Pre-oestrus

Duration: approx. 2 days

Days 19-20 of cycle

Behaviour:

In pre-oestrus, initial signs of agitation may be observed in the animal. If a pedometer is used, it will record an increase in the step count. In addition, the milk yield may fall slightly and the genital region, especially the vulva, becomes swollen. Some animals rest their chins on other animals' backs and hold their tails to the side. The flehmen response (lip-curling) may be observed. A vaginal discharge develops, thick at first and then becoming clearer and thinner.

It is still too early to inseminate. But the animal should be observed more closely from now on.

Ovary:

The yellow body (corpus luteum) has shrunk enormously under the influence of the prostaglandin F2 alpha. A dominant Graafian folliclestarts to grow. It is smooth and rounded ("like a watch glass") with a diameter of over 1 cm.

Uterus and vagina:

The muscles of the uterus start to contract. The cervix opens. The vaginal mucosae become moist and red. A vaginal discharge may be observed.

Hormones:

Falling levels of the pregnancy hormone (progesterone) lead to the secretion of gonadotropin-releasing hormone (GnRH) from the hypothalamus into the bloodstream. This hormone acts on the pituitary gland (hypophysis), causing it to release stores of follicle-stimulating hormone (FSH) into the blood. FSH triggers growth of the dominant follicle on the ovary. Within 1 to 2 days, this large follicle (Graafian follicle) produces the oestrus hormone (oestrogen). This hormone in turn enters the bloodstream and triggers oestrus in the cow.