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## Growth performance of rabbits on *Mangifera indica* tree fodder

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**Abstract**

A research trial was conducted to assess the growth performance of rabbits on *Mangifera indica* tree leaves partially (25 %) replacing the *Desmanthus virgatus* green fodder. 20 New Zealand White rabbits of 7 weeks old were randomly divided into two groups with 10 rabbits in each. Group – I rabbits were kept as control, fed with concentrate (70 % DMI) and *Desmanthus virgatus* (30% DMI) and group-II animals were fed with concentrate (70 % DMI) and 22.5% *Desmanthus virgatus* green fodder and 7.5 % *Mangifera indica* tree fodder. The trial was conducted for three months. The parameters studied are daily feed intake, bi-weekly weight gain and FCR. The result revealed that there is no significant difference in bodyweight gain between the treatment groups. Hence, *Mangifera indica* tree fodder can be safely included without affecting growth performance in rabbits up to 7.5 % of the dry matter intake.

**Keywords:** Growth, *Mangifera indica*, rabbits, tree fodder

**Introduction**

Rabbit farming is familiarizing among farmers and rural women because of less investment, easy management and quick return on farming. More over rabbits are efficient converter of forages into valuable animal protein. Rabbit meat contains high protein, less fat, easily digestible, more potassium with less cholesterol best suited even for cardiac patients. As that of any livestock farming, the feed cost accounts more than 70% of the expenditure in rabbit farming. Hence, reducing the feed cost will improve the farm profit. Among the various tree fodders available, the study on *Mangifera indica* feeding on growth performance of rabbits is found to be scanty. Therefore the research trial was conducted with an objective of Assessing the growth performance of rabbits on *Mangifera indica* @ 7.5 % dry matter intake level in rabbits.

**Materials and Methods**

This research trial was conducted at Rabbit Breeding Unit of Post Graduate Research Institute in Animal Sciences, Tamil Nadu Veterinary and Animal Sciences University, Kattupakkam. 20 New Zealand White breed rabbits of 7 weeks old were randomly divided into two groups with 10 rabbits in each group. Group – I rabbits were kept as control, fed with concentrate (70 % DMI) and *Desmanthus virgatus* (30% DMI) and group-II animals were fed with concentrate (70 % DMI) and 22.5% *Desmanthus virgatus* green fodder and 7.5 % *Mangifera indica* tree fodder. Since, the crude protein level in *Mangifera indica* tree leaves is less than the *Desmanthus virgatus*, the protein content of group –II concentrate feed was increased in order to make iso-nitrogenous and iso-calorific. The trial was conducted for 3 months. Daily feed offered and residue available on next day was recorded and calculated the daily feed intake. Biweekly the rabbits were weighed to assess the growth performance and average daily gain. The feed conversion efficiency was calculated based on the data available on dry matter intake and weigh gain. The feed / fodder samples were analysed for its proximate principles at Institute of Animal Nutrition, Kattupakkam. At the end of the trail 6 rabbits from each group were slaughtered to study the carcass characteristics. The data collected on various parameters were statistically analysed as per the method of [1].

**Result and Discussion**

The proximate composition viz., dry matter, crude protein, ether extract, crude fibre, total ash and nitrogen free extract of *Desmanthus virgatus* and *Mangifera indica* leaves were 29.93±1.59 and 35.23±1.59; 19.37±0.42 and 14.21±1.63; 6.95±0.28 and 5.73±0.45;

21.34±0.37 and 26.41±0.63; 6.53±0.19 and 7.93±0.46; 45.80±.74 and 45.62±0.97, respectively. The results corroborate with the earlier findings<sup>[2]</sup>.

The average daily gain observed in this study in group- 1 and group – 2 are 13.46 g and 12.84 g, respectively which is in accordance with<sup>[2]</sup> in rabbits. The growth performance of rabbits revealed that the performance was comparable in both the treatment groups which implies the incorporation of

*Mangifera indica* @ 7.5 % level of dry matter intake did not affect the growth performance.

The mango tree leaves possess high tannin content (7%). Hence, the palatability eventually poor compared to other fodders. But in this feeding trial, there is no significant difference in feed intake was observed at 7.5 % level of dry matter intake in rabbits. This is in accordance with the earlier findings of Aduku *et al.*<sup>[3]</sup>

**Table 1:** Growth performance of broiler rabbits on *Mangifera indica* @ 7.5 % of dry matter intake

Group	Group – I: Concentrate (70%) + <i>Desmanthus virgatus</i> (30 %) fed group	Group – II: Concentrate (70%) + <i>Desmanthus virgatus</i> (22.5 %) + <i>Mangifera indica</i> (7.5%) fed group
Initial body weight	626.20±11.51	619.50±12.21
First fortnight body weight	877.70±10.73	874.10±14.89
Second fortnight body weight	1093.70±18.87	1091.40±21.93
Third fortnight body weight	1279.80±24.35	1256.00±21.27
Fourth fortnight body weight	1470.50±25.70	1445.70±23.47
Fifth fortnight body weight	1669.80±28.89	1617.20±23.25
Final body weight body weight	1838.70±26.82	1775.80±30.67
Average Daily Gain (g)	13.46±0.24	12.84±0.31
FCR	5.38	5.39

Each value is the mean of ten observations

The Feed Conversion Ratio (5.38 vs 5.39) also supportive to the finding of Demeterova<sup>[4]</sup> and Jokthan<sup>[5]</sup>. Similar effects are also reported by Shittu *et al.*<sup>[6]</sup> on feeding mango seed kernel replacing 20% of maize in rabbit diet.

While working out the economics, feeding *Mangifera indica* will reduce the cost of production @ Rs. 1.75/kg live weight. Though this amount found to be meager, in large scale of production it will substantially contribute in reducing the cost of production.

## Conclusion

*Mangifera indica* can be safely be fed to rabbits up to 7.5 % level of dry matter intake without affecting the productivity. But future research is to be carried out with higher level of inclusion.

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