



A cow will instinctively lick clean her newborn calf

The patter of tiny (calf) feet

In this second part of her mini-series on house cows, **Christine Page** investigates how to get a cow in calf, the calving process and preparing for that all-important first milking

For most smallholders using artificial insemination (AI) to impregnate a dairy cow is the only option. It might seem tempting to take her around to visit a neighbour's bull, but the biosecurity risks will be high and he may be an unsuitable breed to put on your cow. This is particularly important for small dairy breeds like the Jersey, as a commercial beef bull will probably result in a calf too large for her to calve unaided, and a stressed calving often has long-term health and reduced fertility consequences for the cow.

THE BASICS OF A COW'S CYCLE

A cow's regular cycle is around 21 days, but it can be anything from 19-24 days. As an egg follicle gets closer to being ready to ovulate it stimulates the release of oestradiol which triggers the production of a thick vaginal mucus called a bulling string, relaxes the cervix and increases blood supply to the uterus in preparation for receiving the egg.

Oestradiol also triggers the release of luteinising hormone (LH) which is the hormone responsible for ovulation. Ovulation occurs approximately 32 hours after LH release, but it can be as

long as 36 hours in some cows.

These hormonal changes are what trigger a cow to start to show oestrus or bulling behaviours in the approximate order and timing shown in the diagram (*opposite right*), culminating in standing heat: when she has a strong desire to stand to be mounted by other cows, or a bull.

BULL VERSUS AI

A bull can detect those hormonal changes long before a cow is ready to be served. He will trail around after her, sniffing her vulva, resting his chin

on her back and paying her considerable loving attention. He will make false jumps to test to see if she is receptive, but she will only stand to be served when in standing heat.

When it comes to AI, observation is vital because her bulling behaviour is intended to work in harmony with the natural service of a bull. The fresh sperm of a bull will easily survive for 24 hours inside the cow, whereas the lifespan of sperm that have been stressed via the collection, sorting and freezing process when made up into AI straws is closer to 12 hours after

insemination. Therefore getting the timing right is the key to successful AI service.

TIME IS OF THE ESSENCE

Months before planning to get your cow pregnant, get to know her cycle and start watching for oestrus behaviours (*see diagram below*). Note down the dates and times you observe each behaviour in a bulling diary. Pay particular attention to identifying the time of the start of those behaviours to help you identify when she might come into standing heat, especially if you don't have another cow to support behaviour expression.

When you know that she is in standing heat in the morning, call the AI technician to come that afternoon. If she is in standing heat in the afternoon, have her served the following morning. And if in doubt, have her served a second time 8-12 hours later to be sure of catching her.

THE CALVING PROCESS

Dairy cows are more prone to metabolic illness than beef cattle due to their propensity to give significantly larger quantities of milk versus their body size. Milk production requires high volumes of minerals to be metabolised by the cow, and the Jersey cow in particular,



About to calve: uddered up, swollen vulva, pin bones gone and slab-sided

with her small body size relative to her high production, can struggle to meet these demands in the first few days if not fed appropriately.

It is important that in the final two to three weeks prior to calving that dairy

cows are fed a high-fibre diet and not given any supplementary feed, particularly no mineral supplementation. The high fibre fills the rumen and helps the calf to stay in the correct calving position. The low minerals trigger the

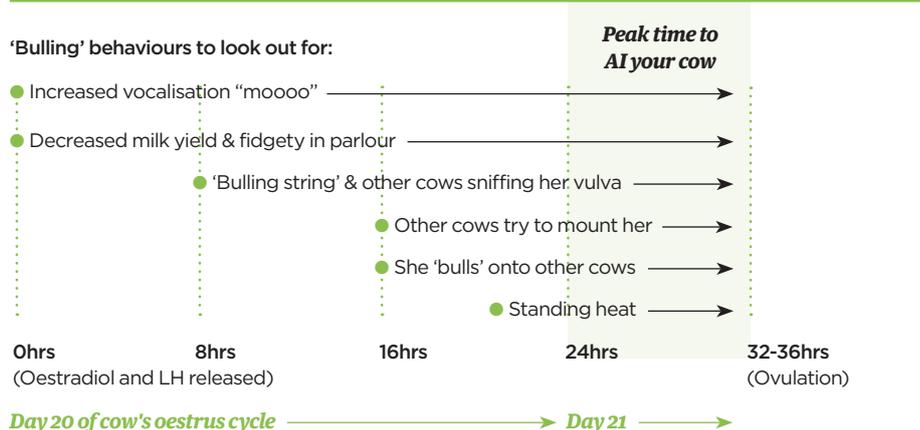
cow to start metabolising minerals from her own body stores ready for the high demand at calving time.

In the days leading up to calving, a cow's udder will fill and her vulva will become swollen and loose. Calving is imminent when her pin bones' ligaments on either side of her tail-head relax and she takes on a slab-sided look, which is when the roundness of her belly is flattened by preparatory contractions.



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TIMING OF A COW'S HEAT AND WHEN TO SERVE



It will be obvious when she goes into labour: she will lie on her side with legs stretched out and she will be pushing. She will often look back at her belly or extend her nose forward as if looking up to the sky.

At this point, if there is no calf yet showing, it is a good idea to place a clean hand inside and check that you can feel a nose and two toes in the correct 'diving' position. A healthy cow in calf to an appropriate bull should calve unaided in about 20 minutes, but can

■ House Cow Husbandry

The calving process from beginning to end



Calves will try to stand soon after birth and instinctively look to find the udder and suckle; A cow eating her placenta, which contains many vital nutrients

take up to two hours. If in any doubt it is always best to call the vet.

As the calf comes out, ensure that the bag is broken over its nose and mouth and that they are clear of mucus. As soon as she has calved, a cow will immediately get up and start to lick clean her calf,

which is an important part of the bonding process. Check that the calf is breathing and loiter in order to watch and ensure that it gets up and suckles. Some calves are quicker than others, but all will tend to be up and teetering around within 30 minutes. A calf needs 2ltr of colostrum

within the first six hours. This is a minimum of 300 sucks. Watch and count.

A cow will cleanse (pass the afterbirth) soon after calving and will usually proceed to eat the placenta. This can be quite difficult to watch, but it contains many nutrients, so if you can stomach it let her eat it,

but keep observing so that she doesn't choke.

Once calved, a dairy cow should be given supplementary feed in the form of organic lucerne pellets, the best quality hay from a diverse pasture and free-choice seaweed meal to ensure that she gets all the nutrients she needs. ■

PREPARING FOR MILKING

A cow should be left to bond with her calf for the first 24 hours and to make sure that her offspring has had plenty of vital colostrum. The first milking will take place on day two. To prepare for this moment it is imperative that time has been taken in the

months prior to develop a close and trusting relationship with your cow. This must include her becoming totally at ease with being in the area where she will be milked and with you being up close and personal with her. It must also include you being totally at ease with handling

her and being around her back legs without fear of being kicked. To reach this point, bring her into the milking area regularly, use food as a positive reinforcement, take your time and be patient. Make sure that every encounter is a good one – for both of you.

NEXT MONTH: Milking your house cow – by hand and machine.

All about Christine Page

Christine Page owns and runs a small-scale, regenerative organic pastoral farm in south Shropshire. For more information, visit www.smilingtreefarm.com

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