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## Influence of probiotics supplementation on growth rate of kids

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**Abstract**

A study was conducted to appraise the effect of probiotic supplementation on the growth in 30 weaned non-descript breed of male kids (3 months old) at farmers door step under on farm trial in Tribal Sub Plan (TSP) program. The kids were randomly and equally divided into each three groups as T1 (fed with only concentrate), T2 (fed with concentrate with Biobloom @ 5 g/kid/d) and T3 (fed concentrate with 15ml goat milk curd) For 90 days. Significantly ( $P < 0.05$ ) higher daily weight gain (65.0 g) was found in T3 group. It was concluded that although balanced concentrate feeding is better way of improving the health status of grower but supplementation of traditionally prepared probiotic curd from goat milk improved average daily gain of kids.

**Keywords:** Curd, Growth, Kid, Probiotic, goat and Tribal

**Introduction**

**Government** has planned its approach by collecting information of tribal's through various sources; however, magnitude of work on tribes is beyond the effort made. As such, in order to achieve National objective of the government to bring the tribal into the mainstream of national life, it is necessary to add as many efforts as possible to study these weakest masses and find out solution to make them fellow travelers in our way to progress. The productivity potential of our livestock has not been fully exploited because of deficit feed resources and under utilization of available technologies to fill the deficiencies of nutrients in their ration. For achieving the economic productivity in livestock, it is essential to enhance the feeding value of available feed resources. Probiotics are living microorganisms providing beneficial effects for the host when administered in adequate amounts (FAO/WHO, 2001) [1]. Generally the development of resistance to certain antibiotics poses real problems to the animal health (Hofacre *et al.* 2001) [2]. Consequently the probiotics raise a particular interest as an alternate to antibiotics to improve the production performances and health of animals. A study was carried out to assess the effect of probiotics supplementation with concentration on the growth of kids under field condition in western Rajasthan.

**Materials and Methods**

Experimental protocol and animal management was approved by the Zonal Research Extension Advisory Committee (ZREAC) of zone-II B. An on-farm trial (OFT) 90 days experimental period was conducted in village Narsana, Ahore block of Jalore District during December, 2017 to February, 2018. A total 30 male weaned male kids of non-descript breed, aged three months at farmers field were selected having similar age and body weight which were randomly divided into three groups (10 animals in each). Kids in all three groups were grazed for 8h. The vegetative cover of rangeland was dominated by *Cyodon dactylon*, *Centhrus biblorus* grasses, *Zizyphus nummularia*, *Calotropis sp.*, *Procera sp.*, shrubs and fodder trees *Acacia nilotica* and *Prosopis cineraria*. The kids of all three groups were offered @ 300 g / d / head balance concentrate ration. T1 fed with concentrate only, T2- fed with concentrate supplemented with multi-strain probiotic preparation @5g/kid/d. Each 250g of probiotic (Biobloom, product of Zydus Animal health) contained *saccharomyces cerevisiae* (0.37x10<sup>11</sup>) million colony forming unit and *lactobacillus sporogenes* (12500 CFU), and T3 – fed concentrate supplemented with 15ml goat milk curd. The curd was prepared daily from goat milk and fed orally in the morning containing *lactobacillus* spp (106-7 CFU/ml).

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Balance concentrate feed (Saras Gold) was purchased from dairy feed plant, Jalore. Concentrated pellet feed was consisted of 19.8% crude protein (CP), 70% total digestible nutrients (TDN) and 2500 kcal/kg metabolic energy (ME) along with 2% mineral mixture and 1% salt. Prior to commencement of the experiment all the animals were dewormed on day one with Albendazole @7.5mg /kg body weight. Body weight changes of kids were recorded at weekly intervals in the morning before any feed or water was offered. Data were analyzed by one-way analysis of variance.

### Results and Discussion

The results are represented in Table 1. Average body weight at six months were varied significantly ( $P < 0.05$ ) from 15.25 kg

in T1 to 18.13 kg in T3. Average daily gain (ADG) in the body weights in the present study found to range significantly ( $P < 0.05$ ) from 27.2 g (T1) to 65.0 g (T3). This is possibly due to genetic potential, rumen adaptability to probiotic supplements and tissue accretion pattern of small and large breeds of goat (N. Ramachandran *et al.*, 2015) [4]. It was concluded that although balanced concentrate feeding is better way of improving health status of grower but probiotic supplementation enhances and promotes growth in kids. Among the available forms of probiotics in the market, fermented products like curd may offer higher benefits than spray /bolus. Curd as a natural, cheaper and easily prepared probiotic supplement could serve as a nutritional intervention for augmenting growth in kids.

**Table 1:** Average body weight and average daily gain in kids on probiotic supplementation.

Treatment	Body weight (Kg)		Body weight gain in 3 months (kg)	Average daily gain (ADG) in 3- 6 months (g)
	Initial	Final		
Balance concentrate ration only (T1)	12.80	15.25a	2.45a	27.2a
T1 + multi-strain probiotic preparation Biobloom @5g/kid/d (T2)	12.48	17.30b	4.82b	53.55b
T1 + 15ml goat milk curd/kid/d (T3)	12.28	18.13c	5.85c	65.0c

Values bearing different superscripts in a column differ significantly ( $P < 0.05$ ).

In conclusion, the present study showed that supplementation 15ml goat milk curd of traditionally prepared natural probiotic curd from goat milk improved average daily gain in comparison to rest groups of kids.

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