

# EFFECT OF DIFFERENT FEEDING SYSTEMS ON THE CARCASS CHARACTERISTICS OF NEW ZEALAND WHITE RABBIT

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In the present scenario, rabbit is becoming an alternate meat animal for smallholder production system. Rabbits have the potential to convert absolute feed into quality products for human beings. Rabbit provide highly nutritious and wholesome meat, which is high in protein and low in fat and cholesterol as compared to other common meat. With this concept in mind, the study was undertaken to find out the carcass characteristics of rabbits fed with various combinations of concentrate and roughage.

Thirty weaned New Zealand White rabbits were selected from the Rabbit Research Station, Kerala Agricultural University, Mannuthy as uniformly as possible with respect to age and body weight and were utilized for the study. They were randomly divided into five groups of six animals in each group with the following treatments: T1 - Rabbits fed with the concentrate feed alone. T1 - Rabbits fed with the concentrate feed alone.

T2 - 75 per cent concentrate and 25 per cent vegetable cuttings on DM basis.

T3 - 50 per cent concentrate and 50 per cent vegetable cuttings on DM basis.

T4 - 25 per cent concentrate and 75 per cent vegetable cuttings on DM basis.

T5 - 100 per cent vegetable cuttings on DM basis.

Uniform practices were followed throughout the experimental period. The study was

conducted for a period of three months from weaning ( 42 days). At the end of the experiment three animals from each treatment were utilized for assessing the carcass characteristics and data were analyzed statistically. Proximate composition namely moisture, dry matter, crude protein, crude fibre, ether extract, ash and nitrogen free extract of the concentrate and vegetable cuttings were estimated according to A.O.A.C (1990).

The carcass characteristics such as slaughter weight (g), carcass weight (g), dressing percentage and body components that are expressed in percentage. The slaughter weight (Table 2) had significant difference ( $P<0.05$ ) in the carcass traits between the different treatment groups. The dressing percentage varied from 45.31 in T5 to 52.27 in T2. The dressing percentages of T2, T3 (50.44) and T4 (46.51) are in close agreement with Bhatt *et al.* (2000) where, concentrate and robinia leaves were given in similar ratios to that of the present study, the dressing percentages were 53.55, 51.19 and 47.65. Pelt percentage was highest for T1 that may be due to increased fat deposition in concentrate feeding (Bhatt *et al.*, 2005). It was comparable with 11.9 % obtained by Onwudike (1995). The stomach and intestine percentage were increased (11.54 to 24.57) with increase in percentage incorporation of vegetable cuttings. This is in accordance to Lebas *et al.* (1986), who found that too much of roughage in the diet tended to overdevelop the digestive tract, thereby lowering the feed efficiency.

It was found that 25 % replacement of concentrate with vegetable cuttings had highest dressing percentage compare to the other treatment groups.

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**Table 1**  
**Proximate composition of feed samples on DM basis**

| <b>Proximate principle</b> | <b>Concentrate</b> | <b>Vegetable cuttings</b> |
|----------------------------|--------------------|---------------------------|
| Moisture                   | 10.75±0.60         | 79.63±0.53                |
| Dry matter                 | 89.25±0.60         | 20.37±0.53                |
| Crude protein              | 21.82±0.37         | 20.97±0.39                |
| Crude fibre                | 4.09±0.22          | 17.08±0.33                |
| Ether extract              | 3.02±0.14          | 1.75±0.24                 |
| Total ash                  | 3.57±0.15          | 9.58±0.29                 |
| N.F.E                      | 67.50±0.38         | 50.64±0.36                |
| Acid insoluble ash         | 0.52±0.09          | 0.55±0.12                 |

**Table 2**  
**Carcass characteristics of New Zealand White rabbits**

| Parameters                 | T1                        | T2                        | T3                        | T4                        | T5                        |
|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Slaughter weight (g)       | 1972.50±4.42 <sup>b</sup> | 2290.00±6.71 <sup>a</sup> | 1959.17±2.39 <sup>c</sup> | 1595.83±3.51 <sup>d</sup> | 1261.67±4.22 <sup>e</sup> |
| Carcass weight (g)         | 1015.55±6.07 <sup>b</sup> | 1197.36±8.24 <sup>a</sup> | 988.24±2.51 <sup>c</sup>  | 742.21±2.92 <sup>d</sup>  | 571.66±3.11 <sup>e</sup>  |
| Dressing percentage        | 51.48±0.19 <sup>b</sup>   | 52.27±0.21 <sup>a</sup>   | 50.44±0.07 <sup>c</sup>   | 46.51±0.08 <sup>d</sup>   | 45.31±0.09 <sup>e</sup>   |
| Pelt (%)                   | 11.58±0.07 <sup>a</sup>   | 11.20±0.10 <sup>b</sup>   | 11.00±0.06 <sup>b</sup>   | 10.13±0.09 <sup>c</sup>   | 10.08±0.08 <sup>c</sup>   |
| Head (%)                   | 8.77±0.06 <sup>a</sup>    | 8.58±0.07 <sup>ab</sup>   | 8.50±0.06 <sup>b</sup>    | 8.05±0.09 <sup>c</sup>    | 7.75±0.06 <sup>d</sup>    |
| Feet (%)                   | 3.51±0.03 <sup>a</sup>    | 3.18±0.03 <sup>b</sup>    | 3.51±0.03 <sup>a</sup>    | 3.72±0.03 <sup>b</sup>    | 3.13±0.04 <sup>b</sup>    |
| Stomach and Intestine (%)  | 11.54±0.09 <sup>e</sup>   | 12.80±0.15 <sup>d</sup>   | 13.78±0.18 <sup>c</sup>   | 18.80±0.13 <sup>b</sup>   | 24.57±0.16 <sup>a</sup>   |
| Liver (%)                  | 2.66±0.05 <sup>c</sup>    | 3.63±0.07 <sup>a</sup>    | 2.92±0.06 <sup>b</sup>    | 2.51±0.08 <sup>c</sup>    | 2.33±0.04 <sup>d</sup>    |
| Kidney (%)                 | 0.89±0.06 <sup>b</sup>    | 1.26±0.13 <sup>a</sup>    | 1.04±0.11 <sup>ab</sup>   | 0.94±0.05 <sup>b</sup>    | 0.84±0.04 <sup>b</sup>    |
| Heart + Lungs + Spleen (%) | 1.16±0.01 <sup>a</sup>    | 1.14±0.004 <sup>ab</sup>  | 1.13±0.004 <sup>b</sup>   | 1.10±0.04 <sup>c</sup>    | 1.07±0.02 <sup>d</sup>    |

Body components expressed as percentage of slaughter weight.  
Means bearing different superscript in a row differ significantly.