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BEHAVIOURAL SIGNS AND INTENSITY OF OESTRUS IN SWAMP BUFFALOES OF ASSAM

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ABSTRACT

The present investigation was conducted in 32 oestrous periods from 20 swamp buffalo cows and 13 oestrous periods from 7 swamp buffalo heifers maintained at Livestock Research Station, Assam Agricultural University, Mondira to study the signs and intensity of oestrus of swamp buffaloes. The common signs in cows and heifers included hyperemia of vulval mucous membrane, genital mucous discharge, frequent urination, standing for mounting by teaser bull, allowing chin resting by teaser bull, swelling of vulva, allowing sniffing of vulva by herd mates or teaser bull and placid response of the animal to placing of palm of hand on rump. The incidences of intense, intermediate, weak and silent oestrus were 3.13, 53.13, 21.87 and 21.87 per cent respectively in buffalo cows and 15.38, 46.15, 23.08 and 15.38 per cent respectively in buffalo heifers.

Key words: Swamp buffalo, oestrus signs, intensity of oestrus.

The buffaloes found in Assam are swamp type and they serve as a source of draught power. Detection of oestrus in animals is important for proper breeding which is difficult in buffaloes due to less pronounced heat signs. Hence, close and frequent observations for common signs of oestrus are needed for proper detection of oestrus in swamp buffaloes. Therefore, the present investigation was undertaken to know oestrus signs of swamp buffaloes in the climatic condition of Assam.

MATERIALS AND METHODS

A total of 27 buffaloes comprising 20 non-pregnant cows and 7 heifers maintained at Livestock Research Station, Assam Agricultural University, Mondira were included in this investigation. Data on oestrus signs were collected from 32 oestrous periods from 20 swamp buffalo cows and 13 oestrous periods from 7 swamp buffalo heifers. The animals were exposed to a teaser bull twice daily at 5 am and 5 pm and animals found to be in oestrus were separated and the expected date of subsequent oestrus was determined. All these animals were examined by visual observation[10, 12] for signs of oestrus, [2, 6, 11] and intensity of oestrus[3].

RESULTS AND DISCUSION

The behavioural and physical signs of oestrus manifested in swamp buffalo cows and heifers have been presented in Table 1 and 2 respectively. The result indicated that frequent urination, frequent bellowing, restlessness, looking anxiously outside, response to bull's call by bellowing, standing for mounting by teaser bull and chin resting by teaser bull were more pronounced signs exhibited by the heifers than the cows.

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Marked manifestation of oestrus symptoms in buffalo heifers compared to that of buffalo cows might be due to action of gonadal hormone in the target cells of the genital tubular structure. It is probable that receptor cells for gonadal hormone are more sensitive in heifers than in cows.

Scanty, transparent and thick genital mucus discharge was noticed in the present study in a large numbers of cows and heifers. The circulatory ratio of oestrogen to progesterone changes along with the advancement of days of oestrus. Therefore, oestrogen to progesterone ratio in circulation might have a direct relationship with the secretion, colour and consistency of cervical mucus. During oestrus sometimes genital mucus was not discharged spontaneously and occurred only after rectal palpation. Oestrus mucus which was scanty might also pass unnoticed along with micturation. Mucous discharge was not reliable in buffaloes for the reasons that a thin glossy and continuous flow of mucus also occurs at other periods like heat, pro- oestrus as well as up to 5 days after oestrus[5,8]. In the present study the incidence of moderate hyperemia was found to be higher than pronounced and slight hyperemia. This was might be due to individual variation in circulatory level of oestrogen. Incidence of pronounced vulvar swelling was found to be lower in swamp buffalo cows (25.00%) than heifers (61.54%). Higher incidence of changes in external genitalia of Murrah buffalo heifers during oestrus was reported by earlier worker [1].

The incidence of intense, intermediate and weak oestrus in cows and heifers were 3.13, 53.13, 21.87 per cent and 15.38, 46.15, 23.08 per cent respectively. The overall values were 6.67, 51.11 and 22.22 per cent. Similar findings were also reported by other worker [7] in buffalo cows and heifers. The result of the present study revealed that intense manifestation of oestrus was not a common feature in buffalo cows and heifers. This could be due to weak endocrine constitution in this species. The overall incidence of silent oestrus (20.00%) in cows and heifers in the present study was within the range as reported by earlier worker[4]. The incidence of silent oestrus was higher in cows (21.87%) than heifers (15.38%). Similar finding was also reported by previous researcher [9] in riverine buffaloes.

CONCLUSION

It is concluded that no characteristic reliable signs for detection of oestrus in swamp buffaloes of Assam. Hence, close and frequent observations for common behavioural and physical signs of oestrus are needed for proper detection of heat in swamp buffaloes.

Table 1. Behavioural signs of oestrus in swamp buffalo cows and heifers.

Signs of oestrus	Cows (%)	Heifers (%)
1. Frequent urination	78.13	84.62
2.Bellowing		
Frequently	34.38	38.46
Infrequently	21.87	23.08
Total	56.25	61.54
3. Response to placing of hand on rump		
Pronounced	43.75	38.46
Weak	25.00	38.46
Total	68.75	76.92
4. Mounting herd mate/ teaser bull	28.13	15.38
5. Sniffing of vulva by herd mate/ teaser bull	78.13	69.23
6. Restlessness		
Pronounced	3.13	15.38
Not pronounced	53.12	46.15
Total	56.25	61.54
7. Looking anxiously out side	59.38	61.54
8. Loss of appetite	12.50	15.38
9. Response to bull's call by bellowing	56.25	61.54
10. Licking body of other animals	9.38	7.69
11. Standing for mounting by teaser bull	78.13	84.62
12. Chin resting by teaser bull	75.00	84.62

Table2. Physical signs of oestrus in swamp buffalo cows and heifers

Signs of oestrus	Cow (%)	Heifer (%)
Genital mucus		
Quantity		
Copious	37.50	38.46
Scanty	50.00	46.16
Colour		
Transparent	51.85	54.55
Steel bluish	40.74	36.36
Whitish	7.41	9.09
Consistency		
Thin	48.15	45.45
Thick	51.85	54.55
Hyperemia of vulval mucous membrane		
Reddish pink (pronounced)	34.37	23.08
Pink (moderate)	53.13	61.54
Pinkish (slight)	12.50	15.38
Swelling of vulva		
Pronounced	25.00	61.54
Slight	40.63	23.08
Foam in mouth	28.13	30.77

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