

Behaviour during the four phases of the 21-day cycle

Pre-oestrus:

Duration: approx. 2 days

In pre-oestrus, initial signs of agitation may be observed in the animal. 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.

Oestrus:

Duration: 12-24 hours

Oestrus or 'heat' begins at the start of puberty. It occurs at regular intervals (usually every 21 days) and is a sign of readiness to mate in the female bovine. There is a temporal and functional link with ovulation.

A cow in heat is restless and bellows frequently. She mounts other cows at the head or tail and stand stills herself when mounted from behind. This is called the 'standing reflex' or a 'standing heat'. If you press on her lumbar area she arches her back downwards without resisting (the cow 'stands'). Animals in heat usually produce slightly less milk.

The vulva appears swollen and a clear vaginal discharge can be observed. Ovulation takes place at the end of the main phase of oestrus or in early post-oestrus. The egg (ovum) is capable of being fertilised for 12 to 24 hours.

The 'morning-evening' rule is very useful for insemination: if the cow 'stands' in the morning, she can be inseminated in the afternoon. If she 'stands' in the afternoon or evening, she can be inseminated the following morning. The cow is therefore inseminated in the second half of the main oestrus phase, or even at the beginning of the post-oestrus phase (metoestrus or post-oestrus).

If a heat is observed it should always be recorded, even if, for example, it is still too soon after calving to inseminate.

Post-oestrus:

Duration: 1-2 days

Post-oestrus is not a clearly defined phase. It runs from when the animal no longer allows itself to be mounted until the visible external and internal symptoms of heat begin to subside. In post-oestrus, an animal which was in heat becomes calm again and no longer stands still when other cows attempt to mount it.

The swelling of the vulva subsides. Some blood may be observed coming from the vagina. This is called metoestral bleeding. The blood comes from the uterus, which had an increased blood supply during oestrus.

Because ovulation takes place around 12 hours after the main phase of oestrus (positive standing reflex, mounting at the head, clear stretchy vaginal mucus), late in the main phase of oestrus and early in post-oestrus is the ideal time to inseminate. The egg is capable of being fertilised for around 12 to 20 hours.

Inter-oestrus:

Duration: approx. 15 days

During inter-oestrus, the animals' behaviour is unremarkable. However, they may become agitated for a few hours two or three times during this 15-day period. Some animals even show real symptoms of heat, with attempts to mount other cows and a visible vaginal discharge. If the farm records oestrus dates properly, there is clearly no point in inseminating now, at the "wrong time". However, time and again, animals are still wrongly inseminated at this stage of the cycle. A successful previous insemination can be undone by inseminating into the uterus (destroying the amniotic sac).