urea and AST were observed but changes during different protocol benzodiazepines produced minimal changes on cattle during thoracotomy under general anaesthesia in cattle.

References


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Carcass Characteristics of Rabbits Fed with Tree Fodders

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Abstract

A study was conducted to assess the carcass characteristics of rabbits fed with tree fodders. Thirty two weaned bunnies of New Zealand White breed aged between seven to nine weeks were individually weighed and were randomized into 4 treatments with eight replicates (four males and four females) in each. The treatment groups were concentrate feed 50% of dry matter intake with Desmanthus virgatus (T1); Leucaena leucocephala (T2); Erythrina indica (T3) and Artocarpus heterophyllus (T4). The rabbits were slaughtered after eight weeks of growth trial and found that Erythrina indica could be included up to 50 % level since the carcass characteristics are comparable with desmanthus. The level of inclusion of Artocarpus heterophyllus and Leucaena leucocephala can be reduced (less than 50 %) to obtain better results on carcass characteristics.

Key words: Rabbit, tree fodder, carcass characteristics

In India, most rabbit growers are landless farmers maintaining them in their backyard to meet the family protein needs and to generate part of income for their livelihood. Organized commercial units of rearing are still in infancy. Rabbits are efficient converter of forage in to meat. Hence, these landless farmers are feeding their rabbits with locally available grasses, shrubs, tree fodders and vegetable wastes. Due to the easy availability of tree fodder at free of cost and availability throughout the year, it forms the major feed for rabbits. The agricultural land shrinking due to urbanization also necessitates minimizing the land use for fodder production. Hence, the present study was

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undertaken to assess the carcass characteristics of rabbit meat on different tree fodders such as *Leucaena leucocephala*, *Erythrina indica* and *Artocarpus heterophyllus* and compare it to the traditional *Desmanthus virgatus* feeding in rabbits.

**Materials and Methods**

The animals for the study were taken from Rabbit Breeding Unit of Post Graduate Research Institute in Animal Sciences, Kattupakkam, Tamil Nadu. Thirty two weaned bunnies of New Zealand White breed, aged between seven to nine weeks were selected and cage reared for the study. The bunnies were individually weighed and were randomized into 4 treatments with eight animals (four males and four females) in each. The treatment groups were as follows:

- **T1** - Control group - Concentrate with *Desmanthus virgatus* (Veli Masal)
- **T2** - Concentrate with *Leucaena leucocephala* (Subabul leaves)
- **T3** - Concentrate with *Erythrina indica* (Kalyanamurungai leaves)
- **T4** - Concentrate with *Artocarpus heterophyllus* (Jack fruit tree leaves)

The weighed quantity of concentrate iso-nitrogenous adjusted to the protein composition of tree leaves and greens are being offered in the morning and afternoon, respectively. The left over concentrate and greens are being removed and weighed in the afternoon and the next day morning, respectively. Clean portable water was supplied for drinking and the water availability was ensured all the time. At the end of the growth trial for 8 weeks, six rabbits from each group were slaughtered to assess the carcass characteristics.

**Results and Discussion**

The overall average daily gain (ADG) observed in the treatment groups of T1, T2, T3, and T4 were 15.17 g, 11.25 g, 15.71 g and 13.39 g. The growth performance of rabbits on *Erythrina indica* tree fodder was found to be better than the leguminous green fodder *Desmanthus virgatus*. The *Leucaena leucocephala* and *Artocarpus heterophyllus* fed groups also showed a comparable growth performance. The feed conversion ratio in *Erythrina indica* fed group was lower than the *Desmanthus virgatus* group (4.27 vs 4.59).

The carcass yield and dressing percentage was comparable in *Desmanthus virgatus* and *Erythrina indica* fed groups (53.13 vs 51.51). The dressing out percentage is in accordance with the Ren et al. (2004) who conducted trial in rabbits using Peashrub meal @ 20 per cent level. However, lower yield (43.51 %) was obtained in *Artocarpus heterophyllus* fed group. This dressing percentage is lower than the rabbits fed with vegetable cuttings alone where 45.31 percentage was obtained (Nulu, 2010). The carcass study on rabbits with *Artocarpus heterophyllus* is scanty. The dressing percentage in *Leucaena leucocephala* group was in accordance with the earlier report of Awosanya and Akinoye (2000) using

### Table 1: Carcass characteristics of rabbit fed tree leaves (Mean ±SE)

<table>
<thead>
<tr>
<th></th>
<th>Concentrate + Veli Masal</th>
<th>Concentrate + Subabul</th>
<th>Concentrate + Kalyanamurungai</th>
<th>Concentrate + Jack fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live wt (g)</td>
<td>1427±75</td>
<td>1659±15</td>
<td>1614±66</td>
<td>1498±100</td>
</tr>
<tr>
<td>Dressed wt (g)</td>
<td>673±56</td>
<td>850±12</td>
<td>782±33</td>
<td>839±32</td>
</tr>
<tr>
<td>Dressing percentage</td>
<td>53.13±2.27</td>
<td>47.79±0.82</td>
<td>51.51±0.84</td>
<td>43.51±2.54</td>
</tr>
<tr>
<td>Head wt (g)</td>
<td>88.00±12.87</td>
<td>96.00±2.80</td>
<td>99.50±1.85</td>
<td>97.50±2.96</td>
</tr>
<tr>
<td>Liver wt (g)</td>
<td>46.83±3.39</td>
<td>50.83±2.43</td>
<td>52.50±6.03</td>
<td>44.00±4.02</td>
</tr>
<tr>
<td>Heart weight (g)</td>
<td>4.70±0.21</td>
<td>6.50±0.99</td>
<td>6.50±0.96</td>
<td>7.75±1.25</td>
</tr>
<tr>
<td>Kidney wt (g)</td>
<td>12.67±1.26</td>
<td>12.33±1.43</td>
<td>16.15±1.31</td>
<td>10.25±1.25</td>
</tr>
<tr>
<td>Lungs and trachea wt (g)</td>
<td>12.00±1.44</td>
<td>14.83±1.35</td>
<td>14.25±1.31</td>
<td>13.45±1.93</td>
</tr>
</tbody>
</table>

Each value is the mean of six observations
Mean bearing at least one common superscript within a row do not differ significantly (P<0.05)

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Leucaena leucocephala tree leaf meal fed @ 20 per cent level. Whereas higher dressing percentage (56.26) was reported by Adekojo et al. (2014) on Leucaena leucocephala tree leaf meal feeding. The liver weight did not influence by tree fodder feeding but increased kidney weight observed in Erythrina indica fed group and lower weight has been noticed in Artocarpus heterophyllus fed group compared to desmanthus fed group. The comparable weights of kidneys and spleen were also reported by Tripathi et al. (2003).

Dressing percentage, proportion of wholesale cuts, proportion of lean, bone and fat, per cent lean, bone, fat in different wholesale cuts, per cent edible organs, per cent non-edible organs and edible: non-edible organ ratio were comparable when desmanthus was fed at 27 per cent in concentrate meal compared with berseem, sunhemp or groundnut hay meal at the same level of inclusion (Rao et al., 1986).

Summary
The results suggested that the tree fodders such as Leucaena leucocephala, Erythrina indica and Artocarpus heterophyllus as diets for growing rabbits supplied up to 50 per cent level have effects on carcass weight, dressing out percentage. Erythrina indica could be included up to 50 % level since the carcass characteristics re comparable with desmanthus . The level of inclusion of Artocarpus heterophyllus and Leucaena leucocephala can be reduced to obtain better results on carcass characteristics.

References