

EFFECT OF AD-LIBITUM FEEDING OF FRESH GUINEA GRASS, WILD SUNFLOWER, IPILIPIL AND ERYTHRINA LEAF MEAL ON CARCASS QUALITY OF RABBITS

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Introduction

Protein malnutrition in humans is a major problem in third world countries. Therefore it is important to exploit the availability of non traditional meat sources as proteins for humans. Rabbit meat could play an important role in this context (Lang, 1981). In most animal production systems feed is one of the most costly and important factors which controls the cost of production (Ibrahim, 1988). Introduction of forages in rabbit diets could cut down the cost of feeding as well as amount of concentrate fed to rabbits. The main objective of this study was to find out the effect of *ad libitum* feeding of Guinea grass, Wild sunflower, Ipilipil and Erythrina Leaf Meal (ELM) on growth and carcass quality of rabbits.

Materials and Methods

This study was carried out as two experiments at the Livestock field Station at the University of Peradeniya, Sri Lanka. Experiment 1 was conducted using fresh Guinea grass, Wild sunflower and Ipilipil. Each treatment consisted of 25 grams of broiler finisher mash. *Ad-libitum* amount of fresh Guinea (*Panicum maximum*), Wild sunflower (*Tithonia diversifolia*) and Ipilipil (*Leucena leucocephala*) were added to each treatment separately. A total of 24 New Zealand White rabbits were used. For each treatment eight rabbits were randomly assigned and fed individually.

Experiment 2 was carried out using *Erythrina indica*. *Erythrina* leaf was stripped and initially wilted in the shade for two days for the production of leaf meal. The wilted material was oven dried and ground through a mill (Model Christy Lab Mill 47455). Control diet consisted of corn 25%, rice bran 25%, coconut poonac 40%, di-calcium phosphate 2.5%, salt 0.25% and premix 0.25%. Treatment diet 1 (T1) was formulated by replacing 50% of coconut poonac with ELM. Treatment diet 2 (T2) was formulated by replacing (100%) coconut poonac with ELM. A total of 18 New Zealand white rabbits were used. For each treatment six rabbits were randomly assigned and fed individually.

During the trial period of both experiments feed intake and weekly weight gain were recorded. At the week 14 all rabbits were fasted for 24 hours and slaughtered. Offal weights and carcass quality characteristics were recorded. Data was analysed according to the completely randomised design using analysis of covariance technique. Dunnet test was used for mean separation.

Results and Discussion

Experiment 1

Table 1. Effect of *ad libitum* Feeding of Fresh Guinea Grass (GG), Wild Sunflower (WS) and Ipilipil (IP) on Growth and Carcass Quality of Rabbits.

| Parameter | Feed Type | | |
|------------------------------------|-----------|-------|-------|
| | GG | WS | IP |
| Average daily weight gain (g/day) | 29.0 | 26.3 | 25.85 |
| Average daily feed intake (g/day) | 73.4 | 79.8 | 75.1 |
| Dressing % | 50.4 | 46.92 | 46.02 |
| Abdominal fat% ^a | 0.62 | 0.16 | 0.16 |
| Eye muscle area (cm ²) | 7.2 | 6.9 | 7.4 |

a. Live weight basis%

Average daily weight gain was highest in rabbits fed with Guinea Grass and it was lowest for Ipilipil. Average daily feed intake was highest for Wild Sunflower and lowest for Guinea Grass. Dressing % and abdominal fat % was highest for Guinea Grass. Lowest dressing % and abdominal fat % was recorded for Ipilipil. Eye muscle area was highest for Ipilipil and lowest for Guinea Grass. The differences were significant for average daily weight gain, dressing % and abdominal fat % but not for average feed intake and eye muscle area.

Experiment 2

Table 2: Effect of Feeding of Erythrina Leaf Meal (ELM) on Growth and Carcass Quality of Rabbits.

| Parameter | Diet | | |
|------------------------------------|---------|------------|-------------|
| | Control | 20%ELM(T1) | 40% ELM(T2) |
| Average daily weight gain (g/day) | 13.6 | 10.10 | 6.58 |
| Average daily feed intake (g/day) | 64.9 | 69.98 | 75.78 |
| Dressing % | 49.76 | 45.52 | 47.26 |
| Abdominal fat% ^a | 1.06 | 0.00 | 0.06 |
| Eye muscle area (cm ²) | 4.14 | 3.86 | 4.61 |

a. Live weight basis%

Average daily weight gain was highest in control diet and lowest in T2. Average daily feed intake was highest in T2 and lowest in control diet. Dressing % was highest in control diet and lowest in T1. Abdominal fat % was highest in control and no abdominal fat was found in T1. Eye muscle area was highest in T2 and lowest in T1. The differences were significant for dressing % and abdominal fat % but not for average daily weight gain, average daily feed intake and eye muscle area.

Table 3: Effect of Feeding of ELM on Meat : Bone Ratio.

| Part of the Carcass | Diet | | |
|---------------------|---------|-------------|-------------|
| | Control | 20%ELM (T1) | 40%ELM (T2) |
| Fore half | 3.54 | 2.04 | 2.95 |
| Hind Half | 2.43 | 2.00 | 3.50 |
| Whole Carcass | 2.82 | 2.55 | 3.90 |

Meat to bone ratio (Table 3) was significantly lowest in the fore half for T1 but differences were not significant for the hind half and whole carcass.

Conclusions

Use of fresh guinea grass in rabbit feed rations is economical in terms of reducing cost of production by reducing feed intake and increasing profit margin by increasing dressing percentage and daily weight gain. By incorporating ELM into the rabbit rations abdominal fat percentage can be reduced.

References

- Ibrahim, M.N.M. 1981. *Feeding tables for ruminant in Sri Lanka*. Kandy: Kandy Offset Printers Ltd.
Lang, J. 1981. The nutrition of commercial rabbits, physiology, digestibility and nutrient requirements, *Nutrient Abstr. Rev.* 51: 197 - 225