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The Causes of oestrus occurance during pregnancy in cows

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Abstract

Oestrus is that restricted period of sexual receptivity, characterized by intense sexual desire, when the female will seek the male and even have periods of homosexual activity in which a cow mimics a bull. True oestrus begins when the female assumes the mating stance so that the male may mount and copulate. It does not normally occur during pregnancy in farm animals, although it is known to

occur sporadically in cattle. Occurrence of heat during pregnancy has been recognized in several species including the cow (Branton, 1949) and sheep (Williams. 1946).

The incidence of oestrus during pregnancy has been reported to lie between

(1 % and 10 %) (Donald, H.P. 1943; Donoho and Richard 1955; Erb and Morrison 1958) . According to previous studies, 1 - 22% of pregnant cows show estrus during gestation (Thomas and Dobson 1989). Williamson et al. (1972) reported that 7.3% of cows show standing heat within 21 days of conception. Farmers may not recognize this behaviour as estrus during pregnancy and have the cow reinseminated. If this is done deep intra cervically or intrauterine, it might cause loss of the embryo and a prolonged calving interval

I. Behavioral signs

The behavioral signs associated with oestrus during pregnancy were indistinguishable from those of true oestrus in non-pregnant animals and although its duration was shorter (mean 5.6 hours), its intensity was comparable to that of the true oestrus. Pregnant cows showing oestrus were usually seen interacting with other oestrus cows in the sexually active group. Pregnant cows showing oestrus had a higher mean condition score (3.9 ± 0.64) than control pregnant cows (3.0 ± 0.36). The behaviour of cows showing estrus during gestation is not different from that of open cows in oestrus (Thomas and Dobson 1989), nor do their reproductive organs show malfunctions or anatomical abnormalities. It is therefore important to have an accurate pregnancy diagnosis as early as possible. If in doubt, one can measure the milk progesterone concentration with a cow-side progesterone test before reinsemination

II. Physiological changes

Physiological changes in the genital tract normally associated with true oestrus were not observed in pregnant cows showing oestrus. There was no ovulation or

metoestrous bleeding. The characteristics of cervical mucus, including fern ing patterns, were similar to those of pregnant cows at the same stage of pregnancy. (Thomas and Dobson 1989)

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III. Hormonal changes

Hormonal changes associated with oestrus in non-pregnant cows were not observed in the pregnant cows exhibiting oestrus. The mechanism responsible for the exhibition of oestrus during pregnancy is not known. In the oestrus cycle in non-pregnant cows, hormonal changes are responsible for the manifestation of oestrus behavior, but no information is available on the hormonal status of the pregnant cows showing oestrus. Estrus during pregnancy occurs during all stages of pregnancy, but with a higher incidence in the beginning and the middle of pregnancy (Berg S. 1942 ; Choudhury et al., 1965 ; Donald HP. 1943).

The reason for the occurrence of oestrus during pregnancy is unknown. It is thought to be correlated with fluctuating oestradiol levels in pregnant animals (Mirskaja and Smimov 1941; Beter and Ball 1987). These high oestrogen levels are produced by growing follicles or the placenta. These follicles remain relatively small (1-1.5 cm) and do not rupture (Thomas and Dobson,1989). In most cases, the accompanying oestrous behaviour is suppressed by progesterone, which is present in high concentrations throughout pregnancy in cattle (Singal et al., 1978). However, despite these high progesterone concentrations some animals show oestrous behaviour (Laing, J.A. 1979)

Oestrus during pregnancy has several important practical implications for herd management:

in the absence of accurate pregnancy diagnosis, animals which show oestrus may be thought to be repeat breeders and sold as infertile. Alternatively, the insemination of already pregnant cows may result in the loss of the embryo or fetus, and the consequent lengthening of the calving interval (Esslemont and Bryant, 1976).

If these pregnant animals in 'oestrus' are mated by a bull, there is no problem because the bull does not penetrate the cervix. However, with AI, which is most common in the Netherlands these days, the cervix is usually penetrated (Dijkhuizen and Van Eerdenburg, 1997)

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