The First 15 Minutes

With spring calving season looming, there are plenty of things that should be done but plenty more that should not. Here are some tips for the dos and don'ts in the first 15 minutes of a newborn calf's life.

by Kindra Gordon, field editor

Knowing how to best support calves in their first moments of life is critical to start them on a successful journey. Although most management practices related to calving are done with the best intentions, not all are helpful to the calf or the cow, says Amanda Fordyce, a technical calf consultant with Milk Products LLC. She highlights some of the dos and don'ts during delivery and the moments after a calf is born.

Don't get pull happy

Fordyce notes that with increased technology allowing producers to monitor calving, sometimes this prompts them to come to the cow's aid too quickly.

"When you see a cow in labor and two hooves emerging, it is a natural inclination to grab on and help the cow along. But, this quick action may not be so helpful," explaining what she means by "pull happy."

As a cow gives birth, many physiological processes occur. If calving is progressing and the calf is presenting normally, the best thing you can do is continue to monitor the cow and give it time to deliver naturally. If it's a big calf, the cow may need extra time to allow the cervix to dilate enough to deliver the shoulders, the widest part of the calf.

Also, she emphasizes that when cows deliver naturally, they pause for a few moments after the calf's rib cage passes and the calf takes its first breaths of air.

"They're not just resting," Fordyce explains. "At that moment, the placenta transfers its blood supply into the calf via the still-intact umbilical cord."

> "Some calves may be born not breathing, but many still have a heartbeat; resuscitation or assistance to start breathing may be necessary." — Amanda Fordyce

This step provides an increase in blood volume to the calf. This provides a critical dose of red blood cells to help with oxygen transport and plasma to keep the calf hydrated.

Fordyce suggests even if you have to assist with delivery, you can copy this process by pausing after the last rib is delivered to allow placental blood transfer to occur. The calf should start trying to breathe on its own as soon as the last rib is delivered. Then, as the back end of the calf exits, the umbilical cord will sever.

Research in other species, including lambs and human infants, has shown newborns breathing prior to the umbilical cord breaking improves heart function and stability. This, in turn, helps the newborn transition to life outside the uterus.

Do help with breathing

Getting the calf breathing immediately after birth is critical, and it's a place where the producer can provide some helpful assistance, according to Fordyce. The cow should lick off the calf's hair coat, which also helps stimulate breathing. If that doesn't occur, she recommends drying off the calf's body with a towel. Sitting the calf up on its sternum by tucking the front legs under the body can also help open the airways.

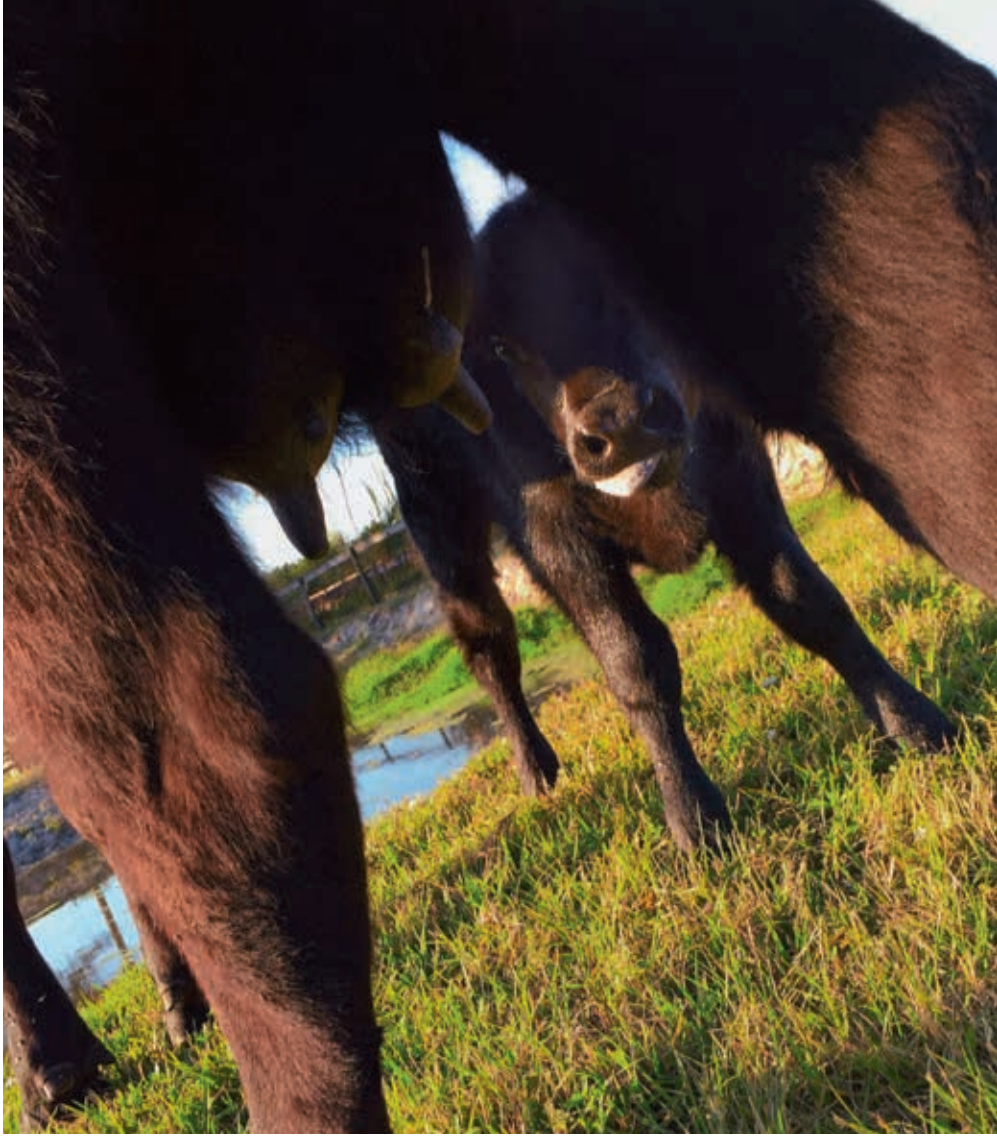
Fordyce notes that those first gasps of air the calf takes after the last rib exits the birthing canal are critical and the most effective way to clear fluid from the lungs. It also helps promote successful breathing and oxygen absorption. Poking the nostrils with clean straw or splashing cold water in the calf's ears or forehead can help encourage the crucial first gasp.

"Don't be alarmed if the calf has an unnatural breathing pattern for the first few minutes," she adds. "Gasping and gurgling are a way for the lungs to establish tidal volume and capacity."

Three more don'ts

One practice to avoid — hanging the calf upside down immediately following birth to "clear the lungs."

Fordyce explains, "We've learned the fluid expelled by calves during this practice was not from the lungs but the contents of the stomach.



"Turning the calf upside down compresses the internal organs onto the diaphragm, making it more challenging for the calf to breathe in that position," she adds. "The calf will absorb excess fluid over time, and the priority should be to clear any mucus/fluids from the nostrils and mouth to ensure the calf starts breathing as soon as possible."

When it comes to stillbirths, don't give up right away.

"Some calves may be born not breathing, but many still have a heartbeat; resuscitation or assistance to start breathing may be necessary."

To do this, check for a heartbeat by feeling the chest behind the front leg, left side. If there is one, stimulate the calf to breathe by vigorously rubbing its chest. Use the nostril straw-poke and cold water on their forehead or in their ear, and prop them up.

"You may be surprised by how many calves you can save," she says.

Fordyce prefers producers don't use warming boxes; but if they must, use them with extreme caution. She explains that warming boxes serve as a reservoir for harmful bacteria, which in turn invade the vulnerable calf.

Additionally, calves are born with brown fat to help them naturally regulate their body temperature in the first few days of life. Too much time in a warming box — more than 24 hours — means that fat reserve can be burned off by the time the calf enters the real world.

Colostrum consumption

Fordyce underscores the well-known advice that the newborn calf needs colostrum within the first couple hours of life.

"Bovine physiology dictates all antibodies and other immune factors are delivered to the offspring via colostrum," she explains. "Even well-vaccinated, healthy cows are unable to pass that protection onto the calf in the womb. Plus, the calf's ability to absorb colostral antibodies declines rapidly over the first 24 hours of life."

If a calf is unable to nurse colostrum from its mother, Fordyce says the recommendation is to feed at least 3 to 4 quarts (10% of the calf's bodyweight) of high-quality, biosecure colostrum within the first two hours of life.

This may mean feeding frozen, stored colostrum collected from other dams. It should be thawed slowly to avoid destroying its immune-supporting proteins. A Brix refractometer reading of 22 or higher can be used to determine high-quality colostrum.

Supplemental colostrum replacers are also available. She recommends feeding one containing 150 grams immunoglobulin G per dose.

Typically, everything done for a calf is in the interest of the animal. Though even the best of intentions may be misguided when a producer is unaware of all the facts related to the practice. Be informed and know why you do the things you do for those calves as they enter the world. AJ