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SHORT COMMUNICATION

Supplementation of Fenugreek Seeds to Lactating Ewes and Effect on Growth Performance of Preweaned Twin Lambs

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ABSTRACT

A study was conducted in lambs to find out the efficiency of fenugreek seed (FS) supplementation in twin bearing ewes. The dams were grouped as follows with seven dams in each group. The groups were dam's that lambed twins supplemented with FS (T_1), Dams that gave birth to single lambs supplemented with FS (T_2) and dams gave birth to single lambs without FS (T_3). The FS supplemented dam groups were given 10 g of fenugreek seed per day. The study suggest supplementation of FS @ 10 g each day to lactating ewes carrying twins support lamb weight gain better than single birth lamb and reduced the degree of mother weight loss. The significance difference at 0.05 %. Among single birth lambs, FS supplemented group was better both in terms of growth rate of lambs and reduction in the ewes weight.

Keywords: Fenugreek seed, Lambs -Weight gain

Fenugreek seed has been under extension research for its hypoglycemic, appetite stimulation and it is used in traditional medicine to promote lactation in lactating woman buffalo (Abo EL-Nor., 1999) and cattle (Shah and Mir, 2004). Generally, Mecheri breed sheep gives birth to a single lamb and twins is observed in 1 % of the population. This breed of sheep is the native of semiarid area of Tamil Nadu where in the annual rainfall is 112.5 mm and limited grazing resource is available. Sheep farmers in this area generally dislike / dispose ewes that give birth to twins. The reason assigned for such practices is that doe will not be able to support the milk requirement for the lambs, leading to loss of one or both of the lambs and / or the dam will lose the body condition score. Attempts to stimulate the feed intake and improve the milk yield of the dam might address above the disadvantage. Hence, fenugreek seed (FS) supplementation in twin bearing ewes was undertaken in this study.

August month born lambs were selected and observations were taken in the next three months when the average rainfall in the month of August, September and October was 71, 93 and 244.6 mm. The dams were grouped as follows (n=7). Dam's that lambed twins supplemented with FS (T_1), Dams that gave birth to single lambs supplemented with FS (T_2) and dams gave birth to single lambs without FS (T_3). The FS supplemented dam groups were given 10 g of fenugreek seed per day. All the dams were allowed for eight hours grazing and offered 350 g adult sheep concentrate.

The recordings of body weight of lamb and dam pair was done on the day of lambing, the trial of FS supplementation was initiated on the first week after lambing and continued for twelve weeks. Weekly body weight of lamb and weight of dam were recorded.

The response of FS supplementation on dam's milk yield was indirectly assessed based on the performance of the lambs in the treatment period as the lamb totally depends on milk yield from the mothers in the 1st 10 weeks of age.

The observations of lamb and dams weights are presented

Table 1: Body weight of the lambs and dam with and without fenugreek supplementation

Growth traits recorded	Fenugreek supplementation		Without fenugreek supplementation
	Twins (T1)	Single birth (T2)	Single birth (T3)
Lamb birth Weight (Kg)	2.23 ± 0.06 (Weight of each lamb)	2.30 ± 0.09	2.57 ± 0.08
Lamb birth Weight as % of dam's weight	13.38 ± 0.56 (Weight of both lamb)	8.46 ± 0.64	9.57 ± 0.31
Dam's weight (Kg)	33.5 ± 0.81	26.86 ± 1.36	26.96 ± 0.8
Ratio of Ram / ewe lambs	6 / 8	1 / 6	3 / 4
First week body weight (Initial weight)	4.16 ± 0.21	3.27 ± 0.31	3.70 ± 0.15
Final weight (Kg)	13.44 ± 44	12.87 ± 0.26	10.9 ± 0.33
Weight gain (Kg)	9.29 ± 0.21	9.6 ± 0.30	7.20 ± 0.31
Weight gain (Kg) in first week			
1st	1.31 ± 0.10	1.27 ± 0.15	1.46 ± 0.18
2nd	1.24 ± 0.08	1.29 ± 0.07	1.09 ± 0.10
3rd	0.92 ± 0.07	0.93 ± 0.06	0.99 ± 0.31
4th	0.56 ± 0.07	0.71 ± 0.12	0.66 ± 0.20
5th*	1.24^{a} ± 0.15	0.87^{b} ± 0.14	0.44^{c} ± 0.11
6th	0.96 ± 0.13	1.41 ± 0.19	0.93 ± 0.11
7th	0.71 ± 0.10	0.41 ± 0.13	0.61 ± 0.07
8th*	1.22^{b} ± 0.09	1.37^{a} ± 0.15	0.59^{c} ± 0.09
9th*	1.14^{b} ± 0.08	1.33^{a} ± 0.11	0.44^{c} ± 0.18
Change in dam weight (kg)	-4.63 ± 0.65	-1.74 ± 1.04	-2.5 ± 0.9
Change in dam weight (as %)	-13.36 ± 1.59	-6.15 ± 3.61	-9.0 ± 2.62
Lamb weight gain / dam's weight loss	4.02	5.52	2.88

*Superscripts denote significance difference at 0.05 %

in the Table 1. The mean birth weight of lambs 2.23 to 2.57 kg. The mean birth weight of lamb as per the survey report of Mecheri performance was 2.82 ± 0.01 kg for singles. (Karunanidhi, 2002). Body weight (kg) of lambs born as twins (2.23) was lower than lambs born singly (2.3-2.57). The lamb birth weight for twins and single group were 13.38 and 8.46 – 9.57 % of the dam's weight (0.05).

The weight of dam given birth to twins was higher (33.5 kg) than the single lambed dam (26.86 – 26.96 kg). The near comparative weight of lamb and heavier body weight of dam given birth to twins as resulted in lambs' weight and percentage of dam weight is 1.5 times more than the single birth.

The weight gain of lamb from seven days of age to the end of 10th week suggests that supplementation of FS resulted in better growth than those not supplemented and the response of FS to dam of single lamb was better than twins, due to increase milk yield. These observations suggest FS could have stimulated more milk production. This hypothesis is supported by earlier work of Tomar *et al.* 1996 in buffalo, Rashwan, 1998 in rabbits, Alshaikh *et al*. 1999 in goats, Shah and Mir, 2004 in white cattle.

The change of dam weight after a week of lambing till ten weeks of lactation suggest that dam's that had given birth to twins lost 4.6 kg or 13.36% of body weight which was higher than dams that had given birth to single (-1.7 kg or 6.15 % and -2.5 kg or 9.0%). This might be due to higher milk produced or nutrient drained from milk. However, comparison of dam with single birth suggests that FS dam's had lower body weight loss than those not

supplemented. The lamb weight gain per unit of dam's weight loss, suggest supplementation of FS (4.02 for twins and 5.52 for single) was more than the group that was not supplemented (2.88) and supplementation of fenugreek to dam's with single lamb (5.52) was better than twins (4.02).

The study suggested that supplementation of FS@10 g per day to lactating ewes carrying twins support lamb weight gain better than single birth lamb and reduced the degree of mother weight loss. Among single birth lambs, FS supplemented group was better both in terms of growth rate of lambs and reducing the ewes weight.

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