their regular roughage diet (Bennet, 1979).

Meat of the rabbit is highly digestible, tasty, low calorie food, often recommended by nutritionists over the meats. However, large rabbit industry integration is becoming more important and the development of the rabbit meat production is forcing processing plant to improve slaughter capacities by using high-speed and more automated slaughter lines (Cavani and Petracci, 2004).

Cheeke (1987) stated that the reproduction, capacity of rabbit is legendary. Does can rebreed within 24 hours of giving birth (kindling) and in fact this is the normal behavior of wild rabbit.

Sweetpotato vines have lower carbohydrate content but higher in fiber and protein and their principal nutritive is as source of vitamins and proteins according to Dominguez (1992) cited by Tabon (2008).

According to Du Thanh Hang *et al.*, (2009) as cited by Dup-et (2011) sweet potato is the third important crop in Vietnam after rice and corn in 2001. The leaves have a protein content ranging from 26 to 33% in the dry matter (DM) and have been used successfully as supplementary feed for different classes of livestock.

Maddul (1999) as cited by Longbuan (2009) mentioned that the digestive system of rabbits allow the utilization of the forage based diets effectively despite its being a non-ruminant. Consequently, rabbits are well suited to low energy fibrous feedstuffs and less well-adopted to high energy ingredients of rabbit diet such as cereals and grains. Thus, fibrous such as fodders or fresh forage are typically the basal ingredients of rabbit diets.

For small scale rabbits raising, feeding green such as grass, vegetable tops, carrots and other succulent feeds may be feasible, but is not practical on commercial scale.

De Leon (1998) cited that the basic feed for rabbits is roughage and so they should be given a wide selection of gross, cover crops, and any leafy plants. He also cited that to ensure fast growth, rabbits can be fed with pellets, growing mash, and corn or rice bran

The office of Home Economics, state relations of the United State Department of Agriculture has made extensive test and have stated that domestic rabbit meat is the most nutritious meat known to man. Rabbit has 795 calories per pound compared to chicken with 810 calories. Veal has 840, turkey 1190, lamb 1420, beef 1440, and pork 2050. Rabbit will produce 6 pounds of meat on the same feed and water (USDA, 2008).

Compared with the meat of the species, rabbit meat is richer in proteins and certain vitamins and minerals. However, it has less fat. Rabbit fat contains less stearic and oleic acids than other species and higher proportions of the essential poly unsaturated linolenic and fatty acids (FAO, 2009).

Galinsoga is an erect, slender, soft, often branched annual herd, belonging to the Compositae. Galinsoga contains 90-95% moisture (Holm *et al*., 1977).

Knott and Deanon (1986) reported that kangkong leaf is an excellent source of vitamin A. It is fairly rich also in vitamin C, calcium, potassium and phosphorous.

Onwueme (1987) stated that the leaves and tender shoots of camote are used as vegetable food. The leaf contains a dry matter basis, 8% starch, 4% sugar, 27% protein and 10% ash, it also contain 56 mg carotene per 100 g matter, in sum, and the leaf is richer than the tubers in proteins, minerals and vitamins and therefore more nutritious.

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 from 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 an important criterion, still neglected by many consumers, for the eating quality of meat. Often consumers do not know that 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 need 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.

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 assulphur 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 was 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 of salt, spices 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 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.

MATERIALS AND METHODS

The material that were used in the study are the following: six rabbits weighing 2 kilograms each, kitchen knife, chopping board, containers, weighing scale, measuring tape, cleaning tools, digital camera, record book and ball pen.

Two rabbits of the same weight were taken from each of the three treatments from a previous study on the growth performance of rabbit fed with T_1-50 grams commercial feed+300 grams galinzoga, T_2-50 grams commercial feed+300 grams, sweetpotato vine and T_3-50 grams commercial feed+300 grams kangkong vine. Two rabbits from each treatment were slaughtered to represent the treatments. The previous study utilized the following treatment:

T_1 – 50grams commercial feed+300 grams galinzoga

T_2 – 50grams commercial feed+300 grams sweetpotato vine

T_3 – 50grams commercial feed+300 grams kangkong vine

Two rabbits from each treatment were slaughtered. Before the animals were slaughtered they were not offered any forage. During slaughtering, the jugular vein was cut with a sharp knife. To allow complete bleeding, the head was immediately removed across the back of the head down to the tip of the jaw. The feet were removed and after removing the feet, the skin was cut at the back joints of the legs across 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 very carefully so that the intestines would not be punctured. The internal organs and gut contents were removed and weighed during evisceration. The dressed carcass was weighed. The organ weights were taken and expressed as percentage of the

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

Data Gathered

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

Figure 1.Weighing the rabbit for slaughter weight

2. Carcass weight (kg). The weight of the carcass with the head, feet, pelt, and viscera removed (Figure 2).

Figure 2.Weighing the rabbit for carcass weight

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

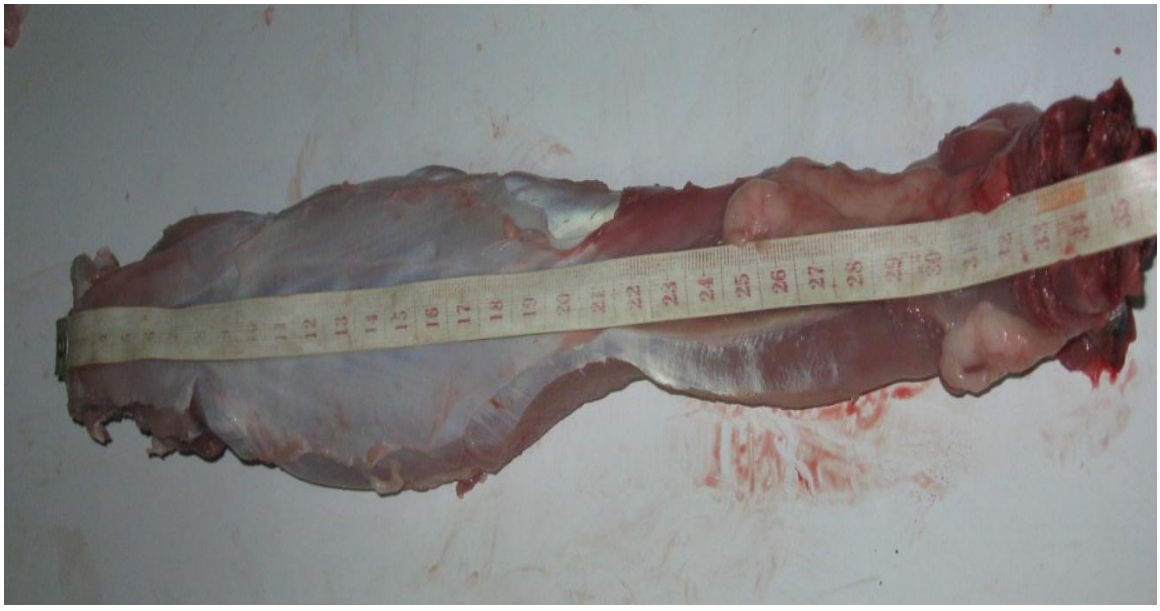

Figure 3.Measuring the carcass length of the rabbit

4. Weight of major cuts (kg). This was obtained by weighing the cuts such as the ribs, hind legs, front legs, belly, and loin.

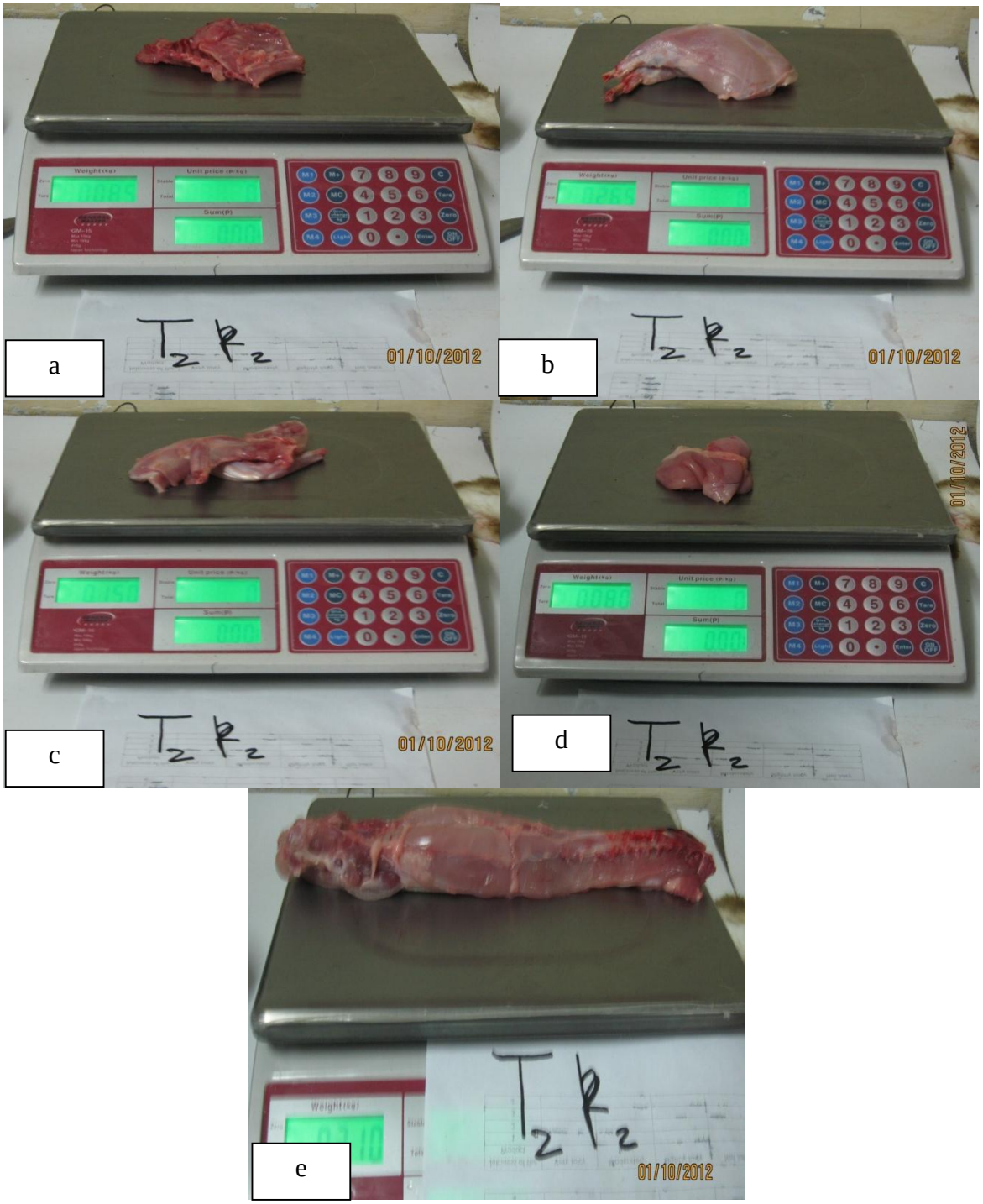

Figure 4. Major cuts of rabbit(a) ribs; (b) hind legs; (c) front legs; (d) belly; (e) loin

4. Weight of minor cuts (kg). This was obtained by weighing the cuts such as the pelt, head, feet, and neck.

Figure 5 Minor cuts of rabbit (a) head; (b) neck; (c) pelt;(d) feet

6. Weight of lean (kg). This refers to the weight of the lean separated from each carcass after deboning (Figure 6).

Figure 6.Weighing the lean from the rabbit

7. Weight of bone (kg). This refers to the weight of the bone of each carcass after deboning (Figure 7).

Figure 7.Weighing the bone from the rabbit

8. Weight of internal organs (kg). This refers to the weight of the internal organs such as heart, liver, kidney, lung, full and empty GIT.

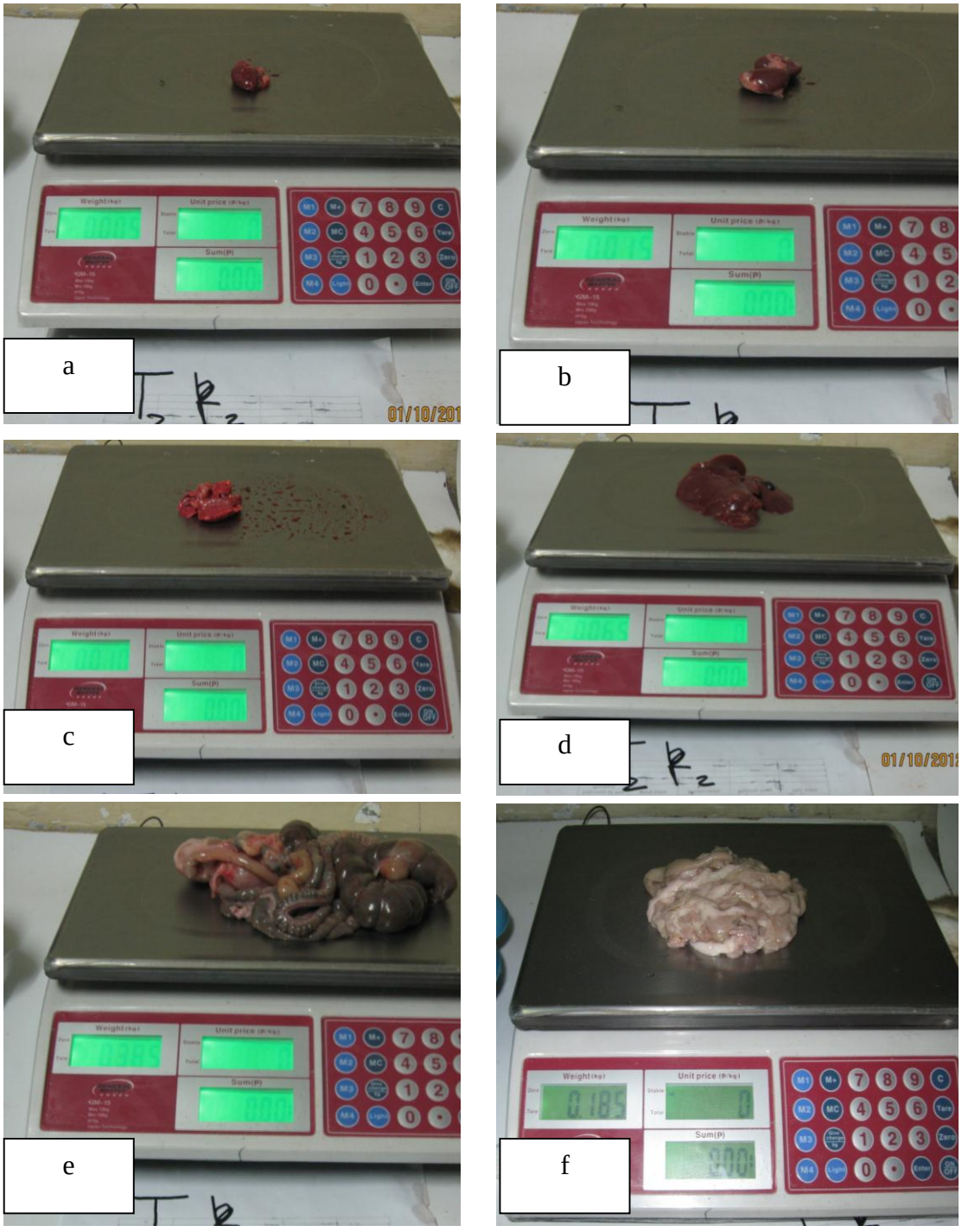

Figure 17.Internal organs of rabbit: (a) heart; (b) kidney; (c) lung; (d) liver; (e) full GIT; (f) empty GIT

Data Computed

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

2. Percentage of minor cuts (kg). This was obtained by dividing the cuts such as the head, and neck by the slaughter weight and multiplied by 100.

3. Percentage of pelt. This was obtained by dividing the pelt by the slaughter weight and multiplied by 100.

4. Percentage of major cuts (kg). This was obtained by dividing the cuts such as the front legs, hind legs, rib, belly, and loin, by the dressed weight and multiplied by 100.

5. Percentage of internal organs. This was obtained by dividing the internal organs by the slaughter weight and multiplied by 100.

6. Percentage of lean. This was obtained by dividing the lean by the carcass weight and multiplied by 100.

7. Percentage of bone. This was obtained by dividing the bone by the carcass weight and multiplied by 100.

8. Meat appearance, texture and consistency (tenderness, juiciness and acceptability. This was obtained through organoleptic testing of cooked lapan samples rated by the lapan consumers. The group of panelist was composed of 20 people aging from 15 to 50 years old.

Data Analysis

The data was subjected to Analysis of Variance for Completely Randomized Design (CRD). Treatment means was compared using the Duncan Multiple Range Test (DMRT).

RESULT AND DISCUSSION

Slaughter Weight, Carcass Weight and Dressing Percentage

Table 1 shows the mean slaughter weight, carcass weight and dressing percentage of rabbits as affected by the different treatments. Each rabbit was fasted for 6 hours before it was dressed. The slaughter weight of the rabbit from each treatment was 2 kg. Statistical analysis presented that there were no significant differences between treatments.

In terms of carcass weight, statistical analysis showed that there are no significant differences between the different treatments. The carcass weights of the experimental rabbits fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed+300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine were 1.04 kg., 0.93 kg., and 0.93 kg. respectively.

Statistical analysis also proves that the dressing percentage of rabbit coming from the different treatments were more or less the same because the differences among treatments were not significant. The dressing percentage of 46.38%-52% that resulted from the experiment is higher compared to the dressing percentage 46.2%-47.31% as reported by Alcausin (2010). And also, the dressing percentage obtained by rabbits is lower than the dressing percentage of 50%-53% according to Banglay (2012).

Table 2 shows the carcass length of the rabbit fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed+300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine. Statistical analysis shows that there was no significant difference in terms of the carcass length among the treatments. The carcass length of the experimental rabbit fed with 50 grams

commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed feed+300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine were 13.25 inches, 11.6 inches, and 12 inches respectively. Table 1.Slaughter weight, carcass weight, and dressing percentage

TREATMENT	MEAN		
	SLAUGHTER WEIGHT (kg)	CARCASS WEIGHT (kg)	DRESSING PERCENTAGE
T_1- 50g CF+300g Galinzoga	2.00[a]	1.04 [a]	52.00 [a]
T_2- 50g CF+300g Sweetpotato vine	2.00 [a]	0.93 [a]	46.38 [a]
T_3- 50g CF+300g Kangkong vine	2.00 [a]	0.93 [a]	46.50 [a]

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

Table 2.Carcass length of the rabbit

TREATMENT	CARCASS LENGTH (Inches)
T_1- 50g CF+300g Galinzoga	13.25[a]
T_2- 50g CF+300g Sweetpotato vine	11.60 [a]
T_3- 50g CF+300g Kangkong vine	12.00 [a]

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

Minor Meat Cuts

Table 3 shows the minor meat cuts of the rabbit fed with 50 grams commercialfeed+300 grams galinzoga, rabbits fed with 50 grams commercial feed+ 300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300grams kangkong vine.

Table 3.Weight of minor cuts expressed as percentage of the slaughter weight

TREATMENT	HEAD	NECK	PELT
T_1- 50g CF+300g Galinzoga	6.13 [a]	2.38 [a]	14.00 [a]
T_2- 50g CF+300g Sweetpotato vine	9.38 [a]	2.50 [a]	18.88 [a]
T_3- 50g CF+300g Kangkong vine	9.00 [a]	2.13 [a]	23.00 [a]

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

Consequently, the table shows that there were no significant differences between the treatment means. This revealed that giving these forages did not affect the percent pelt, head, and neck of the rabbit.

Major Meat Cuts

Table 4 present the weight of the major meat cuts namely the legs, ribs, loin, and belly expressed as percentage of the carcass weight. According to the result of the study,

Table 4.Weight of major cuts expressed as percentage of the carcass weight

TREATMENT	FRONT LEGS	HIND LEGS	RIBS	LOIN	BELLY
T_1- 50g CF+300g Galinzoga	16.11 [a]	29.50 [a]	9.28 [a]	30.87 [a]	8.69 [a]
T_2- 50g CF+300g Sweetpotato vine	16.45 [a]	25.08 [a]	9.17 [a]	33.16 [a]	7.81 [a]
T_3- 50g CF+300g Kangkong vine	16.69 [a]	29.62 [a]	10.47 [a]	30.90 [a]	7.24 [a]

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

the differences among the treatments were not significant. This means that the data are almost the same. The weight of front legs expressed as percentage of the carcass weight

ranges from 16.11% to 16.69% while the weight of the hind legs expressed as percentage of the carcass weight ranges from 25.08% to 29.62 . And the weight of the ribs expressed as percentage ranges from 9.17% to 10.47. The weight of the loin expressed as percentage of the carcass weight ranges from 30.87% to 33.16 while the weight of the belly expressed as percentage of the carcass weight ranges from 7.24% to 8.69

Weight of Internal Organs

The mean weight of viscera expressed as percentage of the slaughter weight is shown in Table 5. Statistical analysis shows that there were no differences between the different treatments in terms of lungs, kidney, and full and empty GIT expressed percentage of the slaughter weight. This means that the data across the treatments are more or less the same. This implies that the treatments imposed on the experimental rabbits did not cause significant effect to result in differences among the rabbits. The rabbits fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed+300 grams weetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine have mean percent lung of 0.63%.This means that the result are more or less similar.

In terms of kidney weight expressed as percentage of the slaughter weight, rabbit fed with 50 grams commercial feed+300 grams galinzoga, 50 grams commercial feed+ 300 grams sweetpotato vine, and 50 grams commercial feed+300 grams kangkong vine have percentage of 0.75%- 0.88%. The mean weight of full and empty GIT as presented in Table 5 is also expressed as percentage of the slaughter weight

Table 5.Weight of internal organs expressed a percentage of the slaughter weight

TREATMENT	LUNGS	KIDNEY	LIVER	FULL GIT	EMPTY GIT
50g CF+300g Galinzoga	0.63 [a]	0.75 [a]	3.75 [a]	18.00 [a]	8.88 [a]
50g CF+300g Sweetpotato vine	0.63 [a]	0.75 [a]	3.38 [ab]	18.50 [a]	10.00 [a]
50g CF+300g Kangkong vine	0.63 [a]	0.88 [a]	4.13 [b]	20.25 [a]	10.00 [a]

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

The rabbits fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed + sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine have percent full and empty GIT of 18%-20.25% and 8.88% -10% respectively.

Statistical analysis revealed significant differences among treatments in terms of liver weight expressed as percentage of the slaughter weight. The rabbits fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed +300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine attained the percentages of 3.75%, 3.38%, and 4.13% respectively. Basing on the statistical analysis, the data on liver percentages across the treatments were not the same because rabbits given the diet of 50 grams commercial feed + kangkong reached the highest percentage for liver. The liver is a glandular vascular organ in vertebrates that secretes bile, stores and filters blood, and takes part in many metabolic functions such as the conversion of sugars into glycogen. According to Knott and Deanon(1986), kangkong leaf is an excellent source of vitamin A. It is fairly rich in vitamin C, calcium, potassium, and phosphorus. Kangkong digested by the rabbits resulted in the release of carbohydrates

converted to glycogen and stored up in the liver making the liver of the rabbits fed with kangkong heavier.

Table 6.Weight of bone and lean of the rabbit expressed as percentage of the carcass weight

TREATMENT	BONE	LEAN
T_1- 50g CF+300g Galinzoga	8.64 [a]	54.28 [a]
T_2- 50g CF+300g Sweetpotato vine	10.28 [a]	52.84 [a]
T_3- 50g CF+300g Kangkong vine	8.94 [a]	50.68 [a]

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

Table 6 shows the mean weight of bones and leans expressed as percentage of the carcass weight as affected by the different treatment. Statistically, there are no significant differences among the treatment. The different treatment has not affected the percent lean and bone. The percent lean ranges from 50.68%-54.28% and the percent bone ranges from 8.64%-10.28 %.

Sensory Quality Attributes

Table 7 shows the ratings for appearance of the different treatment. Lapan coming from rabbits fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed+300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine were moderately desirable, very desirable, and moderately desirable respectively.

In Table 8, it revealed that the lapan samples were not affected in terms of aroma based on the result of the evaluation through organoleptic test composed of 20 tasters. The

volatility and detection of aroma are related to the temperature of the food and high temperature tend to volatize aromatic compound making it clearly seen for judging Mc Williams(2003) as cited by (2012). The aroma of lapan coming from the experimental rabbits fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed 50 with grams commercial feed+300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine all falls under like moderately.

Table 7. Appearance of cooked lapan

TREATMENT	MEAN	VERBAL DESCRIPTION
T_1- 50g CF+300g Galinzoga	3.30	Moderately Desirable
T_2- 50g CF+300g Sweetpotato vine	3.58	Very Desirable
T_3- 50g CF+300g Kangkong vine	3.33	Moderately Desirable

Table 8. Aroma of cooked lapan

TREATMENT	MEAN	VERBAL DESCRIPTION
T_1- 50g CF+300g Galinzoga	3.43	Like Moderately
T_2- 50g CF+300g Sweetpotato vine	3.43	Like Moderately
T_3- 50g CF+300g Kangkong vine	3.30	Like Moderately

Tenderness of the cooked lapan samples is presented in Table 9.The tenderness of the meat samples were not affected by the different forages differently basing on the result of verbal description. Moreover, lapan coming from the different treatments were all moderately tender.

Table10 shows the juiciness of the lapan samples from each treatment. The numerical means obtained from the different treatments ranges from 3.50 to 400 and basing on this result, the verbal description of the lapan coming from rabbits fed with 50

Table 9. Tenderness of cooked lapan

TREATMENT	MEAN	VERBAL DESCRIPTION
T_1- 50g CF+300g Galinzoga	3.10	Moderately Tender
T_2- 50g CF+300g Sweetpotato vine	3.00	Moderately Tender
T_3- 50g CF+300g Kangkong vine	3.00	Moderately Tender

grams commercial feed+300grams galinzoga, rabbits fed with 50 grams commercial feed +300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine were moderately juicy, very juicy, and moderately juicy respectively.

Table11 present the taste of the lapan samples from the different treatments as evaluated by 20 consumers. The rating interval ranges from 1.51 to 2.50 and the verbal description of all the lapan samples from the different treatments were all slightly good.

Table12 display the Acceptability of the lapan samples taken from the rabbits fed with 50 grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed+300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed +300 grams kangkong vine. Verbal description implies that lapan coming from the different treatments are all liked moderately.

Table 10. Juiciness of cooked lapan

TREATMENT	MEAN	VERBAL DESCRIPTION
T_1- 50g CF+300g Galinzoga	3.40	Moderately Juicy
T_2- 50g CF+300g Sweetpotato vine	3.53	Very Juicy
T_3- 50g CF+300g Kangkong vine	3.43	Moderately Juicy

Table 11. Taste of cooked lapan

TREATMENT	MEAN	VERBAL DESCRIPTION
T_1- 50g CF+300g Galinzoga	2.32	Slightly Good
T_2- 50g CF+300g Sweetpotato vine	2.30	Slightly Good
T_3- 50g CF+300g Kangkong vine	2.28	Slightly Good

Table 12. Acceptability cooked lapan

TREATMENT	MEAN	VERBAL DESCRIPTION
T_1- 50g CF+300g Galinzoga	3.48	Like Moderately
T_2- 50g CF+300g Sweetpotato vine	3.45	Like Moderately
T_3- 50g CF+300g Kangkong vine	3.43	Like Moderately

SUMMARY, CONCLUSION, RECOMMENDATION

Summary

The study was conducted to determine the carcass characteristics of rabbits fed with 50grams commercial feed+300 grams galinzoga, rabbits fed with 50 grams commercial feed+300 grams sweetpotato vine, and rabbits fed with 50 grams commercial feed+300 grams kangkong vine. This study was conducted at the Meat Laboratory, Animal Science Department, Benguet State University.

This study aimed to determine the slaughter weight, carcass weight, carcass length, dressing percentage, weight of viscera, gastrointestinal tract, and percent of the lean and bone. The rabbits were distributed to the three treatments using the completely Randomized design (CRD). Two heads of rabbits from each treatment were slaughtered.

The different treatments were as follows: 50 grams commercial feeds+300 grams galinzoga, 50 gram commercial feeds+300 grams sweetpotato vine, and 50 grams commercial feeds+300 grams kangkong vine.

There were no significant differences in terms of slaughter weight, carcass weight, carcass length, dressing percentage, minor cuts (head and neck), major cuts (front legs, hind legs, rib, belly, and loin), weight of viscera (full and empty GIT, lungs, liver, and kidney), and percent lean and bone. This implies that the different forages did not affect the rabbit animal in terms of the above mentioned data.

Statistical analysis proved that treatment differences in terms of the liver internal organ were significant. Rabbits fed with 50 grams commercial feed + 300 grams sweetpotato attained the heaviest liver with a mean of 4.13%.

The study also presented that there were differences in terms of organoleptic test for appearance and juiciness of the meat samples. Lapan from rabbits fed with 50 grams commercial feed + 300 grams sweetpotato were very desirable in terms of appearance and very juicy in terms of juiciness.

Conclusion

Based on the result of the study, it is concluded that the diets such as 50 grams commercial feed+300 grams galinzoga, 50 grams commercial feed+300 grams sweetpotato vine, and 50 grams commercial feed+300 grams kangkong vine did not affect the carcass characteristics of the rabbits.

Recommendation

This study covered the carcass characteristics of rabbis fed with the galinsoga, sweetpotato, and kangkong with commercial feed in restricted amounts that resulted in more or less similar effect. It is recommended that further study that will include *ad libitum* feeding regime be conducted.

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