The Importance of COLOSTRUM *for the Newborn Calf*

BY HEATHER SMITH THOMAS

Calves which don't nurse promptly after birth are more likely to become ill or die within the first weeks of life. The cow's first milk, colostrum, is special. It contains a rich, creamy fat easily digested and high in energy — an ideal first meal for a calf learning to get around and needing to keep warm.

The calf that gets right up and nurses is much more vigorous, and able to stay warmer in cold weather, than the calf who has not yet nursed. Colostrum also serves as a laxative and gut stimulant to help the calf pass its first bowel movements.

Of particular importance to the newborn calf are the antibodies in the colostrum. Unlike a human baby who picks up much of its mother's immunities while still in the womb, the calf comes into the world completely vulnerable to disease and has to get his immunities from his mother's colostrum. This temporary (passive) immunity lasts several weeks, until the calf's immune system becomes mature enough to start making its own antibodies.

During a cow's life she comes into contact with various infectious organisms. If she has encountered a specific disease and has developed antibodies against it, she has what's called a natural immunity. She can also develop immunities through vaccination. If her vaccinations are up to date, she has antibodies that will also be in her colostrum.

The cows you raise on your place will have more antibodies against local disease organisms (the ones the cow has come into contact with growing up) than will a cow you bring in from somewhere else. If you borrow some colostrum from your neighbor or from a dairy, it may not contain exactly the antibodies your calf needs. The best protection for your calf comes from colostrum produced by a cow that has experienced the same disease environment the calf is being born into.

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Timing is crucial for obtaining disease protection

A calf getting no colostrum, or not nursing until several hours old, runs a high risk of developing scours and/or pneumonia in his first weeks of life. For a short while after birth the calf can absorb antibodies directly into his bloodstream, through his intestinal lining. The optimum time for absorbing antibodies is during the first two hours after birth, before the intestinal wall begins to thicken. If the calf is later than that with its first nursing, it will get only a fraction of the antibodies needed.

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When calves are born out in the field during bad weather and not constantly observed, you don't always know just how old they are when you find them. There's no way of knowing without a blood test to find whether it nursed in time to get full benefit from the dam's colostrum.

Many cases of "weak calf syndrome" are actually a combination of weather stress and immunity failure; the calves become weak and sick within the first two weeks of life and can be difficult to save.

Also, if a calf is born outside in bad weather his mouth may get cold before he can nurse and he quits trying. The rancher finds the cold calf the next morning or during a midnight check and helps it nurse or gives it a bottle, or force-feeds it colostrum via tube. But if the calf is already four hours old or older, the antibodies in the colostrum may not do him much good. A few days later the calf may develop scours because he has insufficient resistance to infection.

This problem can be prevented if you check your cows often enough to know when every calf is born, making sure each newborn is up and nursing within an hour or two of birth. If the calf isn't able to nurse on its own within that critical time, it should be given assistance in nursing the cow, or be fed some colostrum.

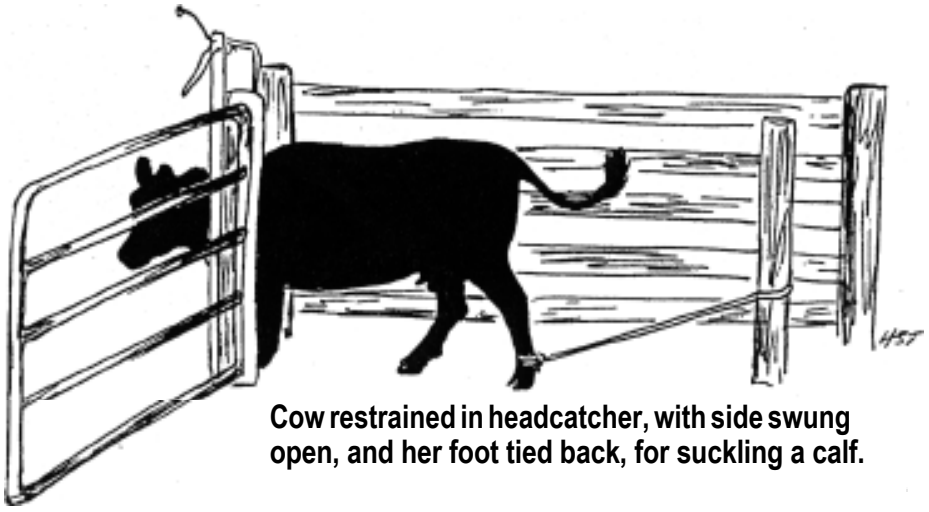
Getting colostrum into the calf

Every year we milk out some extra colostrum from some of our heavier milking cows. We use a headcatcher next to the calving barn. taking a little colostrum before we put the pair out to the field, then keeping it in the freezer for emergencies. We use small, plastic containers (pint or quart) which can be thawed out later in warm water. Colostrum doesn't lose its quality if well frozen and thawed properly. Don't overheat it or the antibodies will be destroyed.

It's always handy to have extra colostrum. Sometimes a first-calf heifer doesn't mother and lick her calf as well as an older cow will, and the calf may get chilled before it nurses if weather is really cold. We don't like to interfere with the bonding process of mother and calf (especially with a first-calver) so rather than trying to milk out a timid heifer, we just quietly slip into the stall and give the calf a bottle of colostrum and then leave the pair alone again so the heifer can finish mothering it and the calf can take all the time it needs to catch up with the udder.

The bottle of colostrum gives it the energy and important antibodies, and it doesn't matter if it takes a few more hours to get that first nursing from mama. But usually after a taste of energy-rich milk from our bottle, the calf heads for mama with renewed vigor and gets the job done quickly.

If a calf hasn't nursed on its own and the cow isn'ttoo wild, mean or flighty, we may help it nurse its mother. This is often best accomplished with two people working quietly in the stall. One person should watch the cow and keep her from moving out of the corner (and keep her from threatening the calf-helper if she is the over-protective sort). The other should guide the calf to the udder and get it onto a teat. The cow holder can usually keep the cow still by standing in front of her at whatever distance is appropriate to keep her from running off (without her feeling threatened).



Cow restrained in headcatcher, with side swung open, and her foot tied back, for suckling a calf.

A stick is handy to use as an extension of your arm to block her movements and also to remind her to keep her attention on you and not on the person helping the calf.

With quiet firmness you can generally make just about any cow stand still while her calf is being helped onto a teat, especially if she is a good mother and wanting her calf to nurse. For the timid ones, especially first-calf heifers, it helps to give them a little flake of alfalfa hay to munch on while the calf is being helped The main thing is to keep everything quiet and calm and not upset the cow, or you may find it impossible to get the calf on her.

A safe restraining method

Sometimes the cow is the problem and not the calf. Occasionally a cow might have a sore udder, such as frost-bitten teats, and not stand still for the calf to nurse, or she may kick at the calf. A tit-calf heifer may not stand for her calf to suck and will kick or bunt at him.

In these situations you'll have to restrain the cow to suckle the calf. Often once a calf has nursed the confused heifer, she'll mother it better, since nursing stimulates production of hormones that encourage motherhood. And if a cow accepts her baby but still kicks at him because of a sore udder, you may just have to hobble her until the udder is less tender. But for that first nursing you'll have to restrain the cow — either by tying her up or putting her into some kind of chute or headcatcher that gives you access to the udder.

A headcatcher with a side or gate that swings away after the cow is caught works well; you can swing the side away to give the calf access to suckle the cow. Some chutes have a side that comes only part way down, so you can easily get to the udder.

Often once the cow is restrained and you get the calf up to her, she'll resign herself to standing still and letting it nurse. But some continue to kick viciously, and you'll have to tie the hind leg back on that side to keep the calf from being kicked. Give the cow just enough slack that she can still put weight on that leg comfortably. Otherwise she'll kick and fight and throw herself down. But don't give her enough slack that she can swing the leg forward to kick the calf (or you) as you put the calf onto a teat.

The important thing is to get the colostrum into the calf soon after he is born, in a manner that will upset the pair the least. If the calf has a problem that interferes with its ability to nurse, give it colostrum via stomach tube or esophageal feeder. If the calf is able to suck, give it a bottle unless its mother is cooperative enough to allow you to help it nurse her.

We only tie up or restrain a cow if it's the only means to resolve the problem — and, thankfully, it's rare to have to resort to this remedy.

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