

EVALUATION OF DRY MATTER INTAKE AND BODY WEIGHT GAIN IN GOATS BY LEAST COST FEED FORMULATIONS WITH REPLACEMENT OF GROUNDNUT CAKE BY SAFFLOWER CAKE AND BANANA WASTE WITH 20% MOLASSES

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ABSTRACT

Sixteen (16) goats were grouped into four groups of four goats each viz., Control (T1) with ground nut cake (GNC), T2 (GNC replaced by safflower cake/SFC), T3 (banana waste) and T4 (banana waste with 20% molasses). The feed intake ($\text{g/kg W}^{0.75}$) were 63.21 ± 2.1^a , 59.54 ± 3.9^b , 30.00 ± 1.4^c , and 70 ± 1.42^d and ($P \leq 0.05$); T1, T2, T3 and T4 groups respectively indicating that feed intake reduced drastically upon replacement of groundnut cake with SFC and further and banana waste and feed intake raised suddenly when banana waste given with 20% of molasses. Economics shown T4 group was most economical.

KEYWORDS: Goat, Safflower, Banana Waste, Molasses

INTRODUCTION

Safflower cakes is one of the commercially available cake in large quantities on a year-round basis (Goss and Otagaki, 1953) and unconventional feed resources are the keys to minimize the cost of feeding and profitable in animal husbandry. Banana wastes are one of the abundantly available wastes throughout the country. Unconventional feed has polyphenolic compounds and low palatability, so addition of 20% molasses with banana waste has improved its palatability and weight gain in Goats. Safflower cake is a cheaper source of protein than groundnut cake.

MATERIALS AND METHODS

A total of 16 goats aged around 1.0 years were equally divided into four groups viz, Control (T1) with ground nut cake as protein supplement, T2 (groundnut cake replaced by safflower cake), T3 (banana waste) and T4 (banana waste with 20% molasses). The chemical composition of feeds is given in table 1. The experiment was conducted at Goat Farm Station Ganagapur, Gulbarga for a period of 27 days. They were fed *ad libitum* with pelleted total mixed rations that meet or exceed nutrient animal requirements for a 7-days adaptation period. Observed for dry matter intake, milk was analyzed for quantity in electronic weighing balance and fortnightly body weights were observed for the investigation the following traits were measured: initial body weight, final body weight and feed intake on electronic weighing balance. The samples feed, fodder were analyzed for proximate principles (AOAC, 1995) and statistical analysis.

RESULTS AND DISCUSSIONS

The safflower supplementation did not induce significantly changes in the final body weight and average daily

gains of Kids, On the other hand, a higher feed intake was observed in T4 group which includes banana waste supplemented with 20% molasses in comparison with “Control” group (0.450 vs 0.600 kg/d, $P < 0.05$). The cost of feed was drastically reduced in replacement groups and they were rupees 3000, 2100, 400 and 800 for 100 kg feed in T1, T2, T3 and T4 respectively. The feed intake ($\text{g/kg W}^{0.75}$) was 63.21 ± 2.1^a , 59.54 ± 3.9^b , 30.00 ± 1.4^c , and 70 ± 1.42^d and ($P \leq 0.05$); (Hambade and Patel 2001), body weight gain was 2.06, 0.88, 1.02 and 1.38 kg/animal. Feed intake reduced drastically upon replacement of groundnut cake with safflower cake (Ngwa *et al*, 2002), and further with banana waste and observed that sudden raise in feed intake when banana waste supplemented with 20% molasses, economics calculated showed that a net profit of Rupees 1300, 1010, 1550 and 1300 can be obtained per animal for the T1, T2, T3 and T4 groups respectively showing feeding of safflower cake replaced with feeding of banana waste with supplementation of 20% molasses shown more weight gain, more production and more dry matter intake in goats would be economical to the farmers.

CONCLUSIONS

The use of safflower cake (T2) in kids nutrition did not cause significant differences on live weight, production and average daily gain (Pinto *et al.*, 2011) even if kids fed with banana waste (T3) diet showed a lower feed intake and a less feed conversion ratio. The use of banana waste with supplementation of 20% molasses (T4) significant differences on weight gain, production and average daily gain and observed the improvement feed intake, However, further investigations are needed to optimize the level of safflower cake, banana waste and molasses incorporation in the diet in order to reach a compromise between the yield of meat, milk and its dietetic quality with the use of chief source of unconventional feed material.

REFERENCES

1. A.O.A.C., 1995. *Official Methods of Analysis*, 16th Edn. Association of Official Analytical Chemists, Washington D.C., USA.
2. Goss, H. & Otagaki. K. K. (1953). Safflower Meal Digestion Testslams used in digestion trials with decorticated seed meal to test product as feed for livestock Pp.15.
3. Hambade & Patel 2001. Green banana (*Musa sapientum*) leaves in the ration of kids. *Indian J. Anim, Nutr.*, 21 (1): 5-7.
4. Ngwa A.T., Nsahlai, I.V. & . Bonsi. M.L.K (2002). Feed intake and dietary preferences of sheep and goats offered hay and legume-tree pods in South Africa. *Agroforestry Systems*, 57(1):29-37.
5. Pinto F., Schiavone M. & Marsico. G. (2004) – Effects of diets containing w-3 fatty acids on productive performances and meat quality of “Murgese” foals. *Progress in Nutrition*, 2, 122-131, ISSN: 1129 - 8723.

APPENDICES

Table 1: Chemical Composition of Diets Used for the Experiment

Ingredients	Groundnut Cake	Safflower Cake	Banana Waste
CP	18.1	20.0	3.5
EE	5.1	6.0	2.03
TA	7.53	7.2	20.52
OM	92.47	92.8	80.0
NFE	61.47	59.5	41.9
CF	7.8	7.3	32.0