Open Academic Journal of Advanced Science and Technology
ISSN 2577-7807
Vol. 3, No. 1, pp. 1-5
2019
DOI: 10.33094/5.2017.2019.31.1.5

Study of Birth Weight and Post Weaning Growth Rate in Lambs and Kids of Damani Sheep and Damani Goat for Fattening Purpose

Israr ud Din[1]
Arsalan Khan[2*]
Muhammad Rizwan[3]
Rizwan ul Haq[4]
Muhammad Asif Wazir[5]

[1,2]*Livestock Research & Development Station, Paharpur, Dera Ismail Khan-29050-Pakistan*
[2]*Email: drarsalankhandvm@gmail.com*
[3]*Veterinary Research & Disease Investigation Center, Dera Ismail Khan-29050-Pakistan*
[4]*Civil Veterinary Dispensary, Mandhran Kalan, Dera Ismail Khan-29050-Pakistan*
[5]*Department of Poultry Nutrition, Agriculture University Peshawar-25000-Pakistan*

Keywords:
Damani sheep
Damani goat
Birth weight
Weaning weight
Growth rate.

Abstract

The present study was designed to estimate the birth weights and post weaning growth rate of the male lambs and kids of Damani Sheep and Damani Goats for fattening purpose, respectively, at Livestock Research and Development Station, Paharpur, Dera Ismail Khan. For this purpose, a total of 30 males, including 15 lambs and 15 kids were selected for the study. The animals were raised on local feeding pattern like seasonally cultivated fodder species for grazing (berseem, sorghum, millet etc) and a commercial feed (Shandar wanda) as a supplementary diet. It was found that average birth weights of Damani kids and Damani lambs were 2.71±0.75 and 3.61±0.25 Kg, respectively. Average weaning weights of Damani kids and Damani lambs were 6.50±0.45 and 10.18±0.80 Kg, respectively. Average growth rate of Damani goats for the 4th, 5th, 6th, 7th, 8th and 9th months were 9.16, 12.01, 14.14, 16.30, 18.16 and 23.56, respectively while average growth rate of Damani sheep for the 4th, 5th, 6th, 7th, 8th and 9th months were 13.99, 17.10, 19.86, 22.13, 26 and 30.24, respectively. It was concluded from the study that due to significant ($p<0.05$) weight gain, the males of Damani sheep and Damani goats can be reared for fattening purpose by the local farmers of Pakistan.

Funding: This study received no specific financial support.
Competing Interests: The authors declare that they have no competing interests.

1. Introduction

Sheep and goats stand important source of livelihood for pastoralists and farmers. Small ruminants play significant role in the house hold level, communal level and in national economy in terms of meat, milk and wool production. They can successfully adapt to versatile environment, capable to thrive under unfavorable climatic conditions and can digest coarse feed, graze on shrubs and mountainous slopes etc. However, animals reared on the concentrate diet have significant weight gain compared to the forages and pastures [5].

Goats have diversified meat production ranging from small goat breeds of tropical areas (mature live body weight 9-13 Kg) to large Boer goats and European breeds (mature live body weight upto 100 Kg). Rearing of the small ruminants ranges from arid zones, desert areas to intensive pastures in cold and temperate climates and management systems range from subsistence farming to intensive commercial farming [3].

Small ruminants make a tremendous population in Continent Asia and counts for 52% of the world's population of small ruminants. Rearing of sheep and goat is mostly practiced in the developing countries of the world. In Pakistan, medium class farmers and small stakeholders concentrate on the rearing of sheep and goats for livelihood. There are 34 breeds of goats and 28 breeds of sheep in Pakistan. Moreover, the meat of small ruminants is preferable and more liked by Pakistani people as compared to beef. Therefore, small ruminants are particularly reared for meat production and fattening purpose [1].

2. Materials & Methods

This research included a total of 30 male animals of typical Damani breed including 15 Damani kids and 15 Damani lambs, having their weaning age of at least 2 months. Two groups were made according to the

animal species i.e. "A" and "B". Group A contained 15 kids and group B contained 15 lambs. All animals were properly ear tagged and their birth weights and weaning weights were determined individually, by the electronic weight scale with accuracy of ±0.04 Kg and the research flock was reared separately in identical housing and feeding systems.

Animals after weaning were provided with feed, like seasonally cultivated fodder species for grazing and a commercial feed (Shandar wanda) as a supplementary diet according to their requirements as prescribed by NRC, 1966. Weight gains were recorded by weighing all animals of group A and B on biweekly interval up to market age of eight months.

3. Results

Table No. 1 shows the birth weights, weaning weights and biweekly post weaning growth rate of males of Damani Goats, while Table No. 2 shows the birth weights, weaning weights and biweekly post weaning growth rate of males of Damani Sheep.

It has been found that average birth weights of Damani kids and Damani lambs were 2.71±0.75 and 3.61±0.25 Kg, respectively. Average weaning weights of Damani kids and Damani lambs were 6.50±0.45 and 10.18±0.80 Kg, respectively. Average growth rate of males of Damani goats for the 4^{th}, 5^{th}, $6^{th,}$ 7^{th}, 8^{th} and 9^{th} months were 9.16, 12.01, 14.14, 16.30, 18.16 and 23.56, respectively while average growth rate of males of Damani sheep for the 4^{th}, 5^{th}, $6^{th,}$ 7^{th}, 8^{th} and 9^{th} months were 13.99, 17.10, 19.86, 22.13, 26 and 30.24, respectively.

4. Discussion

The overall least-squares means for lamb weights at the different ages were lower than those observed [1,7]. Most of the environment factors including period, sex of the kids and lambs, parity etc had significant ($p<0.05$) to highly significant ($p<0.01$) effects on body weights at their various ages. The factors have also proved to be important in other studies of lambs of various breeds [2,4]. The significant differences in body weight among lambs born and grown to market age may be attributed to differences in management, selection of rams and environmental conditions, such as the ambient temperature, humidity and rainfall. The seasonal changes in the climate were reflected as differences in body weights during different periods of the year. Furthermore, the fattening of sheep and goats is important in terms that mutton is more costly and considered superior quality compared to beef. Also, sheep and goat can be fattened and can be marketed at different age and weights depending upon the profitability [6].

5. Conclusion

The average birth weights of Damani kids and Damani lambs were 2.71 and 3.61 Kg, respectively and at weaning kids and lambs weigh 6.50 and 10.18 Kg, respectively on average. At the age of 09 months, Damani bucks weighed 23.56 Kg while Damani rams were of 30.24 Kg on average. Therefore it has been concluded from the study that males of Damani sheep and Damani goats can be reared for fattening and meat production purposes.

Table-1. Birth weight and post weaning growth rate of Damani Goat (Jan-Aug 2018)

S.No	Tag No.	Birth weight	Weaning wt	4th month (1st wt)	2nd wt	5th month (1st wt)	2nd wt	6th month (1st wt)	2nd wt	7th month (1st wt)	2nd wt	8th month (1st wt)	2nd wt	9th month (1st wt)	2nd wt
1	1001	2.7	5.8	6.5	8	9.6	10.9	11.8	13.2	14.3	15.4	16.7	17.8	19.5	22.5
2	1028	2.9	6.5	8.5	9.9	11.3	12.9	13.8	14.9	15.5	16.8	18.2	19.7	21	23.2
3	1002	2.8	8.5	9.6	10.9	12.0	13.5	14.5	16.0	16.96	17.5	19	20.7	22	24.5
4	1007	2.7	6.5	8.5	9.6	10.7	12	12.9	13.8	15	16.2	17.9	19	21	23.5
5	1008	2.8	7.8	9	10.9	11.9	13.5	14.6	15.8	17	18.3	19.5	21	23.5	26.9
6	1009	2.5	5.8	6.7	8.3	9.9	11	11.8	13	14.2	15.7	17	18.7	20.5	22.5
7	1003	2.7	7.2	8	9	10.5	12.5	13.5	14.8	16	17.5	19	20.7	22.5	25
8	1005	2.5	5.5	6.8	8	9	10.2	11.5	12.6	13.7	14.8	16.00	17.3	19.5	21.7
9	1010	3.1	9.5	11.5	13	14.9	16.8	18	18.9	20.5	21.3	23	25	27	29
10	1004	2.6	5.3	6.9	7.8	9	10.3	11.4	12.5	13.4	14.1	15.9	17.8	20.5	22
11	1006	2.6	6.00	7.00	7.9	9.3	10.8	11.5	12.9	13.8	15	16.3	17.9	20	22.5
12	1011	2.4	5.5	6.3	7.2	8.3	9.5	11.1	11.9	13.2	14.3	16.1	17.5	19.8	21.2
13	1012	2.9	6.5	8.5	9.9	11.3	12.9	13.8	14.9	15.5	16.8	18.2	19.7	21	23.2
14	1015	2.6	4.8	6.2	7.3	9.9	10.4	11.8	12.3	13.6	14.3	16	17.8	20.3	21.9
15	1016	2.9	6.4	8.3	9.7	11.3	13	13.9	14.7	15.6	16.6	18.7	19.9	21.3	23.8

Table-2. Birth weight and post weaning growth rate of Damani Sheep (Jan-Aug 2018)

S.No	Tag No.	Birth wt	Weaning wt	4th month (1st wt)	2nd wt	5th month (1st wt)	2nd wt	6th month (1st wt)	2nd wt	7th month (1st wt)	2nd wt	8th month (1st wt)	2nd wt	9th month (1st wt)	2nd wt
1	1030	3.8	8.2	10	12	12.5	13.5	14.4	15.3	16.7	18	20	22	24.5	26.9
2	1024	3.8	10.1	12	15	15.9	16.8	17.7	19.2	20.1	21.5	24	26	28.3	31
3	1015	3.9	13	15	18	19.5	21	22.5	24.9	25.8	26.5	28.5	30.9	32.9	35
4	1021	3.5	11.5	12	13.7	14.2	15.7	16.5	17.5	18.4	19.9	22	24	26.4	28.9
5	1019	3.6	8.5	9	10.5	11.7	12.9	14.5	15.9	16.8	17.9	20	21.5	23	25.1
6	1027	3.7	11.9	13.5	14.5	16	18	19.5	20.5	21.4	22.7	25	27.5	29.3	31
7	1014	3.6	9.9	11.5	12.5	13.6	14.9	16.1	17.5	18.6	19.9	20.7	22.5	24	26
8	1011	3.5	8.0	10.3	13	15	17.5	19.5	21	22.5	23.4	25.0	26.5	28	30.5
9	1023	3.9	12	15.5	18.5	20	21.5	23	24.5	25.6	26.8	28.5	30.5	32.5	34.5
10	1018	4	13	15.4	18.5	20.5	21.9	23	24.5	25.3	26.7	28.4	30.3	32.2	34.6
11	1012	3.2	6	7	9	10.5	12.9	14	15.9	16.8	18.0	20.00	21.5	23.5	26.0
12	1013	3.4	8.5	10.1	12.5	15	16.5	18	20	21.5	22.7	24.6	26.2	28.1	30.0
13	1026	3.5	11	13.9	16	18	20.5	22	23.7	24.5	26	28.5	31	33	35.2
14	1031	3.2	9.4	11.2	12	13.1	14.7	16	17.2	18.5	19.2	20	21.9	25.8	27.6
15	1033	3.6	11.8	13.2	14.2	16.1	18.3	19.3	20.4	21	22.8	25.6	27.7	30	31.3

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