



Growth Performance of Growing Kids Under Field Conditions

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ABSTRACT

The present on farm trial was conducted to assess the effect of supplementary feeding of locally made concentrate mixture on growth performance of kids under field condition. Eighteen healthy non-descript local male kids having body weight 4.73 ± 0.12 kg (aged 3-4 m) were selected and randomly distributed into three equal groups viz. T1 (Control i.e. farmer's practice- only grazing), T2- Grazing plus supplementary feeding of locally made concentrate mixture, T3- Grazing plus supplementary feeding of locally made concentrate mixture + two times deworming. The control (T1) group was maintained solely on grazing for 5-6 hr on local grazing land, kids of T2 and T3 groups were fed locally made concentrate mixture @ 3% of body weight along with grazing for 150 d. An additional deworming of kids (T3) was done two times at 60 d interval. The results showed that the average daily gain (g/day) of goats were significantly ($P < 0.05$) higher in T2 (56.26) and T3 (59.80) groups as compared to T1 (34.40) (Control), whereas there was no significant ($P > 0.05$) difference between T2 and T3 groups. Similarly, the dressing percent and meat yield of T2 (48% and 6.35 kg) and T3 (48% and 6.56 kg) group was higher than T1 (45% and 4.44 kg). Therefore, it was concluded that feeding of locally made concentrate mixture along with grazing improved growth performance in growing male kids.

Key Words: Growth, Performance, Growing kids, Field Conditions.

INTRODUCTION

Goat is one of the most important livestock for providing livelihood to small and marginal class of people in India. Hence, it is also called as poor man's cow. Within purview of its grazing habitat, its low maintenance costs and with assured better economic returns, the goat husbandry assumes significance in the rural livestock sector. Goats are reared on community land, crop stubbles and top feed under extensive system of management with no supplementary feeding and thus did not meet their optimum requirements for growth and production. Therefore, the productivity of our local goats in respect of meat production is low due to lower dressing percentage.

According to the latest land use statistics of the Ministry of Agriculture, Government of India, the total pasture land area decreased from 13.07 m ha (1970) to 10.31 m ha in 2012 (Anon, 2015). The

land utilization pattern in last one decade indicates a gradual decline in national holding of fallow land conveniently used for livestock grazing with concomitant increase in cropped land due to intense land reclamation for conventional agriculture to support growing human population. Hence, due to decreased and dwindling grazing lands, goat rearing has become a big constraint and that the supplementary feeding of goat or under stall feeding is gaining momentum. However, most of farmers usually practice grazing of goats without supplementary concentrates feeding. Keeping view above condition, the present experiment was conducted to study the effect of supplementary feeding of locally made concentrate mixture on growth performance of kids under field conditions.

MATERIALS AND METHODS

The on farm trial was conducted at Manikpur

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villages of Muzaffarpur district(Bihar). Eighteen healthy non-descript male kids of 3-4 m age (Average body weight 4.73 kg) were selected and randomly divided into three equal groups *viz.*, T1 (Control *i.e.*, farmer’s practice- solely maintained on grazing), T2 (semi-intensive) grazing along with supplementary feeding of locally made concentrate mixture ,T3- grazing along with supplementary feeding of locally made concentrate mixture plus two times deworming at 60 d interval. All the kids were dewormed before start the experiment with broad spectrum anthelmintic (Albendazole). Kids of T1 group were solely maintained on grazing (5-6 hr), whereas kids of T2 and T3 groups were offered locally made concentrate mixture @ 3% of body weight in addition to grazing (Table 1).

Table 1. Composition of concentrate mixture.

Sr. No.	Physical Composition	Parts
1.	Maize	30
2.	Wheat bran	30
3.	Mustard cake	30
4.	Pulse chunni	08
5.	Mineral Mixture	01
6.	Common salt	01
A.	Chemical Composition	Per cent
7.	Crude Protein (CP)	19.54
8.	Ether Extract (EE)	2.97
9.	Total Ash (TA)	7.38

The dry matter, crude protein, ether extract and total ash were estimated as per standard procedure of AOAC (2003). The trial was conducted for 150 d and body weight of all kids was recorded at fortnight interval using electronic balance. At the end of the experiment, three animals from each group were sacrificed by halal method after overnight starving with free access to water. The data were statically analyzed as per Snedecor and Cochran (1980).

RESULTS AND DISCUSSIONS

The average crude protein (CP), ether extract (EE) and total ash (TA) of locally made concentrate mixture consumed by the animals during feeding trial were 19.5,2.97 and 7.38 percent, respectively

(Table 1). The crude protein content of concentrate mixture was 19.5 per cent, which was higher than value reported by Debbarma (2017), which might be due to use of good quality of feed ingredients for preparation of concentrate mixture. The group wise fortnightly bodyweight change of the kids during the five months of trial has been presented in Table 2.

Table 2. Growth performance of kids under different feeding regimes.

Sr. No.	Particular	T1	T2	T3
1.	Number of animals	6	6	6
2.	Initial body weight (kg)	4.71 ^a	4.8 ^a	4.7 ^a
3.	Final body weight (kg)	9.86 ^a	13.24 ^b	13.67 ^b
4.	Total weight gain (kg)	5.16 ^a	8.44 ^b	8.97 ^b
5.	Average daily gain (g/d)	34.4 ^a	56.26 ^b	59.8 ^b
6.	Total feed intake (kg/head)	-	25.5	25.5
7.	Additional cost of feed (Rs)	-	515.10	555.10
8.	Additional weight gain (kg)	-	3.28	3.81

Means having different superscripts in a row differ significantly (P<0.05).

Cost of concentrate mixture @ Rs20.20/ kg. and deworming cost Rs. 40/-.

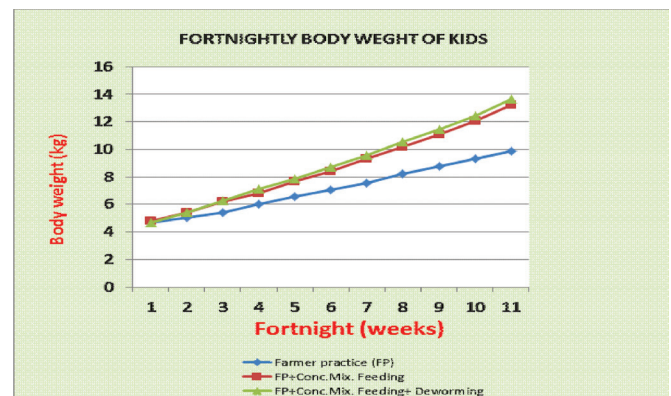


Fig: Fortnightly mean body weight of goat Kids

Growth performance of Growing Kids

Table 3. Dressing per cent and income under different feeding regimes.

Sr. No.	Particular	T1	T2	T3
1.	Dressing (%)	45.22 ^a	48.04 ^b	48.13 ^b
2.	Meat yield (kg)	4.33 ^a	6.37 ^b	6.60 ^b
3.	Gross cost (Rs)	1575.00	2165.33	2205.00
4.	Gross income (Rs)	2176.00	3340.00	3424.00
5.	Net income (Rs)	601.00 ^a	1174.66 ^b	1219.00 ^b
6.	B:C Ratio	1.38	1.54	1.55

Means having different superscripts in a row differ significantly ($P < 0.05$).

Note: Gross cost includes concentrates feeding cost, roughage cost and labour charges.

Gross income includes sale of meat, offal and other inedible products.

The mean total body weight gain of kids (kg) was significantly ($P < 0.05$) higher in T2 (8.44) and T3 (8.97) as compared to control T1 (5.16) group. The similarly the average daily gain (g/day) was significantly ($P < 0.05$) higher in T2 (56.26) and T3 (59.80) as compared to control T1 (34.40) group, whereas there was no significant difference ($P > 0.05$) difference between T2 and T3 groups. The body weight of the kids maintained under semi intensive system of management was significantly higher indicating that there was sufficient availability of the required nutrients essential for growth of goats. The lower body weight of kids maintained under solely grazing may be due to nutritional stress. The additional higher weight gain (kg) of kids in T2 (3.28) and T3 (3.81) were also observed as compared to control (T1). The present findings were in agreement with Yadav and Khan (2011). Similarly the dressing percent (%) of animals of groups T2 (48.04) and T3 (48.13) kept on supplementary feed were higher than T1 (45.22) as shown in Table 3. The net income and benefit-cost (B:C) from group T2 and T3 were significantly ($P < 0.05$) higher than T3 group. Therefore, it was concluded that feeding of locally made concentrate mixture along with grazing and de-worming improved growth performance in growing male kids.

CONCLUSION

On the basis of findings, it was concluded that most of the farmers were not aware about feeding of locally made balanced concentrate mixture. Therefore, the result revealed that addition of balanced concentrate mixture at 2-3 per cent of body weight along with grazing and deworming gave better performance in growing kids.

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