Calving Central

Calving Facilities 101

by ***Heather Smith Thomas***

Just as herds and weather conditions vary across the country, so do calving facilities. Rightly so, because calving barns across the country serve different purposes. In rainy, wet climates, calving barns must remain high and dry. In cold, harsh northern climates, barns must provide a warm area for young calves to enter the world. Figuring out what calving facilities are best for a farm or ranch can be a difficult task, but, thankfully, there are many innovations that can help producers plan a barn scheme that is satisfactory yet practical and affordable.

Depending on the needs and calving intervals of each operation, the size and complexity of calving facilities will change. If weather is mild, a simple headcatch setup for assisting the odd calving problem may be adequate. In some climates, calving barns are necessary for early calving in harsh winter conditions. Calving early in the year is a necessity for some breeders, depending on the way they market their cattle. Some aspire to market bulls as yearlings at spring sales the upcoming year while others hope to show elite cattle throughout the summer and fall. Still others calve early so they can finish calving and breed the cow herd back before turning them out to summer range.

The most important factors to consider are location, drainage and ventilation — all factors that play a critical role in maintaining herd health. A calving barn needs drainage away from the building on at least a one to six slope and good ventilation to prevent respiratory problems. Ranchers may make the mistake of attempting to limit ventilation in an effort to keep out cold and to keep in warmth. Unfortunately, limiting ventilation traps warm, moist air inside and leads to ammonia buildup that irritates lungs and can cause pneumonia.

It is best if a barn is situated in a somewhat protected area out of the main wind currents. A barn should be built on a well-drained site, where water will not accumulate. Avoid building in a flood plain or where surface water levels rise during wet times of the year. Some locations might be fine when the ground is dry or frozen but become swampy when ground water is abundant. Ranchers should consider a location's conditions year-round before building.

When designing a calving facility producers should determine expectations first. "If it's just for the odd calving problem in May, that's different than if you are calving in the dead of winter and need shelter and facilities to warm calves or pair calves up with their mothers," explains Steve Hendrick, DVM, of the Coaldale Veterinary Clinic, Coaldale, Alberta.

Calving barns

Ranchers must be equipped with a setup to efficiently address difficult calving. Determining the size and layout of a barn depends on the herd size and the weather conditions during calving season. A good rule of thumb is to have enough room for eight to 10 cows per 100 cows during the period with the heaviest calving and the worst weather. For example, if 25 calves are expected in one day, enough shelter needs to be provided for all of them in case weather is bad.

Craig Bieber, a former director of the Beef Improvement Federation and a Leola, S.D., Red Angus breeder, appreciates having running water and a warm room for cold calves or a quick nap for the calving supervisor.

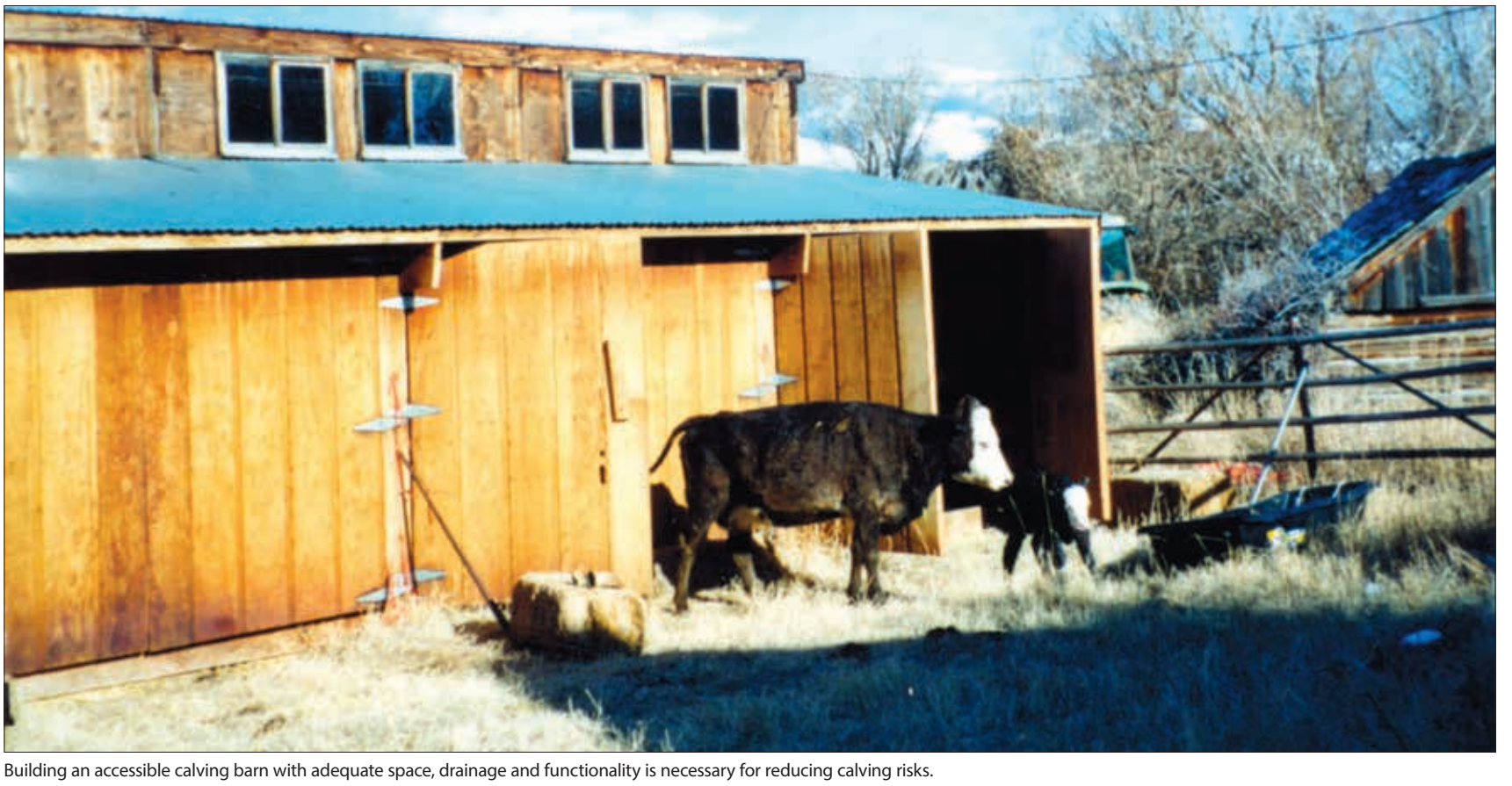
The Biebers clean their barn every day and change bedding. This maintenance requires a functional barn design — doors, pens and alleys need to be easily accessible and big enough to accommodate whatever machinery is used for cleaning. "It's important to make sure you can clean the stalls or pens easily," Bieber notes. "If it's not easy, you may not get it done."

The Biebers also built a large barn with a loafing area that can accommodate between 50 and 60 heifers. While their cows usually calve on range pasture, the Biebers allow the heifers to calve on their own in the loafing area.

"[The heifers] calve on their own in there, and generally calve a lot easier than if they were being moved around and handled or put into smaller areas," Bieber explains.

Bieber recommends leaving pairs in a barn just long enough to ensure the calf is dry and has nursed. Once this is accomplished, the pair can be moved to a larger outdoor pen for another day before going out to the pasture. In this situation, it's best to clean barn pens or stalls daily and to clean the larger "second-day pens" about once a week.

Shannon Williams, Lemhi County Extension agent in Salmon, Idaho, also emphasizes that barns must be easy to thoroughly clean. She recommends designing the surrounding pens so that one person can easily get a cow in and out of the barn. A well-planned system of gates and alleys eliminates the need for extra people and makes it easier on the cow and the person moving her.



Building an accessible calving barn with adequate space, drainage and functionality is necessary for reducing calving risks.

If there are several people on a ranch's calving crew, having a designated place for notes about cows in the barn is a necessity. This is especially helpful when there are shift changes between employees.

"Whether you post notes on each stall, or in the warming room, your system must be functional and easy to use," Williams says.

Depending on the ranch's calving situation and whether pairs are calving in the barn or being brought in after calving, stall size will also vary. If calving is inside, more space is typically better than less. Having adequate room reduces the risk of a cow lying tight against the wall or gate while calving, which can lead to her calf being pressed into the wall or slid into the next pen if partitions are not solid at the bottom.

Stalls, partitions and gates should be user-friendly for the ranch's cattle and methods of handling. Good lighting is also a must, and safety must be a consideration when individuals are constructing calving facilities.

"Make sure that your partitions allow a person to get out," Williams says. "If a cow knocked somebody down in the stall, there should be room to roll under the panel. If the back wall is solid, put some rails there so a person could climb up if need be, or roll under them, to get away from an aggressive cow."

Including space under each partition or at the back wall can help prevent injury if a calf is pushed under it by an aggressive cow or heifer. Ideally, the calf could not be pushed into the next pen, but just into a space under the bottom rail. If producers have to tag an aggressive cow's new calf or disinfect its navel, they can safely handle the calf by dragging it under the panel without having to enter the stall.

Furthermore, barns should be designed in a manner allowing the calving crew to get in and out without having to shovel snow or manure or break loose frozen piles. Snow coming off the roof may dump a pile in front of the doors, slowing down a crew member who might need to urgently assist a cow.

"Think about doors and how to keep them free of ice and manure so they swing or slide freely. If a door is under the eaves, you may get ice on the sliding door track," Williams notes.

Ken Dunn, an Angus breeder in Tetonia, Idaho, built his own calving facility according to the needs determined by the nature of his operation.

"We built a calving barn when we were calving early, and it worked well for us," Dunn explains. "The aspect of ours that we really liked was that it stayed well-drained. For the floor, we used a type of pumice (similar to sand) that was available locally. It packs a little harder, but drains like sand. This was really nice because it was never wet."

Everything in the Dunn's barn is on 12-foot centers for the stalls. "The barn is 36 feet wide and 96 feet long," Dunn says. "This meant we could use standard 12-foot panels to make the calving stalls. We could make bigger stalls with the portable panels and take the panels out to use the barn for storage or machinery when we weren't calving."

One of the 12-by-12 spaces is a vet room, where Dunn keeps veterinary supplies. The room is heated and has a refrigerator, so vaccines will not freeze in winter nor get too warm in the summer.

The next two 12-foot sections are combined to make one open pen for pulling calves. The pen has a headcatch and room to store calving equipment. The rest of the building is 12-foot stalls.

"I feel this is a good size — big enough that we didn't have many problems with calves being stepped on, but small enough that it didn't take a huge building to house as many cows as we might need to have in there," Dunn explains.

"Cows that calved at night were brought in to calve and then we'd clean the barn out in the morning," Dunn says. "We usually only let [pairs] stay in until the calves were dry and nursed, then we'd clean the barn out and get ready for the next night—or for the day, if it was stormy."

The Dunn's barn includes overhanging 10-foot eaves on each long side of the barn, which provide a covered place to store straw and hay. The straw is located right outside the double pen that is used as the calf-pulling stall and storage space for easier access. The Dunn's also store some hay under the eaves but never feed much hay in the barn.

"The only time we [fed hay] was if a cow had a problem and had to stay in longer than usual," Dunn notes. "But we tried to not leave cows in the barn that long."

The barn has a surrounding pen with a water trough, straw and feed. As calves are tagged and given shots, the pairs are kicked out of the barn and into that pen and are sent to the pasture the following day.

The barn is well lit, partially due to a Plexiglas window along each 96-foot side of the barn. At night the barn is lit with big, energy-saving vapor lights.

Portable birthing sheds

For an operation that does not need a large barn, a portable calving shed can be moved to different pastures as needed. A ranch may not want permanent calving facilities, instead opting to calve on new, clean ground each year.

The Canada Agriculture Research Station at Melfort, Saskatchewan, published a design for a portable shed created with a welded pipe frame (a 2.5-inch steel pipe or a 2.25-inch drill stem pipe). Skids can be made from two-by-eight lumber, logs or rough-cut lumber with two-by-sixs for uprights. A portable shed can have two or three stalls, each with a built-in pipe frame headcatch (dairy stanchion style) and a crowding gate to guide the cow into the stall. A heat lamp can be situated in the corner of each stall, if desired, behind a protective barrier so that it will not be disturbed. Propane heaters can be used if electricity is unavailable.

The shed's doors are two pieces. The top part of the door to each stall can be swung up and latched open in mild weather to let in sunshine. The bottom can be latched open when stalls are no longer needed for calving, allowing calves to enter for shelter. If a rancher wants to create an actual "barn," two of these portable sheds can be placed face-to-face to make a small barn with an alleyway between the two sides. These sheds can be moved anywhere to provide clean, sheltered calving stalls as needed. **HW**

Portable calving sheds with a headgate are ideal for producers with fewer head to calve out.

"We have the same kind [of lights] in our shop, but it takes a while for them to fully light up," Dunn explains. "When they do [warm up], they are very efficient and very bright. We decided they might be too bright, and might be blinding to cows coming into the barn, so I mounted them facing up so it was reflected light."

The Dunns generally leave the lights on all night. With reflected light, there are no harsh shadows and no bright spots with shadows to make cows suspicious about going into a pen. It is not as bright as some people may prefer, but the cattle are very comfortable with the subdued reflected light.

Dunn admits their barn might be a bit tall. However, the barn was built tall to accommodate equipment through 12-foot doors on either end of the building. Each end of the barn has a cement apron for coming in and out.

"This was the only cement we had, but it was very nice in these high-traffic areas," Dunn says. "It never got muddy, and allowed us to grade it well, so moisture could never run into the building."

Facilities for birthing assistance

If a cow needs help, the barn needs a handy place for restraining a cow. Regardless of time of year or weather conditions, a calving barn should be stocked full of supplies for calving assistance and equipped with safe cow-handling facilities. Hendrick believes calving facilities should be set up to handle cattle quietly and safely.

The first critical piece of equipment for calving assistance is a chute. The headcatch should be designed with straight sides opening all the way to the ground so that the headcatch will not put a bind on a cow's head or neck if she goes down. If the cow lies down, one or both sides of the chute should swing away to allow access to the cow.

"I also like chutes with split sides that give access to the top or the bottom for doing a C-section or taking the bottom panel away for suckling a calf," Hendrick says.

Hinged, swing-away gates can be mounted on each side of the head catch to create a "chute" to hold the cow if needed. The gates can be swung away so that she can lie down.

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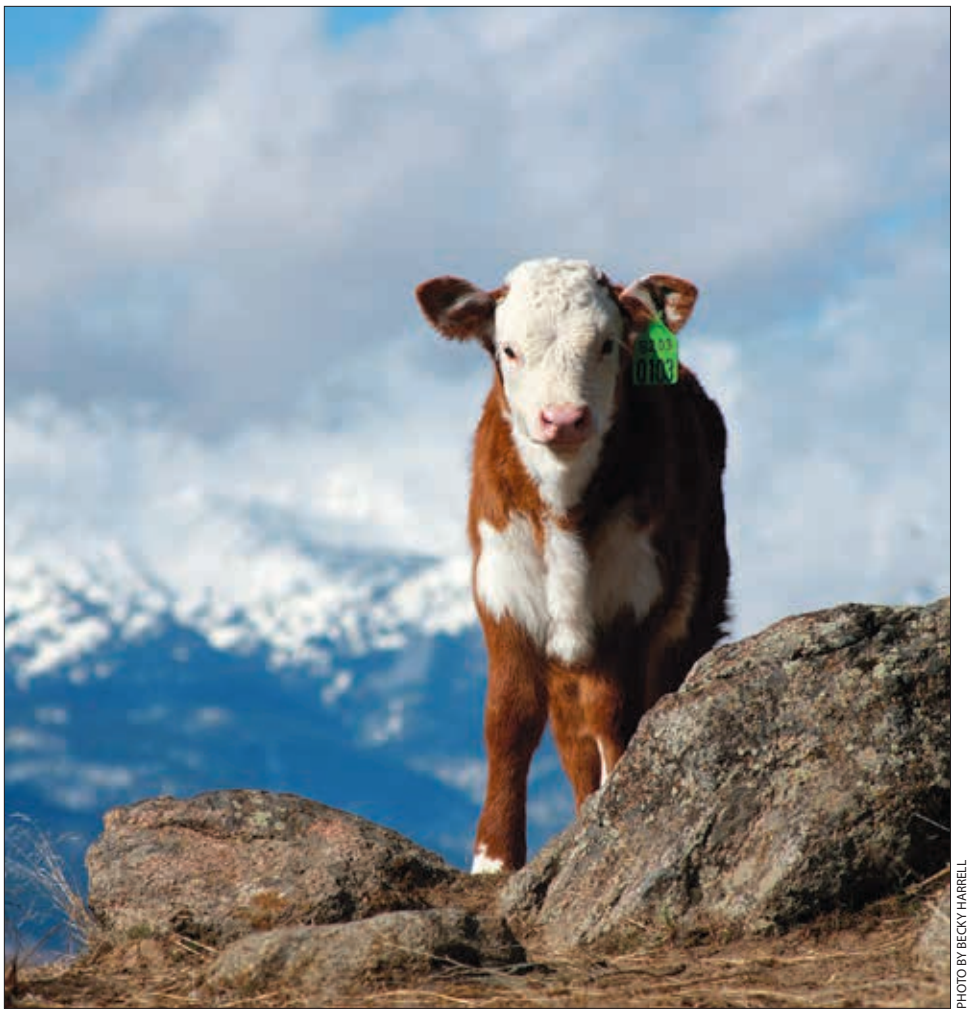

PHOTO BY BECKY HARRELL

> “Cold weather is not as hard on calves as wet weather. Calves can handle very cold weather if they are dry. When temperatures hover around freezing, any snow or rain will take a toll on calves.”
>
> **— Steve Hendrick**

A concrete pad or well-drained floor is important for the headcatch area so that it does not become muddy or slippery and can be easily cleaned. Rough concrete provides traction and — if a floor drain is added — can be swept or hosed clean. Otherwise, a sandy floor with straw on top can provide cleanliness and cushion. Straw from the chute can be cleaned out and replaced after every assisted birth.

Calf shelters

Once a calf is born and the pair is turned out to pasture, calves still have the same basic requirements they did at birth ¾ to remain dry and warm.

Portable shelters can keep calves from becoming chilled and stressed during windy or wet weather. A three-sided structure or a half Quonset hut can work nicely if it is on skids. If the location surrounding the shed starts to get too wet or dirty, a rancher can simply move the shed to a clean location.

Portable calf shelters can help producers keep calves dry and warm during harsh winter months.

“Keeping those shelters high and dry is crucial,” Hendrick says. “They are often south-facing for morning sunshine. There’s often not a lot of direct sunlight in winter and days are shorter, but with sun coming into those shelters it gives calves a chance to dry out a bit.”

When cattle are wet, their hair coat loses its insulating effect. Hair normally stands up with tiny air spaces between the hairs, providing excellent insulation against cold. When hair is wet, it lies flatter and loses its insulating quality. A wet calf will chill much quicker than a dry calf. If calves can get out of the rain or snow and stay off of the wet ground, they are more likely to remain healthy and comfortable.

Hendrick recommends keeping shelters well bedded to keep calves off of cold and/or wet ground. He believes the most important benefit calf shelters provide is the ability to keep calves dry.

“Cold weather is not as hard on calves as wet weather,” he explains. “Calves can handle very cold weather if they are dry. When temperatures hover around freezing, any snow or rain will take a toll on calves.”

“Calf shelters should have adequate space for the number of calves using them,” Hendrick notes. “We always say dilution is the solution to pollution.”

A Hall, Mont., veterinarian and seedstock producer, Ron Skinner, DVM, made skids and crosspieces for durable calf hutches by welding together 6-inch well casing purchased from a salvage business.

“We can push or drag these shelters anywhere and they won’t break,” Skinner says. “We used vertical metal pieces and framed it with angle iron, bolted boards to that and put a metal roof on.”

He used plywood for the sides, painted for weather-proofing. The metal frame keeps the shelters durable, in contrast to the wooden version his father used in the 1960s — the six-by-six boards would break as the shelters were dragged to new locations.

Skinner’s hutches do not have floors, so there is no buildup of contamination inside. If one-bed starts to get dirty, he moves the building with a tractor to a new location.

“The tractor I handle round bales with has two forks on the loader and I can slide those under the end of the hutch, pick it up a little and slide it in any direction,” Skinner says. “We roll a little straw off a round bale right into it for new bedding.”

Some lightweight, open-sided shelters have a bar across the top so they can be picked up with a loader and moved.

“You can put straw down first, then set the shelter on the straw, and later move it to a different location,” he says. “Place shelters so the open side is away from the wind.

“[The shelters] need to face away from prevailing wind, hopefully to the south so the morning sun shines in,” Skinner advises. “An open-sided calf shelter must have a lot of weight at the bottom or the wind may blow it over.”

As with calving barns themselves, the most important thing is to keep the shelters clean. Since calves congregate there, ranchers do not want to promote scours spreading through the group. Some enclosed shelters have only a small door, which can create a lot of recirculated air. These types of conditions may allow viruses and mycoplasma to become a problem.

“If you move sheds often, you leave the mess behind,” Skinner notes. “One side of a calf shelter should be open completely, to allow warm air to get out. Then calves aren’t just recirculating aerosol droplets from each other’s breathing.”

The Biebers also move and rebed their shelters regularly. They use portable A-frame structures that serve as a windbreak. Realizing their shelters will not withstand a strong wind, the Biebers try to place the structures’ backs to the prevailing wind. The long, narrow structures provide a windbreak for the cows as well as the calves, but only calves are allowed inside.

“We built [the shelters] long and narrow so we can drive alongside and spread straw with our bale processor,” Bieber explains. “Some people build shelters a little deeper, but I like ours narrow enough that the cows can get their head in, look through the rails and know where their calves are.”

Whether it is laying out a new calving facility, deciding which equipment is necessary for calving needs or caring for young calves on pasture, the Biebers put a great deal of effort into ensuring their calves find a healthy start within the herd. No two ranches handle calving and calf care alike, but every rancher should invest time to find a system that sets calves up for future success. Taking time to ensure calves get the right start is always time well spent. HW