Indian J. Anim. Prod. Mgmt. Vol. 29 (1-2) 129-130 (2013)

SEASONALITY AND DIURNAL VARIATION IN PARTURITION IN SWAMP BUFFALOES OF ASSAM

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(Received: 13.08.2013, Accepted: 05.09.2013)

ABSTRACT

A total of 133 calving records were utilized to study the seasonality and diurnal variation in calving in swamp buffaloes of Assam. The highest calving was reported in the month of September (25.56%) and lowest (1.50%) in the month of January. In the season wise distribution, the highest calving was recorded in the post monsoon season (60.90%) and the lowest (6.02%) during the winter season, while no calving was recorded during pre monsoon season. Majority of the animals delivered their calves during the late night and early morning. The average body weight of male and female calves was 28.05± 0.58 kg and 27.14± 0.58 kg respectively. The sex ratio (male: female) was recorded as 45: 55.

Key Words: Swamp buffalo, Seasonality, Diurnal, Calving season,

The swamp buffalo of Assam is popular for high milk fat and draft ability. They are mostly reared in 'Khuti' system with a very little attention in feeding and other managemental care. Under such situation, reports on calving pattern in swamp buffaloes of Assam are very limited. River buffaloes are known to exhibit seasonality variation in its reproductive behaviour. Hence, the present study was aimed to determine the seasonal and diurnal variation in calving in swamp buffaloes of Assam.

The data on 133 calving of swamp buffaloes at Livestock Research Station, Mandira were used for the present study. The date and time of birth of the calves were recorded just after birth and were distributed as per season namely pre-monsoon (March to May), monsoon (June to August), post-monsoon (September to November) and winter (December to February) as per earlier methods[3]. Data on time of parturition were arranged in a sequence of six hours interval. First (12 mid night to 6 am), second (6 am to 12 noon), third (12 noon to 6 pm) and fourth (6 pm to 12 midnight). Data were statistically analyzed as per standard statistical methods[7].

The highest calving (25.56%) were observed in the month September and lowest calving (1.50%) in the month of January. There was no calving during the period from February to June. In the season wise distribution the highest calving was recorded in post-monsoon (60.90%) followed by monsoon (33.08%) and lowest during the winter (6.02%) season, while calving was not observed during pre-monsoon season. Maximum calving was recorded in monsoon-42.16% (June-September), followed by Post monsoon-33.33% (October- November), Winter-17.66% (December-February) and Pre monsoon- 6.86% (March- May) by other worker[4]. The trend of calving indicated the strong seasonality of calving in swamp buffaloes of Assam. Buffaloes behave like a seasonally polyestrous animal and the reproductive performance markedly reduced during summer months due to heat stress[6]. Seasonality of calving

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in swamp buffaloes was also recorded by earlier worker[2]. The highest percentage of calving was reported in the month of August (34.46 %) in Nili- Ravi buffaloes by some workers[1, 5].

Maximum calving (35.85%) took place between 12 midnight to 6 am followed by 24.53 % during 6 am to 12 noon, 24.64 % between 12 noon and 6 pm and 16.98 % between 6 pm and 12 midnight. Majority calves were born during the late night and early in the morning. Maximum calving in late night and early morning was also reported by earlier works[2, 8].

The average birth weight of calves was found to be 27.52 ± 0.42 kg. Test of significant showed no significant difference in birth weight of male (28.05 ± 0.58 kg) and female (27.14 ± 0.58 kg) calves (Table 2). No seasonal effects were recorded I the birth weight of the calves. The other worker[4] also reported that the male calves (30.34 kg) were slightly higher than the female calves (29.05 kg) calves which were statistically non significant. The sex ratio (male: female) in swamp buffalo calves was recorded as 45:55 in a observation of 74 calves. The secondary sex ratio was slightly more inclined towards male than female as reported by other researcher[4].

It could be concluded from the present study that swamp buffaloes of Assam follow a seasonal trend of calving where maximum calving were recorded in the post monsoon season (60.90%) and the lowest (6.02%) during the winter season. Majority of the animals delivered their calves during the late night and early morning.

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