BIBLIOGRAPHY

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ABSTRACT

The study on the carcass characteristic of rabbits fed with different garden weeds was conducted at the Meat Processing Laboratory of the Department of Animal Science, College of Agriculture, Benguet State University, La Trinidad, Benguet on January 2013.

The general objective of the study was to determine the carcass characteristics of rabbits fed with garden weeds. Specifically, this study aimed to determine the slaughter and carcass weights and dressing percentage; the weight of the major cuts of rabbits namely the loin, belly, front legs with shoulder, and hind legs with thighs; the weight of viscera, gastrointestinal tract; and carcass quality through organoleptic test in terms of appearance, aroma, tenderness, juiciness and taste and its overall acceptability.

A total of 9 rabbits, obtained from a previous feeding trial, was used in the study. These were divided into three treatments and each treatment had three replications. The different treatments were as follows: Japanese weeds (T_1), Creeping nods (T_2), and Cobblers peg (T_3).

Results of the study showed no significant differences among treatments in all the parameters gathered in the study as revealed by the statistical analysis. The mean slaughter weight of the rabbits in the different treatments ranged from 2.08-2.17kg, carcass weight 0.900-0.990kg, dressing percentage 43.45-47.7%, carcass length 28.00- 28.67cm and weights of viscera, full and empty GITs and pelts expressed as percentage of slaughter weight were 22.30-23.785, 6.03-7.91%, and 14.7515.73% respectively.

In the sensory evaluation, the meat samples obtained from the three treatments as rated by the panel of tasters were all moderately desirable in appearance and likes moderately in aroma. They were all rated also to be moderately tender in tenderness, moderately juicy in juiciness and moderately good in taste. Lastly, in terms of acceptability all the meat samples were like moderately by the panel of tasters.

INTRODUCTION

Rabbits belong to order Lagomorpha, which includes 40 or so species of rabbits, hares and Pikas. Fossil records suggest that Lagomorpha evolved in Asia at least 40 million years ago, during the Eocene period. Wild rabbit evolved around 4,000 years ago on the Iberian Peninsula, the name 'Hispania' (Spain) is translated from the name given to that area by Phoenician merchants, meaning 'land of the rabbits. When the Romans arrived in Spain around 200 BC, they began to farm the native rabbits for their meat and fur and in the 5th Century the monks have been first domesticated rabbits of Champagne Region in France. Monks were the first to keep rabbits in cages as a readily available food source, and the first to experiment with selective breeding for traits such as weight or fur color. 12th Century, rabbits were introduced to Britain during the middle Ages, the breeding and farming of rabbits for meat and fur became widespread throughout Europe. Medieval gentry even kept rabbits as pets (www.bunnyhugga.com, 2010).

There are various nutritional facts on rabbit meat have 3.5 ounces of contains 100% of the RDA B 12, also has 33% less sodium than chicken, low in cholesterol, low in calories, low in saturated fats, high in protein, low in sodium, all white meat and because of its nutritious meat rabbit meat is recommended for a variety of health specific specialty diets (Usakowski, 2011).

Rabbit is primarily a white meat that is very fine in texture and it has very low in fiber content. Because of low fiber content, it is easily digested, which is desirable for individuals who may have difficulty in chewing their food (Warren, 2002).

Rabbit contains more protein which is 25% than chicken which is 15% Rabbit meat has lower fat content that meat and pork (Jamora, 1978).

Rabbit production offers great potential as means of converting tropical forages and agricultural by products to human food. Practically, rabbits can be fed anything from the garden, forest or kitchen including banana and papaya (paw paw) peels, pineapple cores, corn stalk, weeds, vines from pulse, leaves (cabbage, lettuce, cauliflower, carrots, etc.) (Moreki, 2007).

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The study was conducted at the Meat Processing Laboratory of the Department of Animal Science, College of Agriculture, Benguet State University, La Trinidad, Benguet on February 2013.

REVIEW OF LITERATURE

Rabbit meat is richer in proteins and certain vitamins and minerals, as compared with other meat. However, it has less fat. Its fat contains less stearic and oleic acids than other species and higher proportion of the essential polyunsaturated linolenic and linoleic fatty acids (FAO, 2009).

Rabbit meat is white, fine grained, delicately flavored, nutritious and appetizing. The age of the larger roaster rabbits is six months or more. The meat from the rabbits require simmering or longer and slower in cover pan. The size of the carcass is the fine quality of the meat. The major used of domestic rabbits is for meat production. Medium and heavy weight breeds are best suited for meat production (Templeton, 1968).

Longbuan (2009) in his study on the growth response of rabbits fed with selected weeds revealed that Cobblers' peg or "poket" are efficient to the growth performance of rabbit and it can be used as an alternative to sustain production of rabbits during time of crisis which pellets pare very high in cost

Japanese weed, locally termed as "Sap-sapon", belonging to the family asteraceae. It is an annual herb growing up to 180 cm tall. Its use is widespread in many tropical and subtropical regions. Its fleshy, mucilagininous leaves and stems are eaten as a vegetable, and many parts of the plant have medicinal uses and are used as food for rabbits. These weed are commonly found in vegetative crops, plantation crops, cultivated lands, waste places (Colting, M.et.al 2003).

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

Maddul (1991) cited that the digestive system of rabbits allows 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 are less well-adapted to high energy ingredients, such as cereal grains. Thus, fibrous feedstuff such as fodders or fresh forage is typically the basal ingredients of rabbits diet. For small-scale rabbit raising, feeding greens such as grass, vegetable tops, carrots and other succulent feeds may be feasible, but is not practical on a commercial scale.

Church (1986) stated if palatable greens are fed free choice, the amount of pellets offered will be reduced about half, with no adverse effect on performance.

Indigenous plants, in which weeds are included, play an important role in livestock diets particularly in the Cordillera Regions. This plants supply large proportion of the proteins, vitamins, and minerals to the animal. In addition, some are used in medical purpose. The plants are adapted to the temperature, moisture, and specific conditions and grow well on water logged soil, and some are fast growing and harvested all year around (Buathoki, 1993).

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

Organoleptic Evaluation

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

Appearance

The is way the meat looks, either as a carcass or as boneless meat cuts, has an important impact on its objective or subjective evaluation.

Color

Under circumstances the color of the meat is 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 the freshness. In judging meat color, some experience is needed to be able to distinguish between the color, 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 has 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.

Texture and Consistency (tenderness and juiciness)

Meat prepared for the consumer should be tender and juicy. Meat tenderness depends on animal species from which the mate originates. Lamb, pork and poultry meat are sufficiently tender after slaughter, but beef requires a certain period of maturation to achieve optimal eating quality.

Smell and Taste (aroma and flavour)

These characteristics are related to each other to a certain extent because they have to be evaluated together for the reliable determination of product 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 the decomposition generates an increasingly unpleasant odor owing to substances originating from the bacterial degradation of the meat proteins, such as sulphur compounds, mercaptane, etc. The freshness of meat 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 decomposition could be accompanied by food-poisoning bacteria (pathogens), which have 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.

MATERIALS AND METHODS

Materials

The materials used in the experiment include 9 rabbits that were more or less 2 kilograms in weight, (plate1) weighing scale, bolo or knife, pail, basin, chopping board, pen, record book, tape measure and camera.

Methodology

Experimental animals and treatments. This study made use of rabbits subjected to a growth trial which utilized garden weeds as feeds. The different treatments were as follows:

T_1 - Japanese weed

T_2 - Creeping nods

T_3 - Cobblers peg

Slaughter of rabbits. Three rabbits from each treatment were slaughtered. Before the animals were slaughtered, these were fasted for 12 hours. During slaughtering, the jugular vein was cut with 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 after which the skin was cut at the back joints of the legs across the lower part of the body. A slit was made from the lower part of the abdomen near the anus to the mid-point of the lowest rib taking care to not puncture the intestine. The internal organs and gut contents were removed and weighed after evisceration. The dressed carcass (Figure 1) was weighed. The length of the dressed carcass was measured from the atlas vertebra to the first bone of the tail. The weight of the major cuts were also obtained namely the hind legs

(including the thighs), loin belly, front legs (including shoulders). Likewise the weight of the visceral organs as a whole was also obtained.

Figure 1. One of the rabbits slaughter and its carcass

Organoleptic test. The meat samples for taste were taken from the loin, belly and leg portion of the carcass. These were steamed at the same time in the same type of utensil (casserole) for 45 minutes. Steaming was done per treatment; Meat samples were sliced into bite sizes and were given to the panel of testers composed of 10 professionals and 10 students aging from 15-20 years old. Each member of the panel was provided with a score card for him to put his rating after tasting each sample. Also, each member was requested to drink water after each taste to remove any remains of the meat samples previously eaten that may have affected his rating for the succeeding meat samples.

Data Gathered

1. Slaughtered weight (kg). This refers to the weight of the fasted rabbit before slaughter.

2. Carcass weight (kg). This refers to the weight of the carcass without the head, pelt, tail, feet, and viscera.

3. Carcass length (cm). This refers to the length of the carcass from the atlas to the base of the tail.(Figure.2)

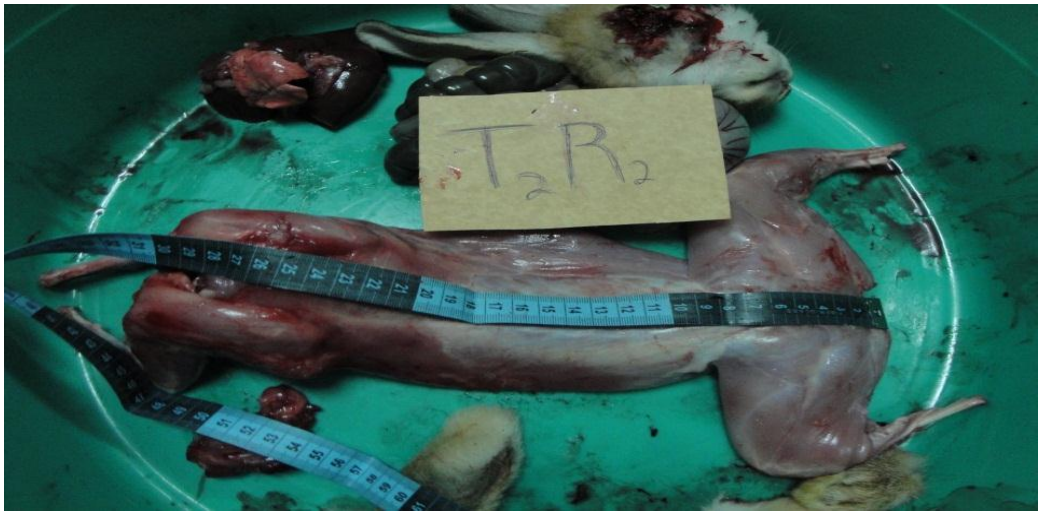

Figure 2. One of the rabbit carcasses with its carcass length being measured

4. Weight of major cuts (kg). This was obtained by taking the weight of each of the major cuts namely the loin, belly, front quarter and the hind quarter of the rabbits (figure 3).

Figure 3. Samples of the major cuts namely the front quarter, loin, belly, and hind quarter .

5. Weight of viscera (kg). This refers to the weight of the internal organs such as heart, spleen, liver and intestines (Figure 4).

Figure 4.Visceral organs of one of the rabbits slaughtered being weighed

6. Weight of full GIT (kg). This refers to the weight of the gastrointestinal tract and contents (Figure 5).

Figure 5. Weighing of the full GIT of one of the rabbits slaughtered

7. Weight of cleaned GIT (empty) (kg). This refers to the weight of the empty gastrointestinal tract.

8. Weight of pelt (kg) This refers to the weight of the skin together with the fur (figure 6)

Figure 6. Pelt of one of the rabbits slaughtered being weighed.

Data Computed

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

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

3. Percent of viscera. This was obtained by dividing the weight of the viscera by the slaughter weight multiplied by 100 percent.

4. Percentage of full GIT. This was obtained by dividing the weight of the full GIT by the slaughter weight multiplied by 100 percent.

5. Percentage of clean GIT. This was obtained by dividing the weight of the cleaned GIT by the slaughter weight multiplied 100 percent.

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

7. Sensory evaluation. This was obtained through organoleptic testing of cooked meat samples as rated by a panel of tasters. In terms of appearance, aroma, tenderness, juiciness, taste and over all acceptability of the cooked meat.

Data Analysis

All data were recorded, tabulated and analyzed using the Completely Randomized Design (CRD). The significance between treatment means was determined using the Duncans Multiple Range Test (DMRT).

RESULTS AND DISCUSSION

Slaughter Weight, Carcass Weight and Dressing Percentage

Table 1 presents the slaughter and carcass weights and dressing percentage of the rabbits in the different treatments. True to all the parameters, statistical analysis revealed that there were no significant differences between treatment means. This means that the sample rabbits used in the study were more or less of the same weight at slaughter. The rabbits had an overall mean slaughter weight of 2.11 kg.

The carcass weights of the rabbits ranged from 0.90 to 0.99 kg and the dressing percentages ranged from 43.5 to 47.2 %. Noticeable differences are observed as presented in the Table but such differences were still considered small to cause significant effects as revealed by the statistical differences. The non-significance between treatment means reveals that the carcass weights and dressing percentages of the rabbits in all the treatments were more or less the same.

Table 1. Slaughter weight, carcass weight, and dressing percentage of rabbits in the different treatments.

TREATMENTS	PARAMETERS		
	SLAUGTHER WEIGHT (kg)	CARCASS WEIGHT (kg)	DRESSING PERCENTAGE
Japanese weed	2.09[a]	0.99[a]	47.2[a]
Creeping nods	2.08[a]	0.90[a]	43.45[a]
Cobblers peg	2.17[a]	0.99[a]	45.68[a]

*Means with the same letter are not significant different at 5% level, DMRT

It is also revealed that the garden weeds used in the study namely Japanese weed, creeping nods, and Cobblers peg did not affect the carcass weights and dressing percentages of the rabbits in all treatments.

Carcass Length

Presented in Table 2 are the carcass lengths of the rabbits carcasses in the different treatments. Statistical analysis revealed that there were no significant differences between treatment means. This means that the carcass length of the rabbits after slaughtering in all the treatments were more or less the same. It also means that the garden weeds namely Japanese weeds, Cobblers peg, and creeping nods did not affect the carcass lengths of the rabbits.

Table 2. Carcass lengths of the rabbit carcasses in the different treatments

TREATMENTS	CARCASS LENGTH (cm)
Japanese weed	28.67[a]
Creeping nods	28.33[a]
Cobblers peg	28.00[a]

*Means with the same letter are not significant different at 5% level, DMRT

Major Meat Cuts Yield

The weight of the major meat cuts namely the loin, belly, hind legs with thighs and front legs with shoulder expressed as percentage of the slaughter weight are shown in Table 3. No significant differences were obtained between treatments in all the cuts. This implies that the weights of the major cuts expressed as percentage of the slaughter weight were more or less similar. This also implies that though there are noticeable differences between treatments means as presented in Table 3, such differences were still considered small to cause significant effects.

Weight of Viscera

The weight of internal organs expressed as percentage of the slaughter weight of the rabbits in all the treatments are presented in Table 4. Similar to the major meat cuts, statistical analysis showed no significant differences. This means that the percent weight of the internal organs in all the treatments were more or less similar. The weights expressed as percentage of the slaughter weight were 23.78% of cobblers peg, 22.26% for Creeping nods and Japanese weed had 22.30%.

Table 3. Major meat cuts of rabbit expressed as percentage of slaughter weight

TREATMENTS	MEAN*			
	LOIN	BELLY	HIND LEGS	FRONT LEGS
Japanese weed	8.86[a]	0.04[a]	12.46[a]	7.67[a]
Creeping nods	9.30[a]	0.04[a]	11.75[a]	7.40[a]
Cobblers peg	9.02[a]	0.04[a]	12.63[a]	7.06[a]

*Means with the same letter are not significant different at 5% level, DMRT

Table 4. Weight of viscera expressed as percentage of slaughter weight in the different treatments

TREATMENTS	MEAN
Japanese weed	22.30[b]
Creeping nods	22.66[b]
Cobblers peg	23.78[a]

*Means with the same letters are not significant different at 5% level, DMRT

Weight of Full and Empty GITs

The weights of the GITs expressed as percentage of the slaughter weight are presented in Table 5. No significant differences were observed as revealed by the statistical analysis in both parameters. This implies that the weight of the GITs of the rabbits fed with cobblers peg, Japanese weeds and creeping nods were more or less similar in weight.

Weight of Pelt

The weights of pelt per treatment are presented in Table 6. The weeds fed to the rabbits had no significant effect on the weight of pelt as revealed by statistical analysis. The overall mean percentage of the pelts of the rabbits was 15.20%.

Sensory Evaluation

The sensory evaluation of the cooked meat samples in the different treatments in terms of appearance, aroma, tenderness, juiciness, taste and over all acceptability are presented in Table 7. True to all the parameters, no significant differences between treatments were observed as revealed by the statistical analysis. This implies that the

Table 5. Weight of full and empty GIT expressed as percentage of slaughter weight in the different treatments (%).

TREATMENTS	MEAN	
	FULL GIT	EMPTY GIT
Japanese weed	17.33[a]	7.58[a]
Creeping nods	17.25[a]	6.03[a]
Cobblers peg	18.71[a]	7.91[a]

*Means with the same letter are not significant different at 5% level, DMRT

Table 6. Weight of pelt expressed as percentage of the slaughter weight in the different Treatments (%).

TREATMENTS	MEAN
Japanese weed	15.27[a]
Creeping nods	15.73[a]
Cobblers peg	14.75[a]

*Means with the same letters are not significant different at 5% level, DMRT

Cooked meats samples derived from the rabbits fed with Japanese weeds, creeping nods, and cobblers peg were comparable with each other in terms of appearance, aroma, tenderness, juiciness, taste and over all acceptability as evaluated by the panel of tasters

The meat samples were all rated as moderately desirable in appearance, liked moderately in aroma and were moderately tender and juicy as rated by the panel of tasters. The cooked meat samples in all the treatments were all rated as moderately good in taste and were all liked moderately in acceptability.

Table 7. Sensory Evaluation of the cooked rabbit meat

TREATMENTS	MEAN	VERBAL DESCRIPTION
Appearance		
Japanese weed	1.85[a]	Moderately desirable
Creeping nods	1.87[a]	Moderately desirable
Cobblers peg	1.83[a]	Moderately desirable
Aroma		
Japanese weed	2.05[a]	Likes Moderately
Creeping nods	1.97[a]	Likes Moderately
Cobblers peg	1.97[a]	Likes Moderately
tenderness		
Japanese weed	1.85[a]	Moderately Tender
Creeping nods	1.87[a]	Moderately Tender
Cobblers peg	1.83[a]	Moderately Tender
Juiciness		
Japanese weed	1.73[a]	Moderately Juicy
Creeping nods	1.92[a]	Moderately Juicy
Cobblers peg	1.92[a]	Moderately Juicy
Taste		
Japanese weed	1.73[a]	Moderately good
Creeping nods	1.92[a]	Moderately good
Cobblers peg	1.92[a]	Moderately good
Acceptability		
Japanese weed	2.05[a]	Likes Moderately
Creeping nods	1.97[a]	Likes Moderately
Cobblers peg	1.97[a]	Likes Moderately

*Means with the same letter are not significant different at 5% level, DMRT

SUMMARY, CONCLUSION AND RECOMMENDATION

Summary

The study on the carcass characteristic of rabbits fed with different garden weeds was conducted at the Meat Processing Laboratory of the Department of Animal Science, College of Agriculture, Benguet State University, La Trinidad, Benguet on January 2013.

The general objective of the study was to determine the carcass characteristics of rabbits fed with garden weeds. Specifically, this study aimed to determine the slaughter and carcass weights and dressing percentage; the weight of the major cuts of rabbits namely the loin, belly, front legs with shoulder, and hind legs with thighs; the weight of viscera, gastrointestinal tract; and carcass quality through organoleptic test in terms of appearance, aroma, tenderness, juiciness and taste and its overall acceptability.

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moderately in aroma. They were all rated also to be moderately tender in tenderness, moderately juicy in juiciness and moderately good in taste. Lastly, in terms of acceptability all the meat samples were like moderately by the panel of tasters.

Conclusion

Based on the results of the study, it can be concluded that the different garden weeds namely Japanese weed, Creeping nods and the Cobblers peg had no effect on the carcass characteristics of the rabbits.

Recommendation

Based on the results of the study, it is recommended that rabbit raisers may use Japanese weeds, Creeping nods and Cobblers peg as feeds to their rabbits.

LITERATURE CITED

BUATHOKI, K. 1993. Vegetables sustain farmers Ileia News Letteer.

CHURCH, D.C. 1986. Livestock Feeds and Feeding. 2nd edition Prentice Hall. New Jersey. Simon and Schester Inc.

COLTING, L.M. 2003 Compendium of Insect Pest and Weeds Associated with High Crops in the Cordillera. CHARM, Baguio dairy farm, Baguio city and BSU, La Trinidad, Benguet.

DE LEON, M. V. 1998. Basic Agriculture.A practical Guide for students.Phoenix Publishing House, INC., Quezon City.

FOOD AND AGRICULTURE ORGANIZATION (FAO). 2009. Rabbit Meat. Retrieved January 3, 2010 from the World Wide Web:http://www.fao.org//Wairdocs/ILRI/x5458e09.htm.

FOOD AND AGRICULTURE ORGANIZATION. 2012. Retrieved September 15, 2012 from the worldwide web: ed wddhttp;//www.fao.org.

JAMORA, D.S. 1978. Successful Rabbit Raising Philippines. Asia Papi Publishers Association of the Philippines Inc. Pp. 3-5.

LONGBUAN, K. 2009. Growth Response of rabbit fed with Selected Weeds BSU, La Trinidad Benguet. Pp. 10-15.

MADDUL, S. B. 1991. Lecture Manual on Rabbit Production. BSU, La Trinidad Benguet. Pp 3-4.

MOREKI, J.C., 2007. Commercial Rabbit Production, Poultry and Rabbit Selection, Non-Ruminants Division, Department of Animal, Production, P/Bag 003, Gaboron,Botswana. www.gov.bw/Global/MOA/Commercial%20Rabbi%20Production.pdf

TEMPLETON, G. S. 1968. Domestic Rabbit Production.The Interstate Printers and Publishers. USA. Pp.14,198-200.

WARREN, M.D. 2002. Small Animal Care and Management.2nd edition.Delmar Thomson Learning Incorporation. USA. Pp. 151-152.

WORLD RABBIT SCIENCE. 2004. Growth traits and dressing percentage of straight bred and Crossbred rabbits. Retrieved June 2, 2004 from World Wide Web:http://world-rabbit-science.com/WRSA-Proceeding/Congress2004Puebla/Paper/Meat%20Quality-Bianospon-2.pdfwww.bunnyhugga.com.2010.

USAKOWSKI, R. 2011. Nutritional Value of Rabbit Meat. Retrieved July 31, 2012 from from World Wide Web: www. theelittleladiesrabbittry.com