ISSN: 0976-3031

Available Online at http://www.recentscientific.com

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 10, Issue, 07(G), pp. 33803-33806, July, 2019

International Journal of Recent Scientific Research

DOI: 10.24327/IJRSR

Research Article

PERFORMANCE OF DECCANI SHEEP IN AHAMADNAGAR, PUNE AND SHOLAPUR DISTRICT OF MAHARASHTRA STATE

Khadse J.R., Lata Sharma and Joshi S.A

Baif Development Research Foundation, Central Research Station, Urulikanchan-412202, Pune, Maharashtra

DOI: http://dx.doi.org/10.24327/ijrsr.2019.1007.3752

ARTICLE INFO

Article History:

Received 15th April, 2019
Received in revised form 7th May, 2019
Accepted 13th June, 2019
Published online 28th July, 2019

Key Words:

Reproduction, Production, Deccani sheep

ABSTRACT

Data on 2077 sheep from randomly selected 60 villages spread over to 12 strata's from 3 districts of Maharashtra (Ahamadnagar, Pune and Sholapur) were collected in the prescribed format and statistically analyzed for studying reproduction and production traits. Average age at first oestrus, average age at first mating, age at first lambing, lambing interval and average life time lambing number were recorded to be 10.67±0.05months, 11.89±0.05months, 15.67±0.04months, 288.29±1.06days and 2.91±0.03 respectively. The overall average of milk on day07 and day50 after lambing were found to be 262.79±4.32 and 133.14±2.67 respectively. In breeding males average age at first mating was recorded as 14.39±0.09 months.

Total 444 wool samples were sent to North Temperate Regional Station (NTRS) for wool analysis. The mean greasy fleece weight was observed to be very less (496±112.17 grams) in Deccani sheep. Overall average fiber diameter was 50.16±0.55micron. The overall average of medullation percentage was observed to be 65.71%. Overall staple length was 4.21±0.06 cm. Overall fraction of lustrous wool was 25.99% and non-lustrous type 74.21%.

INTRODUCTION

Deccani sheep's are found in southern – eastern part of Maharashtra in the neighboring areas of Andhra Pradesh and Karnataka. In Maharashtra the breed is widely distributed in several districts which include Nasik, Pune, Ahamadnagar, Kolhapur, Sholapur, Sangli, Satara and Beed.

The name Deccani sheep seem to be derived from their distribution to geographically identified areaof Deccan Plateau. The geographical nature of the terrain was suitable for sheep rearing and migrating flocks of sheep were common. The living by such migratory shepherds was made by rearing and selling sheep mainly for mutton purpose.Different strains (or within breed types) are observed in the breed tract. Four types have been noticed. Local people term them as Viz. Lonand, Sangamneri, Solapuri (Sangola) and Kolhapuri

The Deccani sheep animals are small and hardy. The breed has a thin neck, narrow chest, prominent spinal processes, flat ribs and poor leg of mutton; it has a Roman nose, dropping ears. The colour is dominantly black, with some grey and roan.

MATERIAL AND METHOD

Survey Plan

The survey was conducted in three districts of Maharashtra (Ahamadnagar, Pune and Sholapur) for the present study. Deccani sheep rearers from randomly selected 60 villages spread over to 12 strata's from three districts had been selected for collecting the information with the help of one supervisor and 4 enumerators. Supervisor and enumerators had collected information on demographical and geographical distributions of the breeds. The information on reproduction and production traits was collected from the farmers in the prescribed format and used for statistical analysis.

In all total 11,996 households, 35.68 % were landless, 23.26 per cent owned land upto 2.5 acres, 25.70 per cent were having land above 2.5 and below 5.0 acres, land holding of 11.26 per cent was above 5 but less than 10 acres and 4.09 per cent owned above 10 acres.

Out of the total 87,612 small ruminants surveyed 64.70 per cent were sheep's and 35.29 per cent were goats. Deccani breed population was observed to be 19839 (34.95%).

Corresponding author:* **Khadse J.R.,
Baif Development Research Foundation, Central Research Station, Urulikanchan-412202, Pune, Maharashtra

Natural Habitat & Climatic Conditions

The meteorological data of Ahmadnagar, Pune and Solapur districts for a period of 10 years were collected from the original records maintained at meteorological department, Pune. District wise information is given below.

Ahamadnagar district

The climate of the district is characterized by a hot summer and general dryness except during the south-west monsoon season. The year can be divided into four seasons. The cold season from December to February is followed by the hot season from March to the first week of June.

The average annual rainfall in the district is 578.8 mm. The distribution of rainfall is very uneven. The western part of Akola tahsil gets good rainfall which decreases towards east. The district mostly lies in the rain shadow to the east of the range of Sahyadri hills. September is the rainiest month. About 77 per cent of the annual rainfall is received during the south-west monsoon season. The variation is rainfall from year to year is large.

Sholapur district

Climate of the district is generally agreeable and is characterized by general dryness except during the monsoon season. The cold season from December to about the middle of February is followed by the hot season, which lasts up to the end of May. June to September is the south-west monsoon season while October and November constitute the post monsoon or retreating monsoon season.

The average annual rainfall of the district is 584.3 mm. The south-eastern parts of the district get slightly more rainfall than the rest of the district. Most of the rainfall is received during the south-west monsoon in the months from June to September. This accounts for about 74 per cent of the normal annual rainfall. About 17 per cent of the rainfall in district is received in the post monsoon.

Pune district

The Climate of the district is characterized by hot summer. Comparatively east zone of Pune district is hot than otherpart. The maximum rainfall is due to south west monsoon season . In east side of Pune district, the average annual rainfall ranges between 600 to 700 mm whole in west side the average annual rainfall is 1171 mm. The highest (37.70^0C) mean maximum temperature was recorded in the month of April and lowest mean minimum temperature (12.6^0C) in month of December.

Although the mean maximum temperature recorded is 38.7^0C, the highest temperature ranging from 41 to 45^0C were recorded for a few days in almost every year in all the three districts.

From all the average relative humidity records presented in Appendix-II, it is revealed that the lowest humidity of 22.5 and highest 81.8 percent was recorded in the month of March and July respectively.

The annual rainfall is low and erratic averaging 784.2 mm. The rains were mainly received between June to October. The highest average rainfall was recorded in the month of June (181.9 mm). The area is subjected to severe droughts at least twice in every five years.

The seasons observed are rainy (June to October), winter (November to February) and summer (March to May).

General Management

It was observed that 85.92 per cent sheep were provided housing only during night. No proper housing measures were found adopted for sheep's. During extreme weather however shepherds shared part of their residence with animal. Usually sheep's are kept in open roof area where boundaries are fenced with wire mesh or thorny bushes. It was observed that among those who provided housing, 77.23 per cent shepherds provided open housing type to their sheep and only 22.76 per cent provided closed housing.

The study regarding the grazing revealed that maximum number of shepherds grazed their sheep's continuously (83.28%) during day hours. Only (16.71%) grazed intermittently during day hours. Slightly less than half (46.15%) of shepherds grazed their sheep's within 5 km of distance in a day. Nearly half of (49.60%) of the shepherds grazed their animals for 6-10 hrs. Majority of the shepherds (85.81%) were dependent solely on grazing system. 14.19% shepherds followed semi stall feeding system

RESULT AND DISCUSSION

Wool Production

The total 444 wool samples were sent to North Temperate Regional Station (NTRS), Garsa, Himachal Pradesh for analysis of wool for different wool characters. Analysis reports of total 306 samples were received for staple length, fibre diameter and medullation percentage.

Greasy Fleece Weight

The mean greasy fleece weight observed was very less in Deccani Sheep. Thorat et.al.(1990) stated that greasy fleece weight found in Deccani sheep 496±12.17 gms.

Overall average fibre diameter 50.16±0.55 micron. Normally, the trend of reducing fibre diameter was observed with the advance of age. Ghanekar V.M. (1983) recorded the fibre diameter was found to be vary from 39.6microson the side region to 30.3 microns on shoulder region. The overall average of Medullation percentage was 65.71 %.It was maximum in the age group of one to two year.

The overall staple length was 4.21±0.06 cm. no significant variation between sexes and age was observed. Slightly larger staple length has been recorded by Deshpande K.S. and Sakhare P.G. (1987).They recorded that staple length in Deccani sheep was 4.635±0.264.

Overall fraction of lustrous wool in Deccani sheep of survey area was observed to be 25.99% and non-lustrous type 74.21%. The canary coloration was present in only 12.18% animals and absent in rest of 87.82% animals

Usually is shearing done in December – January & June – July months of the year. Wool cover on head and face was observed very less while belly and legs were covered by wool. The wool is clipped twice in a year. The methods used are crude & indigenous.

Table 1 District wise milk production (ml) at day 7 and day 50.

Districts	Milk Production in ml	
	Day 7th milk	Day 50th milk
Ahmadnagar	315.47±5.88 (622)	144.90±3.95 (620)
Pune	144.02±2.96 (123)	101.42±2.23 (95)
Solapur	205.32±5.50 (316)	118.59±3.39 (294)
Total	262.79±4.32 (1061)	133.14±2.67 (1009)

Figure in parenthesis indicates number of observations.

Reproductive Performance

Age at First Oestrous (months)

The overall average age at first oestrous was 10.67±0.05 months. The district wise mean age at first oestrous varied between (11.32±0.08 months) Solapur to Ahmadnagar (10.10±0.08 months) and Pune (10.04±0.12 months) Table2.

Oestrous Cycle Duration (days)

The overall oestrous cycle duration averaged 20.58±0.04 days. The maximum oestrous cycle duration was recorded in Solapur district (21.35±0.05 days) whereas oestrous cycle duration in Ahemadnagar (19.85±0.07 days) and in Pune (19.37±0.15 days) districts was almost same. The data is presented in Table2.

Oestrous Duration (hrs)

Table 2 presented oestrous duration between districts ranged from 23.81±0.15 hrs. To 30.28±0.41 hrs. Most of the sheep's bred within 24 hrs. From onset of oestrous. The overall oestrous duration in all the three districts was 27.42±0.24 hrs.

Female Age at First Mating (Months)

The age of first mating was slightly higher than that of age at first oestrous. The age at first mating was highest in Solapur district (12.86±0.12 months) followed by those in Pune (11.23±0.14 months) and in Ahemadnagar district (11.04±0.10 months). The overall average of age at first mating was recorded as 11.89±0.07 months in all the survey area (table2). N. Rajanna et.al. (2012) recorded age (days) at first mating as 303.33± 2.19 for ewes.

Table 3 Average staple length, fibre diameter and medullation percentage in Deccani sheep

Parameter	Staple Length (Cm)	Fibre diameter (micron)	Medullation percentage
Averages	4.21±0.06 (306)	50.16±0.55 (306)	65.71±0.78 (306)

Figure in parenthesis indicates number of sheep

Male Age at First Mating (Months)

Table 2 The average age of first mating in rams in survey area was 14.39±0.09 months. It was almost similar in all three districts of survey area.N. Rajanna et.al. (2012) recorded age at first mating for ram's 423.41±3.15 days.

Age at first lambing (Months)

The mean age at first lambing was 15.67±0.04 months. The district wise value of age at first lambing was almost similar in all the three districts and ranged from 15.52±0.06 months to 15.91±0.13 months.

The mean value of age at first lambing was recorded 468.89 ± 2.60 days by N.Rajanna et.al. 2012

The mean age at first lambing for 115 female sheep born on the station was found to be 18.8 ± 0.8 months between the year 1974 to 1980 which was recorded by FAO.

Table 2 District wise mean and SE of some of the reproductive characters in Deccani sheep

S.No.	Reproductive traits	Districts			Overall
		Ahmadnagar	Pune	Solapur	
1	Age at first oestrus (months)	10.10±0.08 (804)	10.04±0.12 (289)	11.32±0.08 (984)	10.67±0.05 (2077)
2	Female age at first mating (months)	11.04±0.10 (783)	11.23±0.14 (284)	12.86±0.12 (869)	11.89±0.07 (1936)
3	Males age at first mating (months)	14.17±0.17 (187)	14.20±0.18 (139)	14.73±0.14 (191)	14.39±0.09 (517)
4	Age at first lambing	15.52±0.06 (746)	15.91±0.13 (267)	15.73±0.06 (853)	15.67±0.04 (1866)
5	Lambing interval	264.37±0.79 (732)	267±1.24 (152)	310.50±1.66 (932)	288.29±1.06(1816)
6	Average lifetime no. of lambing	2.84±0.04 (743)	2.94±0.11 (263)	3.00±0.06 (487)	2.91±0.03 (1493)

Interval from Lambing to First conception (days)

The overall interval betweenlambing to first conception averaged 161.37±0.91 days i.e. the sheeps were conceived within 5 –6 months after the lambing. The interval from lambing to first conception was maximum in Solapur district (178.48±1.72 days) and lowest in Ahmednagar district (149.18±1.07days).

Lambing Interval (days)

District wise lambing interval recorded varied from 264.37±0.79days to 310.50±1.66 days. The average lambing interval was found to be 288.29±1.06 days. N.Rajanna et.al. 2012 recorded overall mean lambing intervalwas 292.58±2.56 days.

The mean lambing interval reported by FAO for 663 sheep's from 1975 to 1980 was 307 ± 14 days.

The effects of year of lambing were not important, but month of lambing had a significant effect on lambing interval. Females lambing in December, January, February and March had longer than average lambing intervals, while those lambing in all other months had shorter than average lambing intervals.

Average lifetime number of Lambing

The range of number of lambings per sheep recorded in survey area was minimum one and maximum up to nine. The overall average lifetime no. of lambingwas 2.91±0.03. District wise values ranged from 2.84±0.04 to 3.00±0.06 lambing.

Milk production in Deccani Sheep

Generally the ewes in the survey area are found rarely milked, the milk is considered to be for the lamb. The overall average milk on day 7th and day 50th was recorded as 262.79±4.32 ml and 133.14±2.67 ml respectively (table1).

References

Deshpande K.S. and Sakhare P.G. (1987): Comparative performance in wool quality traits of Deccani and its crosses. *Indian Journal of Animal Science* 57(8): 894-896

FAO Corporate Document Repository from Internet "Research on Farm and Livestock Productivity in Central Ethiopian highlights"

Ghanekar V.M. (1983): Deccani Sheep- A study in retrospect, studies on Deccani wool. Wool and Woolens of India, July- September, 21-40.

N.Rajanna, M.Mahendar, T.Raghunandan, D.Sreenivasarao, D.Nagalakshmi and D.Thammiraju. Reproductive performance of deccani sheep in telangana region of Andhra Pradesh. Department of Livestock Production and Management, College of Veterinary Science, SVVU. *The Indian Journal of Field Veterinarians* (Vol. 8)

Thorat A.V., Koratkar D.P. and Narwade V.S. (1990): Wool Production and its relation with body weight in Deccani and crossbred sheep. *Journal of Animal Sciences* 60(10):1215-1218.

How to cite this article:

Khadse J.R., Lata Sharma and Joshi S.A.2019, Performance of Deccani sheep in Ahamadnagar, Pune and Sholapur District of Maharashtra state. *Int J Recent Sci Res.* 10(07), pp.33803-33806. DOI: http://dx.doi.org/10.24327/ijrsr.2019.1007.3752

****