

Economics of Growing Mecheri Lambs under Different Rearing Systems and Supplementation

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Abstract

An experiment was conducted to study the economic benefits of concentrate and urea molasses mineral block (UMMB) supplementation to grazing sheep. In growth trial main season born lambs, eight per group were grazed without supplementation (T1), with concentrate (T2) and UMMB (T3) supplementation and maintained under intensive system with concentrate (T4) and UMMB (T5) supplementation. The results indicated that Net income ranged from Rupees 4021.73 to 7141.78 and highest net income was recorded for the T2 group and lowest for the T5 group. In general, stall fed groups had lower net income compared to grazing groups. Among the stall fed groups T4 group had higher net income than T5 group. Those who do not practice concentrate feeding, can opt for UMMB feeding and it is also suitable for drought feeding. Further, UMMB can be used to partially replace concentrate feed or can be used in addition to concentrate feed. Rearing sheep by grazing with supplementation is more sustainable since it generates more net income for the use same resources.

Key Words: Economics, Mecheri lambs, Rearing systems and Supplementation

Introduction

Sheep has been one of the means of rural livelihood security over centuries. Sedentary system of rearing or grazing

with little or no supplementation had been the practice of most of the sheep rearing people of our country. At the same time, decreasing availability of grazing lands and decline in the quality of available grazing lands make sheep rearing difficult for these farmers. Intensive system of rearing, grazing with supplementation of concentrates or cultivated fodders has been advocated to overcome this problem. Grazing with supplementation is the easiest to follow for the farmer since it alter their system of rearing to a minimum extent.

In spite of the advantages, many sheep farmers are not supplementing any feedstuff to their animals. This is mainly because of their ignorance about the economic benefits of supplementation. If the farmers are convinced that net returns are more despite additional expenditure is incurred towards supplementation, they will follow it. Even many feeding experiments fail to calculate the economic benefit of feeding supplements. Hence, this study was undertaken to find out the economics of concentrate and urea molasses mineral block (UMMB) supplementation in main season Mecheri lambs.

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Materials and Methods

Growth trial was conducted involving a total of 40 Mecheri ram lambs. In the growth trial, main season lambs (40 animals in five groups of eight lambs each) were reared under two systems of rearing viz., grazing (T1 -control, T2 –concentrate and T3 -urea molasses mineral block supplementation) and stall feeding (T4-concentrate and T5-UMMB supplementation) for a period of 150 days. The lambs born as a result of main season mating (August- September) were reared from April to September.

To calculate the economics of rearing Mecheri lambs for mutton production following points were considered. Institutional purchase prices of concentrate feed was used for calculation of cost of feed input. One labourer was engaged on part time basis to look after the stall fed animals and another labourer was engaged to graze a flock of 60 sheep including the 24 animals of three grazing

groups in both the trials. Prevailing wage rate of the institution was used to calculate the cost of labour input. Prevailing institutional purchase and sale prices of live animals and market price of manure were used to calculate the cost of animals purchased for the trials and receipt from the animals at the end of trials. Cost of health cover included the expenditure towards deworming, vaccination and treatment of sick animals for minor ailments. Cost of UMMB was Rs 36 for a block weighing 3kg.

Only the variable cost towards feeding and other expenditure were included and not the fixed cost as the existing shed and facilities of the institution were utilized and animals were disposed of at the end of trials.

Results and Discussion

Means of economics of rearing main season lambs are presented in Table 1.

Table 1: Mean of Economics of Rearing Main Season Mecheri ram Lambs

Parameters	Grazing only (T1)	Grazing with concentr-ate (T2)	Grazing with UMMB (T3)	Stall fed with concentr-ate (T4)	Stall fed with UMMB (T5)
Initial weight of the animals (kg)	9.85	9.83	9.88	9.83	9.80
Value of the animals (Rs.)	7880.00	7864.00	7904.00	7864.00	7840.00
Concentrate feed /UMMB consumed (kg)	--	201.11	63.26	196.16	70.87
Cost per kg (Rs.)	--	11.00	12.00	11.00	12.00
Cost (Rs.)	0.00	2212.22	759.12	2157.77	850.42
Green fodder consumed - CO3 (kg)	--	--	--	623.50	641.60
Cost (@ Rs. 0.50/kg)	0.00	0.00	0.00	311.75	320.80
Green fodder consumed - Subabul green (kg)	--	--	--	136.26	132.77
Cost (@ Rs. 0.75/kg)	0.00	0.00	0.00	102.20	99.58

Dry fodder consumed –Sorghum stover (kg)	--	--	--	312.87	321.87
Cost (@ Rs. 1.00/kg)	0.00	0.00	0.00	312.87	321.87
Dry fodder consumed – Horsegram husk (kg)	--	--	--	126.36	130.40
Cost (@ Rs. 1.50/kg)	0.00	0.00	0.00	189.54	195.60
Total feeding cost (Rs.)	0.00	2212.22	759.12	3074.13	1788.27
Labour cost (Rs.)	2000.00	2600.00	2600.00	1800.00	1800.00
Health cover (Rs.)	100.00	100.00	100.00	150.00	150.00
Miscellaneous (Rs.)	0.00	100.00	100.00	200.00	200.00
Total expenditure (Rs.)	9980.00	12876.22	11463.12	13088.13	11778.27
Final body weight (kg)	18.65	24.46	21.77	20.7	18.85
Value of animals (Rs.)	14920	19568	17416	16560	15080
Manure (Rs.)	430	450	440	720	720
Total receipt (Rs.)	15350	20018	17856	17280	15800
Net income (Rs.)	5370.00	7141.78	6392.88	4191.87	4021.73
Net income/animal (Rs.)	671.25	892.72	799.11	523.98	502.72

Based on the initial weights the values of the animals were worked out to be in the range of Rupees 7840 to 7904. Quantity of concentrate feed consumed were 201.11 kg for T2 group and 196.16 kg for T4 group. Quantity of UMMB consumed were 63.26 kg for the T3 group and 70.87 kg for the T5 group. Further, the quantity of green fodder and dry fodder consumed were calculated for the stall fed groups (T4 and T5) in addition to the concentrate / UMMB intake to arrive at the cost of feeding. Among the stall fed groups, consumption of CO - 3 green grass and dry fodder (sorghum stover and horsegram husk) were higher in T5 group. But consumption of subabul green was higher in T4 group than T5. Feeding costs were higher in stall fed groups and among them, T4 had higher (Rs. 3074.13) cost of feeding. Labour costs were more for the grazing groups compared to stall fed groups whereas, health cover expenditure were higher for

stall fed groups. Miscellaneous expenditure was also higher for stall fed groups (which was mainly towards shearing the stall fed group animals because of ecto parasitism) compared to grazing groups. Total expenditure up to the finishing stage ranged from Rupees 9980 to 13088.13. Highest expenditure was incurred in the T4 group, followed by T2 group (Rs. 12876.22) which was the concentrate supplemented groups. Lowest expenditure was for the T1 group which was not given any supplementation.

Values of the animals at the finishing stage were in the range of Rupees 14920 to 19568 and highest value was observed for the T2 group. Receipts from manure were higher for the stall fed groups than the grazing groups. Net income ranged from Rupees 4021.73 to 7141.78 and highest net income was recorded for the T2 group and lowest for the T5 group. Net income per animal was also highest in T2 group (Rs. 892.72) followed by T3

group (Rs. 799.11) and then by T1 group (Rs. 671.25). In general, stall fed groups had lower net income compared to grazing groups. Among the stall fed groups T4 group had higher net income than T5 group.

The study revealed that, total expenditure incurred were higher for the stall fed groups (T4 and T5) and lower for grazing groups. This is clear, as the stall feeding involves additional expenditure towards feeding green and dry fodders. This is also the reason why sheep and goats are still reared in large numbers in extensive system where there is litter or no supplementation (Richard Jegatheesan, *et al.*, 2003). Shinde *et al.* (1995) also reported lower cost of production for sheep under grazing system than under intensive system. Receipts realized through cost of manure was more for the stall fed groups as the total quantity of solid manure voided by the animals could be collected. In grazing groups, manure could be collected only at the time of their shelter. Manure voided by the animals at grazing hours was not considered though it indirectly helps through enrichment of soil.

Total receipts were highest for the T2 group (Rs. 20,018/-). There was very little difference between T3 (Rs.17,8556/-) and T4 (Rs. 17,280/-) groups, which had next higher receipts. Similarly T1 (Rs. 15,350/-) and T5 (Rs. 15,800/-) had almost similar total receipts, which were comparatively lower. But while considering the net income, there were some changes in this order. Grazing group with concentrate supplementation (T2) had

the highest value (Rs. 7141.78/-). It was followed by UMMB supplemented grazing group (Rs. 6392.88/-). The reason was mainly the higher value of animals realized through superior body weight at the finishing stage. Unsupplemented grazing group (T1) had the next higher value (Rs. 5370.00/-) and it was obviously because of the lower expenditure incurred for this group.

Though the stall fed groups (T4 and T5) had higher receipts than T1 group, the expenditure incurred towards feeding brought down the net income for them. So, for rearing main season Mecheri ram lambs for mutton production, grazing with supplementation is the best method for higher returns. This conclusion is also supported by the works of Zervas *et al.* (1999), Karim and Verma (2001) in sheep and Ravi and Rama Prasad (2005) in goats.

For those persons, who do not have enough resources for grazing of sheep or having problem in getting labourers, stall feeding is the only alternative. For them supplementation with concentrate feed or UMMB are viable options. UMMB is more convenient for feeding than concentrates. Though there is difference in body weight at finishing, difference in net return is very minimum between concentrate and UMMB feeding. This is because of the reduced expenditure incurred for UMMB feeding compared to concentrate feed.

For grazing animals too, UMMB supplementation is next better option to concentrate feeding. Those who do not practice concentrate feeding, can opt for

UMMB feeding. Further UMMB can be used to partially replace concentrate feed or can be used in addition to concentrate feed which were successfully tried in some experiments (Aquino *et al.*, 1998 and Singh *et al.*, 1999).

UMMB is commercially readily available feed supplement and uniformity in quality is maintained, where as in self compounded feed it is likely that nutritive value of feed may get differed. Therefore, the farmers may be advised to use the UMMB as supplement in addition to grazing for more profitability.

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