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PRODUCTIVE AND REPRODUCTIVE PERFORMANCE OF PURNATHADI AND ELLICHPURI STRAIN OF NAGPURI BUFFALOES

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Abstract

The findings emerged out of the present study are confined to establish the physical characteristics of Purnathadi and Ellichpuri strain of Nagpuri buffalo breed. The main object of the study was to identify the different morphological characters of Purnathadi strain of Nagpur buffalo breed located in Akot tahsil of Akola district. The observations of the present study clearly established that the studied population of Purnathadi and Ellichpuri strain of Nagpuri buffalo breed was homogeneous and possessed certain physical characters distinctly which could form the base for identification. Survey conducted in Akot tahsil of Akola district of Maharashtra state of 500 numbers of Purnathadi strain and Partwada, Achalpur tahsil of Amaravati district 500 numbers of Ellichpuri strain of Nagpuri buffalo. Study carried away on productive and reproductive performance of total 1000 number of two strain Purnathadi and Ellichpuri strain of Nagpuri buffaloes

Key words: *Nagpuri buffalo, Purnathadi strain, Ellichpuri Strain Productive and reproductive performance*

Introduction

Indian dairy industry seems to be buffalo oriented as buffaloes contribute to more than the 55 per cent of the total milk produced. It is observed that the choice of dairymen as well as individual milk producer in urban and rural area is buffalo, on account of its high butter fat content in milk and ability of animal to withstand adverse management conditions. In reference to this situation, more than 50 per cent of the world's buffalo population is confined to India. Obviously, the best buffaloes are only habitat in the country. They are grouped in over a dozen important breeds in India, of which Marathwada, Pandharpuri and Nagpuri/ Berari belong to Maharashtra (Gubbawar 2011). The number of high yielding cattle and buffaloes is increasing and there is decline in the population of indigenous cattle. Nagpuri breed has its native area in Maharashtra. However, it is believed by the people that although the terms Nagpuri, Ellichpuri, gaolao, Shahi, Pandharpuri and Marathwadi are synonymous, but the population do indicate distinct differences in their body confirmation and physical characteristics, thereby forming different age group. (Bhagat 2014).

Material and methods

The findings emerged out of the present study are confined to establish the physical characteristics of Purnathadi strain of Nagpuri buffalo breed. The main object of the study was to identify different phenotypic characters of Purnathadi strainof Nagpur buffalo breed located in Akot tahsil in Akola district. The Akot tahsil in Akola district is considered to be the home tract of Purnathadi strain and therefore each village of the district was possessing the buffalo population. Considering these subjective criteria, village sin each Tahsil were selected. Information with regards to qualitative and quantitative morphological characters of 500 buffaloes were collected from Akola district and Amaravati district in which Partwada, Achalpur tahsil is the home tract of the Ellichpuri strain of Nagpuri buffaloes. For the collection of requisite information, Performa prescribed by NBAGR was used. The collected information of 500 Purnathadi strain and 500 Ellichpuri strain of Nagpuri buffalo breed was belonging to different age groups as A (4-5 years), B (5-7), C (7-9), D (9-11), E (11& above).

Results and discussion

Productive performance

Daily milk yield

Average daily milk yield of Purnathadi in the age group of 4–5, 5–7, 7–9, 9-11years was to be 4.594 ±

0.003, 4.760 ± 0.120, 5.063 ± 0.007, 4.594 ± 0.030 kg. Average daily milk yield was 4.340 ± 0.003 kg in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 4.6702 ± 0.033 kg. Similarly in Average daily milk yield of Ellichpuri in the age group of 4–5, 5–7, 7–9, 9-11years was to be 3.839 ± 0.398, 4.221 ± 0.112, 5.350 ± 0.175, 4.540 ± 0.147 kg. Average daily milk yield was 4.710 ± 0.141 kg in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 4.532 ± 0.0194 kg. Similar observation were also reported by Belorkar *et al.* (1977), Bire *et al*. (1994), Bhagat (2008) and Sirothia *et al*. (2008) in different strains of Nagpuri buffaloes. Kuralkar *et al*. (2000) reported that milk yield per day in Murrah buffaloes was 5.5 ± 0.05 kg. This is nearer to the present investigation.

Table 1: Productive and reproductive characters of Purnathadi strain of Nagpuri buffaloes.

Sr. No	Productive and reproductive characters	Purnathadi
1	Daily milk yield (kg)	4.670+0.033
2.	Lactational milk yield(kg)	1230.482+29.005
3	Age at first calving (Years)	4.594+0.003
4	Calving interval (Days)	380.314+5.310
5	Calving Number	3.728+0.067

Table 2: Productive and reproductive characters of Ellichpuri strain of Nagpuri buffaloes.

Sr. No	Productive and reproductive characters	Ellichpuri
1	Daily milk yield (kg)	4.532±0.01944
2	Lactational milk yield(kg)	1235.649±38.548
3	Age at first calving (Years)	4.958±0.333
4	Calving interval (Days)	379.402±12.420
5	Calving Number	3.694±0.054

Lactational milk yield

Average daily milk yield of Purnathadi in the age group of 4–5, 5–7, 7–9, 9-11years was to be 41046.284 ± 11.244, 1263.00 ± 32.500, 1355.733 ± 64.355, 1239.420 ± 32.274 kg. Average daily milk yield was 1248.701 ± 38.634 kg in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 1230.48 + 29.000 kg. Similar in Average daily milk yield of Ellichpuri in the age group of 4–5, 5–7, 7–9, 9-11years was to be 1039.039 ± 11.244, 1124.530 ± 35.610, 1557.538 ± 74.922, 1239.420 ± 37.275, 1217.725 ± 45.430, 1235.649 ± 38.548 The pooled average of daily milk of all age groups was found to be 1235.649 ± 38.548 kg. higher lactational milk yield were reported by Narsimharao and Sreenarayana (1994) in buffaloes in Andhra Pradesh. The level of production in Marathawadi buffaloes reported by Hadi (1965) and Kalyankar *et al.* (2003) was also reported higher observation than the Ellichpuri strain of Nagpuri buffaloes. Mandakmale *et al*. (2006) reported higher milk yield in Pandherpuri buffaloes than present investigation.

Reproductive Performance

Age at first calving

Age at first calving of Purnathadi in the age group of 4–5, 5–7, 7–9, 9-11years was to be 4.594 ± 0.003, 4.975 ± 0.005 5.134 ± 0.006, 5.402 ± 0.875 years. Age at first calving was 5.042 ± 0.003 kg in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 4.99228 ± 0.179 kg. Similarly in Age at first calving of Ellichpuri in the age group of 4–5, 5–7, 7–9, 9-11years was to be 4.940 ± 0.516, 4.580 ± 0.04, 4.975 ± 0.01, 5.104 ± 0.70 years. Age at first calving was 5.202 ± 0.40 years in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 4.958 ± 0.333 kg. Biradar *et al.* (1991) analyzed the data obtained from the recordes of 309 medium sized buffaloes maintained at All India Co-ordinate research project on buffaloes, Dharward and reported age at first calving as 1613.89 ± 16.65 days.

Calving interval

Calving interval of Purnathadi in the age group of 4–5, 5–7, 7–9, 9-11years was to be 373.581 ± 11.135 , 379.162 ± 11.637, 386.381 ± 10.070,382.34 ± 12.417 days. Calving interval was 380.314 ± 5.310 days in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 380.314 ± 5.310 days. calving interval of Ellichpuri in the age group of 4–5, 5–7, 7–9, 9-11years was to be 377.125 ± 11.650 , 378.120 ± 12.240, 379.00 ± 12.160, 381.160 ± 13.550 days. calving interval was 382.180 ± 13.060 days in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 379.432 ± 12.420 days. Pathodiya *et al.* (1999) studied the first lactation reproduction records of 374 surati buffaloes mataint at native project on buffaloes. LRS Vallabhnagar and reported the average first calving interval as 518.3 ± 7.0 days. Sule *et al.* (2001) analysis data obtained from 468 Surati buffaloes maintained at Buffalo project, Livestock research station Vallabhnagar (Rajasthan) and recorded overall last square mean for first calving interval as 532.15 ± 7.22 days.

Calving Number

Calving number of Purnathadi in the age group of 4–5, 5–7, 7–9, 9-11years was to be 1.745 ± 0.062 , 2.233 ± 0.789, 3.455 ± 0.010, 5.484 ± 0.097. Calving number was

5.741 ± 0.0871 days in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 3.728 ± 0.067 days. calving number of Ellichpuri in the age group of 4–5, 5–7, 7–9, 9-11years was to be 1.771 ± 0.050 , 2.005 ± 0.014, 3.301 ± 0.014, 5.412 ± 0.111. calving number was 6.023 ± 0.015 days in animals above 11 years age group. The pooled average of daily milk of all age groups was found to be 3.694 ± 0.054 day.

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