

# Calving Assistance

Most cows and heifers normally require no calving assistance from the herdsman. To be able to recognize the abnormal occurrence and give proper assistance, it is necessary to understand the normal birthing process.

Parturition takes place in three phases. The first is contraction of the uterus and dilation of the cervix. This phase of labor may not be noticeable in a cow, but may be seen in a heifer as abdominal pain 12-24 hours prior to calving. Dilation of the cervix depends on pressure from the uterine sacs of fluid, or water bag. This fluid also acts as a shock absorber for the calf and a lubricant to the parts. Premature rupture of this bag by an overanxious herdsman may cause incomplete or slowed dilation.

The second stage of labor is the actual expulsion of the calf. It usually begins with the appearance of the water bag. The calf has entered the pelvic area, which causes straining by the cow. It is not unusual for animals (especially heifers) to strain for a while, then stand up and move around before lying down to continue straining. Normally, the second phase may take from 30 minutes up to 3 hours for cows and 4-8 hours for heifers.

The third phase is the expulsion of the placenta, which generally occurs within 8 hours after the calf is born.

Unfortunately, calving difficulty is common (Table 1) and frequently assistance is necessary. In addition to sex of calf and age of cow, chance of calving difficulty is also influenced by sire used, condition and health and nutrition of cow prior to calving. An interesting trial showed that heifers left in a pasture and watched intermittently had less calving difficulty and stillborn calves than those confined under regular watch. One of the largest influences is an unexplained "farm" effect. Some farms pull very few calves while calving difficulty is the norm on other farms.

Table 1. Chance of Difficulty

Age of Cow	Sex of Calf	Calving Difficulty
2	Male	1 out of 3
	Female	1 out of 4
3	Male	1 out of 5
	Female	1 out of 20
4+	Male	1 out of 10
	Female	1 out of 20

Essential supplies to assist at calving (*Figure 1*) include:

1. Soap or non-irritating disinfectant to wash the genital area of the cow.

2. Plastic glove for the herdsman's hand and arm.

3. Lubricant for birth canal and plastic sleeve. This is best obtained from your veterinarian and kept on hand.

4. Sanitary nylon rope or two obstetrical chains with handles.

5. A calving jack or mechanical calve puller for emergencies.



*Figure 1*

The most difficult question to answer is how long should cows be allowed to strain before giving assistance. An examination of the cow can tell you a great deal and if done properly, is unlikely to cause any harm. First have an assistant hold the tail to the side or tie it off to the side with a twine. Wash the genital area with warm, soapy water. Put on a plastic sleeve and lubricate it. If a sleeve is not available, make sure hands and arms are washed and covered with a lubricating material. If the calf is presented correctly with front feet first and head in between, normal labor may last several hours. If the birth canal appears dry, apply lubricant. As long as the cow is straining and progress is being made, it may be best not to assist. It is a common error to assist too soon with too much force, causing danger to the cow and calf. On the other hand, if the feet and nose are appearing at the lips of the vulva and the cervix is well dilated then the cow should not be left more than an hour before assistance is given. If the nose is present and the tongue is extended and swollen, assistance should be started.

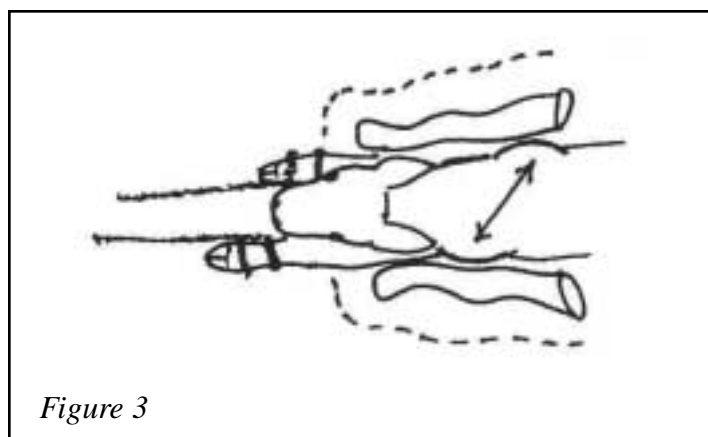
If the calf is in an abnormal position, use experience and judgment to determine if you can correct the situation or need to call a veterinarian. If your examination reveals that the calf is too large relative to the birth canal, call your veterinarian. A successful Cesarean section can be performed if head and front feet are still in the birth canal.

If the cow has been in labor for some time and progress is no longer being made, it is time to assist. Don't wait until the cow is completely exhausted. Place the loop of the calving rope or chains on the cannon bone and half hitch it between the dewclaw and hoof (*Figure 2*). The half hitch will distribute the stress placed on the bones during the pull. It is best to position the half hitch so the chains or rope pull from the bottom of the leg (dewclaw side). Before you begin to pull, lubricate the vagina generously with the lubricant, especially between the top of the calf's head and top of the vagina. The most common way to apply lubricant is to take a handful and push it into the vagina at a moment when the cow isn't straining. Others have placed lubricant in a plastic glove with the fingers cut off. Place the end of the glove behind the calf's skull and squeeze the lubricant into the vagina. A small diameter plastic tube 5-6 inches in length placed on a large syringe also works well and can be loaded ahead of time ready for use.



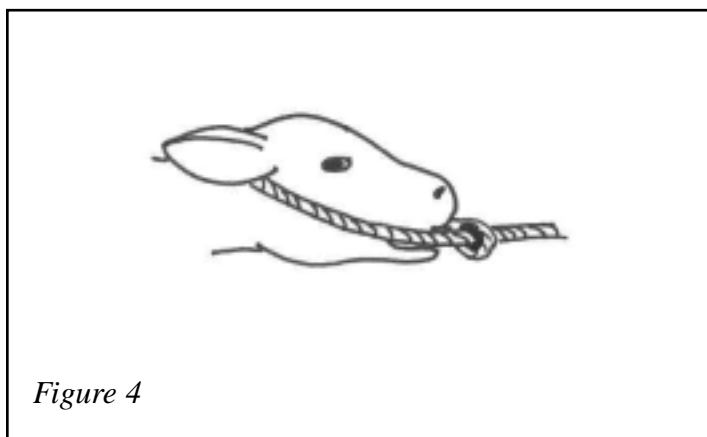
*Figure 2*

Front legs should be pulled alternately, so both shoulders aren't forced through the birth canal simultaneously (*Figure 3*). This requires two chains or ropes. Do not hook a single chain to both legs. A steady continued pressure can be applied with one person on each rope or chain. The pulling force should be increased as the cow strains. If cervical dilation is not complete, moderate traction will encourage dilation without risk of tearing the uterus. A constant hard pull may cause spasm of the uterine neck muscles, tearing of the uterus and constriction of the umbilical cord, which is supplying oxygen to the calf. If the vulva is very tight, it may be beneficial to manually dilate it. This can be done prior to pulling the calf by inserting your arms, palms together, and then pushing apart your elbows to apply pressure to the vaginal walls with your forearms. As the calf is being pulled, time can be taken to stretch the vulva with your hands.



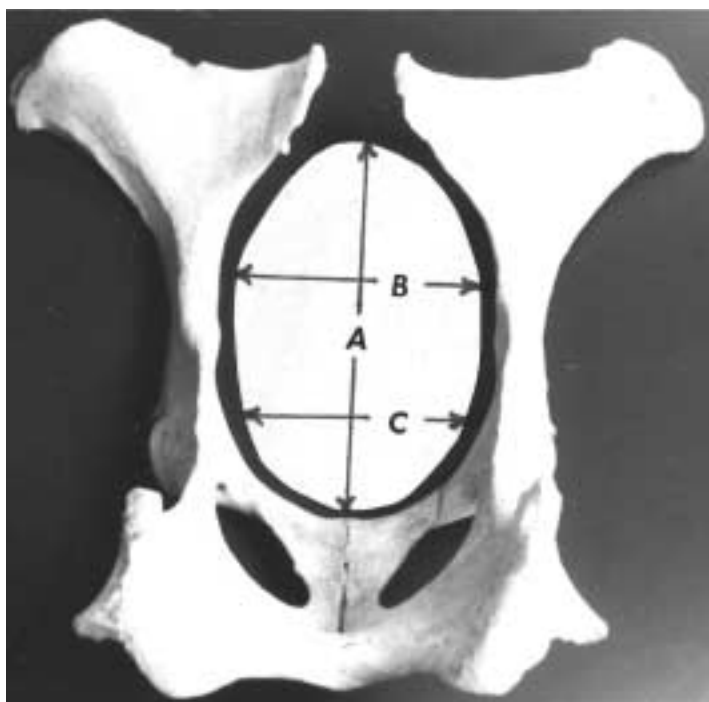
*Figure 3*

If the shoulders are stuck in the birth canal and no progress is being made, pull on the calf's head by putting a rope or chain behind the poll and through the mouth (*Figure 4*). Applying a moderate amount of traction on the head will help free it from the canal and reduce the dimensions of the shoulder region.



*Figure 4*

As the calf's shoulders emerge, take a minute to twist the shoulders and head halfway around so that the hips go through the birth canal sideways. The pelvic structure is illustrated in *Figure 5*. It is taller at A than it is wide at B. B is wider than C. By twisting the calf, the widest part of the hips goes through at a wider part of the birth canal, which should prevent hip lock. Alternatively, rather than twisting the calf, it is suggested to pull downward on the calf as its shoulders emerge. This will tend to raise the calf's hips to the top of the birth canal, which is wider than the bottom. This technique isn't as good for preventing hip lock as twisting the calf, but it is definitely easier for most people.



*Figure 5*

If the hips do become locked in the pelvic area it is a lot more difficult to twist the calf than prior to the hip lock. If hip lock occurs, stop pulling and lubricate the pelvic area and try pulling again. You can attempt to turn the calf by placing the calf's head through its front legs and pulling up towards its body. Or you can attempt to turn the calf by releasing tension on the front legs and pulling them back toward the cow and clockwise. Repeat in the opposite direction if the calf isn't released.

Another method that may work if there is ample room and manpower is to roll the cow completely over onto her back and to the other side. Make sure the calf begins breathing normally as the umbilical cord is apt to be pinched closed. After leaving her alone for a few minutes, again try assistance as the cow strains. Excessive force during "hip lock" should be avoided as it can cause damage and paralysis to the cow. It's not unusual for a stubborn case to suddenly release on its own as the hips manage to slip over the brim of the pelvis.

If the first examination reveals that the calf is coming backwards (breech), the calf needs to be taken out quickly after the hips enter the birth canal since the umbilical cord is apt to be pinched, shutting off oxygen to the calf. Breech births are more difficult than normal presentations and assistance is generally warranted. Check that the tail is lying between the hind legs. If not, reach in and pull it forward so that it isn't forced up into the roof of the birth canal. Lubricate the birth canal and attach the chains properly. Alternate traction

on the rear legs to help slip the hips through the canal. Rotating the calf a quarter turn will take advantage of the greatest diameter of the birth canal.

A mechanical puller should be kept on hand for emergencies. A puller that works off the back of the cow is preferable to a puller that is attached to a stationary object because it allows movement with the cow, traction is in the proper direction and it puts pressure on the lower part of the cow's pelvis changing the angle helping to open the birth canal. Calf pullers must be used carefully. Excessive force can easily injure the cow and calf. It is generally recommended that no more than about 400 lbs. of force be used which is about the force that two strong people can exert if pulling on a rope. Upwards of 2000 lbs. of force can be exerted with some calf jacks. Don't use excessive force as a substitute for generous lubrication and time for complete dilation.

Whether it was a difficult birth or not, as soon as the calf is delivered the cow should be offered all the lukewarm water that she wants from a bucket or pan. A cow will usually drink 8 to 12 gallons at this time and this will help avoid post calving complications. If she doesn't drink, insert a gloved hand in the uterus to check for a twin calf.

After the cow drinks water, allow the cow to lick off the calf. The mother's licking stimulates the calf's circulation and gets them standing sooner. One study showed that calves that were licked off by their mothers absorbed a greater percentage of antibodies from the colostrum. It is also believed that the amniotic fluid from the calf has an analgesic effect on the cow making her feel better after the painful birthing process. This is beneficial even if the calf was born dead.

In summary, don't assist with calving until the cervix is completely dilated - work with the cow. Cleanliness when assisting is of utmost importance. Misdirected brute force causes more harm than good. Call your veterinarian if you are unsure of the position of the calf or the proper assistance to give. Finally, it can be tiring staying up all night checking cows. Studies have shown that if close up cows are given their daily ration in one feeding, the majority will calve starting about 12 hours later. Hence, by feeding them at 6:00 - 7:00 p.m., 80 - 85% of calvings will be in daylight hours.

# Resuscitating a Newborn Calf

National data collected from 1985 to 1996 for U.S. Holsteins show that 7% of calves were delivered stillborn. Cows having their 2<sup>nd</sup> or 3<sup>rd</sup> calves had a 5.7% stillborn rate. First calf heifers had a 11% stillborn rate. Calves born as the result of a difficult calving were more apt to be stillborn. For 1<sup>st</sup> calf heifers that had difficulty at calving, 27.7% of the calves were stillborn. Assistance from the herds person at time of delivery can save many of these calves.

As soon as a calf is born, its mouth and nostrils should be cleared of mucus and afterbirth. Straighten out the calf's neck so that the airways are not obstructed. The calf's situation needs to be quickly evaluated. If the calf's eye looks slightly deflated and has turned a blue, opaque color then the calf has been dead for several hours. If the calf is soiled in the rear with feces, the calf probably died during the birthing process struggling to breath. Press your hand against the chest between the front legs, if you can feel a heartbeat there is a good chance you can save the calf.

The simplest method that may produce breathing is to take a straw and insert it an inch or two into the calf's nostril (*Figure 1*). Move the straw in and out. Within 5-10 seconds, the calf may shake its head, sneeze and start breathing. This method is also recommended for healthy calves to help clear the lungs.



*Figure 1*

If the straw method doesn't work, give the calf what is known as the "kiss of life." Hold the mouth of the calf open, with the calf's tongue on the floor of the mouth (*Figure 2*). Blow down the calf's throat. Your breath contains about 4-

5% carbon dioxide, while normal air contains much less. Blowing carbon dioxide into the respiratory tract of the calf will act as a stimulant to initiate breathing. When performing this technique, your mouth should not touch the calf's. When working with weak or sick calves, one should always be aware of the potential of human exposure to infectious diseases. Brucellosis, Campylobacteriosis, Leptospirosis, Listeriosis, Salmonellosis, and Chlamydiosis are a few diseases that humans can catch from cattle under the right conditions. Most of the diseases have been isolated or at least implicated in weak and stillborn calves.



*Figure 2*

A third method to try is to briefly hold the calf up by its hind legs (*Figure 3*). Fluid may run from the calf's mouth. Most of this is coming from the calf's stomach, not the lungs. While the calf is suspended, have someone else pour cold water onto the chest and head regions. This cold shock may initiate breathing where the two previous methods failed. Variations of this include having a pail of very cold water handy and dumping it on the calf's head as it is laying on the ground. Another suggestion is to pour cold water into the ear.

If the calf still is not breathing, it is time to try artificial respiration. There are many different methods used to force air into the



Figure 3

calf's lungs. *Figure 4* illustrates applying intermittent pressure on the calf's rib cage with the calf lying on its side. Pressure can be applied simultaneously to both sides of the rib cage if you position the calf so it is lying on its chest. Applying pressure to the rib cage forces air out of the lungs. Releasing the pressure allows fresh air to enter the lungs. If an assistant is present, have him blow down the calf's throat at 15-20 second intervals. Artificial respiration can be continued for 5-10 minutes.



Figure 4

Calves can also be revived by mouth-to-mouth resuscitation using commercially available devices that protect the operator from germs that the calf may be harboring (*Figure 5*). As you blow into the calf's lungs, you should be able to see the rib cage expand. If it appears that most of the air is going into the stomach, pinch off the esophagus in the neck with your fingers. This will force the air into the trachea.



Figure 5

Many producers have found the use of a portable oxygen tank to be much more convenient. A small oxygen bottle with a regulator can be purchased from a welding supply store with about 5 feet of hose. Attach 5 inches of a small diameter rubber tube to the end of the hose. When a calf needs help, the oxygen is turned on so that it feels like a gentle breeze when the tube is held next to the operators cheek. The 5-inch tube is inserted into the calf's nose for about 30 seconds to get calves breathing. Finally, respiratory and heart stimulants are available from your veterinarian for use under their supervision. Many people have claimed good success when these have been injected.

If the heart is not beating, then the prognosis is not good. Heart massage can be given by laying the calf on its side and compressing the area of the chest between the front legs with your hand approximately once per second. At the same time, some sort of artificial respiration should be given by a second person.

The calf may be weak after normal breathing is established. Make sure the calf gets colostrum via a tube feeder as soon as possible. If the calf is chilled, supplemental heat is extremely important. Regular freeze-dried coffee crystals (not decaf) can be used to stimulate weak newborn calves. Mix 1 teaspoon of crystals per 2 oz. (1 pint is 16 oz.) of colostrum. Administer 1/2 -1 pint of the mix every hour with a tube feeder until the calf responds.

Hopefully, a few of these ideas will allow you to resuscitate the occasional calf that may need help.

## Passing an Esophagus Tube

The esophageal feeder or oral calf feeder is an excellent aid to force-feed colostrum to weak, newborn calves or electrolytes to weak, scouring calves. This is a relatively inexpensive piece of equipment that can save the life of a sick or weak calf. It can be purchased fairly inexpensively so there is no excuse for any dairy not to have one or two on hand. There is always apprehension that the tube may be passed into the calf's lungs rather than into the esophagus. Fluid in the lungs can lead to mechanical pneumonia or bronchitis. Chances of this happening can be minimized if proper procedures are followed.

Proper restraint makes this task easier. Young calves can be backed into a corner with control of the head, and held adequately. It is easier to pass the tube with the calf standing up. However, if calves are too weak to stand, it can be done while they are lying down.

The esophageal feeder should be thoroughly cleaned to prevent bacterial growth, especially after it has been used for colostrum or milk. Note the ball end of the tube (*Figure 1*). This helps prevent passing the tube into the calf's lungs.



*Figure 1*

To open the calf's mouth, you can apply pressure to the corner of the mouth (*Figure 2*), or grab over the bridge of the nose, applying pressure to the upper palate or gums (*Figure 3*). Once the mouth is open, pass the tube alongside the

tongue to the back of the tongue (*Figure 4*). Do this slowly. You'll notice that when the tube is over the back of the tongue, the calf starts chewing and swallowing. Use this to help get the tube down the esophagus, which is situated above the trachea, which leads into the lungs. This procedure also applies to passing a hose for bloat or passing a balling gun.



*Figure 2*



*Figure 3*

## Calves



*Figure 4*

If the tube has been correctly passed, you should be able to feel it in the esophagus (*Figure 5*). The ball on the end of the tube can be felt quite easily.

It is advisable to pass the tube almost the full length of the stiffest part. Fluid will thus go into the lower esophagus.

After the tube is passed, unclip the tube to allow the liquid to drain out of the bag. The bag can be held above the calf or hung on a nail. It will take a couple of minutes to drain. The liquid should be at body temperature to prevent temperature shock to an already weakened calf.

Buying this tool is highly recommended to increase effectiveness in feeding colostrum to weak calves and delivering electrolytes to calves with scours. The probes are available in plastic and stainless steel models. Buy what you prefer. The stainless steel models cost more but are more durable and there is no chance of the probe breaking while in use. The plastic models are more apt to become jagged and rough if allowed to be chewed on by the calf and could potentially injure the esophagus. It is easy to smooth a jagged surface using fine sandpaper and this is a recommended maintenance procedure. Since they are cheap, they should be replaced before they become excessively worn. If you have a weak calf that needs force-feeding and you don't have an esophageal feeder, then you will have to improvise. A clean pulsator hose may be just about the right size for passing down a calf's throat. It should be passed about 16 to 18 inches. Put a funnel from the kitchen on the top of the hose and you are ready to pour the liquid into the calf's stomach. This method will get the job done, but isn't nearly as safe or handy as using an esophageal feeder.



*Figure 5*

## Identify Dairy Animals

Identification of individual animals should be standard procedure on all dairy farms. It is essential for breeding decisions, registration, merchandising, health and reproduction records, and daily management decisions. The identification systems used should provide reliability and visibility at a reasonable price.

For animals with color patterns, a photograph or sketch provides a permanent means of identification (*Figure 1*). The disadvantage of this method is that they are difficult to carry around and use daily.



*Figure 1*

Plastic ear tags are one of the most popular forms of identification. First, select the style of tag to be used. Larger tags are easier to read from a distance and usually aren't any more apt to tear out or break off than smaller tags. You can buy pre-stamped tags, or you can number your own (*Figure 2*). The advantage of numbering your own is that you may also include birth date, sire, and dam on the front or back of the tag. The numbering system chosen may tell you something about the calf. For example, 9309 is the ninth calf born in 1993. You may wish to use different colored tags. For example, grades may get red tags and purebreds yellow tags. Each tag manufacturer makes a specific ink for their tags. Some of these inks have a chemical base that allows them to etch or melt into the polyurethane tags. These new inks won't fade like a typical "magic marker" would and are worth the small additional cost. These ink pens may come

with interchangeable broad and fine tips. Buy the ink specific for the company's tags. The ink from one company may not work well on another company's tags because the composition of the plastic may be different.



*Figure 2*

To tag an animal, restrain it and insert the tag into the applicator. Placement of the tag in the ear will depend on the style of tag used.

Generally, tags should be placed in the middle of the ear between the cartilage ribs, approximately one-half the distance from the base to the tip of the ear (*Figure 3*). The tagger pliers are calibrated to apply the tag without getting the tag too tight. Avoid the temptation of manually squeezing the button and tag together for a tighter fit after the pliers are removed. This will result in restricted blood flow to the wound and may result in the tag being sloughed off. Putting the tags in before the calf is taken away from the dam will prevent a mix-up later. Treat the wound with an antiseptic to prevent an infection and repel insects. Disinfect the applicator between animals if there is any danger of transmitting any blood-borne diseases. If there is a tendency for animals in your herd to lose tags, you may wish to tag each ear. Some dairymen have resorted to using smaller tags designed for swine with good results.

Tattooing gives a permanent means of identification, although the animal usually has to be restrained to read the tattoo. A suggested procedure includes:

1. Place the numbers in the tattoo pliers. If in doubt, check the numbers on a piece of cardboard to make sure they are in proper sequence.
2. Wipe the area to be tattooed with an alcohol-soaked cloth or cotton ball. The tattoo is usually placed above the top cartilage rib. The area between the two cartilage ribs is



Figure 3

generally reserved for a bangs vaccination tattoo, or may be the side for ear tagging.

3. Using a disposable plastic glove, apply a very thin film of paste ink to the ear. Ink paste is generally preferred to liquid ink.
4. Position the tattooing pliers in the ear and squeeze firmly for 30 seconds (Figure 4).



Figure 4

5. Remove the pliers and rub the ink paste into the tattoo for 30 seconds.
6. Equipment should be disinfected between calves.

An aid in reading tattoos in dark ears is to shine a flashlight on the back of the ear while reading it from the front (Figure 5).

Ankle bands have been gaining popularity for cows milked in herringbone parlors (Figure 6). The band is applied



Figure 5



Figure 6

around the rear leg when the heifer first enters the milking string. It should be applied tight enough to remain on, but loose enough so it doesn't restrict blood flow. The major disadvantage to bands is that bands can get dirty which make them difficult to read.

Two other popular means of identification include neck chains and freeze branding. Neck chains are easy to apply and are fairly visible. If put on calves, they need to be adjusted as the calf grows. Freeze brands give permanent identification and are easily read if of good quality. Disadvantages are that occasionally a number will not come out clear, and more time and labor are required to do freeze branding than other means of identification.

# Freeze Branding for Permanent Identification

Freeze branding is gaining popularity as a method of identification in dairy cattle. Freeze brands can't be lost like an ear tag or neck chain. They are easily read from a distance, can be read in milking parlors (*Figure 1*), and do not damage the hides as hot brands do.



*Figure 1*

The most common method of cooling the irons is with liquid nitrogen. Pour 4-5 inches of the nitrogen from a storage tank into an ice chest (*Figure 2*), using proper caution to avoid splashing it into your face. The liquid nitrogen will boil as the relatively warm irons are placed into the liquid. After 5-10 minutes, the irons will have cooled down to the temperature of liquid nitrogen ( $-197^{\circ}\text{C}$ ) and boiling will stop. The irons are now ready for use. Most people prefer to wear gloves when handling the cold irons.

Freeze branding works best when applied to dark hair. It works by killing the pigmentation cells, so white hair replaces the dark hair where the brands are applied. If applied on white hair, the irons are held in contact with the skin for a longer period of time to kill the hair follicles. Branding on dark hair usually gives a much more satisfactory brand. The best areas to brand are on the rump, upper thigh or over the loin, because these areas are firmer and ensure better iron-to-skin contact. People with herringbone milking parlors may wish to brand both sides of their cattle.



*Figure 2*

After a site has been chosen, use a surgical blade on an electric hair clipper to clip against the lay of the hair to remove as much hair as possible (*Figure 3*). To increase iron-to-skin contact, pour 99% isopropyl alcohol over the shaved area immediately before applying the irons (*Figure 4*). 99% isopropyl alcohol can be purchased through your veterinarian or other supplier. Rubbing alcohol typically is only 70% alcohol. Use enough alcohol to saturate the skin.

Properly restrain the animal in a squeeze chute or with a tail hold if the animal is haltered or in a stanchion. Remove the iron from the liquid nitrogen and immediately apply it firmly to the animal (*Figure 5*). Make sure that all portions of the face of the brand are in contact with the hide. Lack of pressure or uneven pressure can result in poor brands. The animal may jump around for the first 10 seconds after which the area becomes numb and the animal will usually calm down. Each iron needs to be applied for 20 seconds with dark hair and 2-2 1/2 minutes with white hair. (Brands on white hair are marginal at best.) After the allotted contact time, the iron needs to be returned to the liquid nitrogen until bubbling stops before it is used for another brand.

The most common cause of failure is from not applying the iron for the proper length of time. Time yourself, don't guess! When the iron is pulled off, it should leave a frozen



Figure 3

imprint of the number, as in Figure 5. If not, you didn't apply the iron long enough or with enough pressure. After a few minutes, the imprint will swell and welt up. Generally, after a couple of weeks, the hair and outer layer of skin may slough off leaving a bare spot. The dark hair is replaced with white hair as the hair grows out. This may take 2 months.

The above procedures have given consistently good results on Holsteins from 3 months to 10 years of age. There are alternative procedures and contact times that have worked well for other people. These include different contact times than suggested here such as 5 seconds for 1 month old calves; 8 seconds for 2-3 months; 10 seconds for 4-8 months; 13 seconds for 9-18 months; and 15 seconds for over 18 months. Experiment to find the contact times that work best for you. Beef cattle have thicker hides and require longer contact times. Jerseys require less contact time.

Freeze Branding Irons come in sizes ranging from 2 to 6 inches. It is common to freeze brand 4-6 month old calves using the 2-inch numbers. As the calves grow, the numbers will expand. The 4-inch size is often used for cows. Size of brand used is a matter of personal preference and is dependent somewhat on from what distance the brand needs to be read.

If liquid nitrogen is unavailable, alcohol and dry ice can be used to cool the irons. Since this mixture is not as cold as liquid nitrogen, add 15 seconds to the length of time the irons are applied.

The largest cost involved in freeze branding is purchasing the irons. They range from \$100-200 for a set. You may be able to borrow irons from an A.I. representative. It takes about 5 quarts of liquid nitrogen to do 20-25 animals. Freeze branding is an excellent form of identification if done properly.



Figure 4

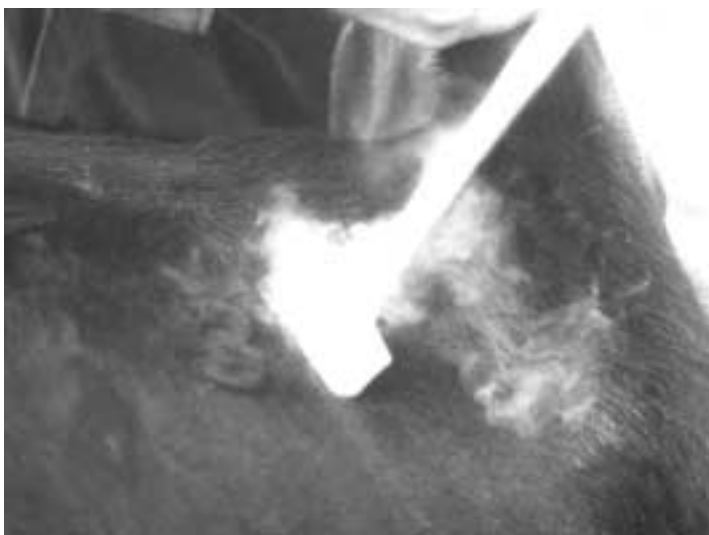


Figure 5

# Managing Hutches in the Winter

Cold, damp weather puts additional stress on the newborn calf. Even under the most adverse weather conditions, a calf hutch can still be the most desirable system under which to raise a calf, if the calf has a dry, draft-free place to lie and an adequate energy intake.

Place hutches so they face the south or southwest in winter. This protects calves from the cold northwestern winds and allows the sun to penetrate the hutch. Never locate hutches near barn exhaust fans, as this will expose calves to pathogens from the barn. It is important that hutches have a thick bedding base, to allow for drainage and to insulate the calf from the cold ground. Straw or chopped cornstalks make excellent bedding because of their absorbent properties. Placing the bedding on a 4 to 6-inch base of corncobs makes an excellent bed.

It is generally recommended that hutches should be thoroughly cleaned and disinfected between calves. Many dairymen, however, report good results with cleaning after every 2 calves in winter. Use the system that works best for you.

After a calf is born, the navel should be dipped in iodine and tied to prevent navel ill. Surveys have shown 10 to 15% of untreated calves get navel infections which decrease performance. Allow the mother to lick off the calf. Feed the calf colostrum within 30-45 minutes of birth while the calf is still with the cow. The amount fed should be at least 5% of its body weight (about 2 quarts.).

Most experts recommend that calves be placed in hutches as soon as they have received their colostrum and been dried off (*Figure 1*), even in cold weather. Others have had good results with keeping the calf inside for a few days or until the weather moderates. By moving the calf out immediately, it will be exposed to fewer disease-causing organisms. A newborn calf will generally have more body fat than a calf 2-3 days old, so it adjusts easier to the cold weather. Don't put a calf already weak or chilled out into a hutch.

During periods of extreme cold or blowing snow, it may be advantageous to partially block the front of the hutch of the newly arrived calves with 2 bales of straw (*Figure 2*) or other barrier. The barrier need only remain for a day or two, and under no circumstances should the opening be completely blocked. The barrier will help block the wind and snow, and keep the calf inside.

Generally, calves should be fed milk at the rate of 10% of their bodyweight per day. This means that a 120 lb. calf gets 12 lbs. per day while a 80 lb. calf gets 8 lbs. per day. A two-



*Figure 1*



*Figure 2*

quarter feeding provides 4.3 lbs. When temperatures fall below freezing for extended periods, calves will need additional energy to maintain body temperature and still have an acceptable growth rate. Following are general guidelines: if average daily temperatures are expected to be around 25° F, increase milk intake by 1 pint or milk replacer powder by .1 lb. per day; at 15° F increase by 2 pints or .2 lbs. of powder; at 5° F increase by 3 pints or .3 lbs. of powder by adding a third feeding per day. Be consistent in feeding, don't change amount fed just because the weather moderates for a couple of days.

Make sure the milk is warmed to 105° F when fed. Cooler milk will cause the calf to expend energy to warm it. Carry

## Calves

the milk out to the calves in insulated containers, if necessary, to keep it warm. Milk replacers, if used, should be high quality with 20% fat, 20% protein and less than .5% fiber. Encourage calves to eat a grain mix as soon as possible.

Observe calves frequently for alertness and general condition. Because of long winter hair coats, it is difficult to tell the condition of calves visually. Make it a habit to run your hand over the calf's back each time it's fed (*Figure 3*). If you note that a calf is losing body condition, try to increase its energy intake. Hutch calves that do become sick in winter should be moved inside to a warm environment. It is difficult for a sick calf to get well in a hutch at 0-20° below. If the calf is cold stressed, remedial measures should begin at once (*Figure 4*).

If the hutch is 8 ft. deep and there are no openings or cracks in the back, snow generally doesn't penetrate more than a few feet. Shovel the snow out promptly so the calf doesn't track it onto the dry bedding. If bedding becomes damp, add bedding. A good test is to sit down where the calf lies. If your pants become wet, add bedding.

Many people have had good success raising calves in domed hutches (*Figure 5*) during cold weather. The calf doesn't track snow onto the bedding, and is protected from the wind. The ventilator cap should be adjusted to provide enough ventilation to prevent condensation inside the hutch.

A "calf jacket" is a good option for calves in the winter. These are commercially available blankets that are put on the calves



*Figure 3*

### **Cold Stress (Hypothermia)**

#### **Symptoms:**

Decreased body temperature (5-10° below normal).  
Ears and legs cold.  
Loss of vigor and appetite.  
Shivering. Hair standing on end.  
Stiffness. Stand with head down and feet together.  
Lying down most of the time.  
Sudden death of the calf.

#### **Remedy:**

Bring calf in out of cold.  
Bring calf's body temperature back to normal (101.5°).  
a. immerse in warm water (105°) and/or  
b. vigorously rub with dry, warm towels  
c. provide warm, draft-free environment (heat lamp or heat-pad)  
Give two quarts of warm milk. Tube feed if the calf is weak.

#### **Prevention:**

Provide calves adequate energy intake.  
Provide dry, draft-free environment. Calves can become cold stressed in wet, drafty barns as well as in hutches.

*Figure 4*



*Figure 5*

when put out in the hutch and taken off when weather moderates or after the calf is weaned and eating well. Calves expend less energy maintaining body weight and hence have increased growth rates and are less stressed during cold winter months. The jackets need to be cleaned between calves, straps kept adjusted, and hutches still need adequate bedding.

Another management practice is to place the calf hutches inside a shed during the harshest winter months. This offers additional protection for the calf and makes calf chores a little more pleasant.

Many of these recommendations will help raise healthy, growthy calves under harsh winter conditions as well as under moderate conditions.

## Removing Dewclaws

Removal of the inside dewclaw is not widely practiced. Yet a few dairymen and veterinarians feel that it will reduce mechanical injury to the teat and udder. They have routinely removed calves' dewclaws for years. It is a relatively safe and easy procedure, especially if it's done at a young age. *Figure 1* shows a cow with the inside dewclaw removed.



*Figure 1*

As with most surgical procedures, it is best to remove the dewclaws at a young age. Many farmers perform the procedure immediately after removing the calf from the cow. The calf is much easier to control at this time so only one person is needed for the job. Also, bleeding is minimal.

Restrain the calf by laying it on its side. Use an all-purpose, heavy duty shears to cut off the dewclaw (*Figure 2*). If done properly, there should be hair all the way around the removed dewclaw (*Figure 3*). If not, make another snip with the shears. If the dewclaw is not completely removed, it may grow abnormally and may cause more damage than a normal dewclaw.



*Figure 2*



*Figure 3*

Take several precautions to lessen the chance of infection. Make sure the shears are clean and sanitized prior to use. A disinfectant spray or dressing should be applied to the wound (*Figure 4*). A fly repellent spray should be used in the summer. Probably most important, make sure the calf is in a clean, well-bedded pen.



*Figure 4*

If done at a young age, bleeding from the wound will be minimal. However, calves should be watched to make sure that they don't bleed excessively. On a very small percentage of calves, it may be necessary to pack the wound with cotton held in place by several wrappings of gauze (*Figure 5*).

Place tape over the gauze to finish the bandage or use vet wrap over the cotton pack. Do not wrap the tape too tightly or you'll cut off circulation to the foot. Remove the bandages in 2-3 days.

## Calves

You can also use a Barnes dehorner to remove dewclaws. It may be best to use it on older calves. *Figure 6* shows the sanitized gouge dehorner positioned around the inside dewclaw. It is important to get all around the dewclaw. To help avoid cutting too deeply and possibly injuring the underlying tendons, place the gouge around the dewclaw and tighten enough so that you can pull outward as the handles are quickly spread to close the blades.

Using the Barnes dehorner requires more skill than using the shears. The older the calf, the more restraint required; and more bleeding and trauma expected.

Removing dewclaws may reduce teat injury and bruises to the udder if your herd has these problems. It is not known what percentage of such injuries are caused by the dewclaw.

Removing dewclaws may significantly improve udder health of some herds but have no benefits in others. Level of benefit would be influenced by type of housing and depth of udders. If in doubt, try removing the dewclaws of every other heifer born. When these heifers freshen, monitor the difference in incidence of teat injury, mastitis incidence and somatic cell count between the two groups.

Generally, only the inside dewclaws on the hind legs are removed. Obviously, relative to udder injury, the inside dewclaws are the ones that cause the problems. However, some dairymen remove both dewclaws on the hind legs for a more pleasing appearance.

If you adopt this procedure, remove the dewclaws when calves are young. Do it correctly under sanitary conditions. If done incorrectly or if an infection results, any beneficial aspects of dewclaw removal will be negated and the calf may suffer. It is always a good idea to consult your veterinarian before trying a new procedure.



*Figure 5*



*Figure 6*

## Removing Extra Teats

Dairy heifers often have extra teats (supernumerary) in addition to the normal ones. Supernumerary teats present no problem if removed when the calf is 1-2 months of age. If left longer, an operation using anesthetics may be necessary. If not removed, extra teats may interfere with teatcup placement, become an extra functioning milk gland, or become infected. At any rate, extra teats detract from an udder's general appearance.

Removing extra teats is a simple surgical procedure, but must be done right for satisfactory results. In a well-lit area, have someone hold the calf securely on its side with its hind legs held apart. Normal teats are those which are properly placed and usually a bit larger than the extra teats. One to four extra teats may be present. The heifer in *Figure 1* had two extra teats behind the four normal teats. Extra teats may also appear between the normal teats. If there's doubt as to which teats to remove, postpone the operation until there's more udder development or just leave them alone.



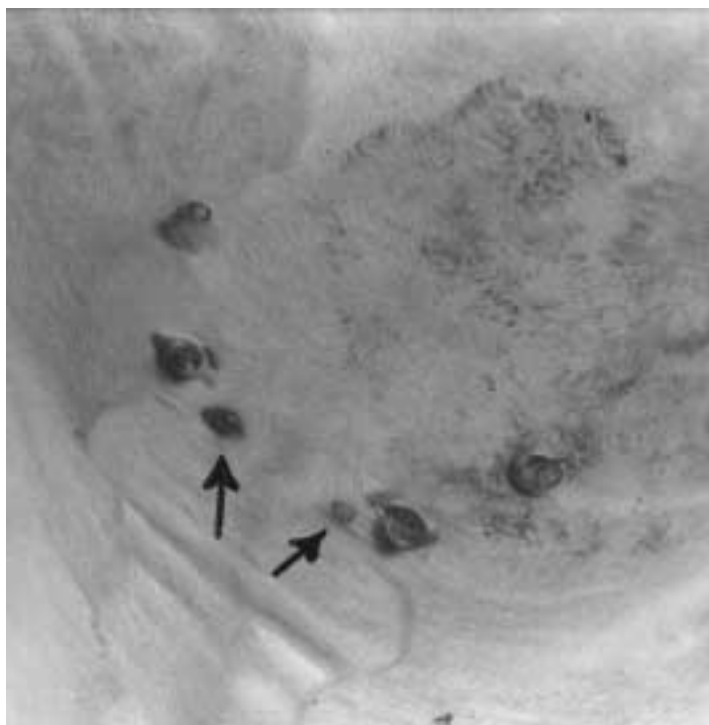
*Figure 2*

Grasp the teat between your thumb and forefinger. Even in small calves, the nerve supply to their teats are well developed. Make sure the calf is well restrained before you proceed. Pull the teat outwards and take a generous bite with the scissors (*Figure 2*).

The most common mistake is not removing enough of the teat. Often, the teat is cut off level with surrounding skin or even less is taken. This can leave a lump or scar which may increase in size as the heifer grows. Taking a generous amount of the skin surrounding the teat also ensures complete removal of the budding milk gland. A comparatively large elliptical wound about the size of a dime should result (*Figure 3*).

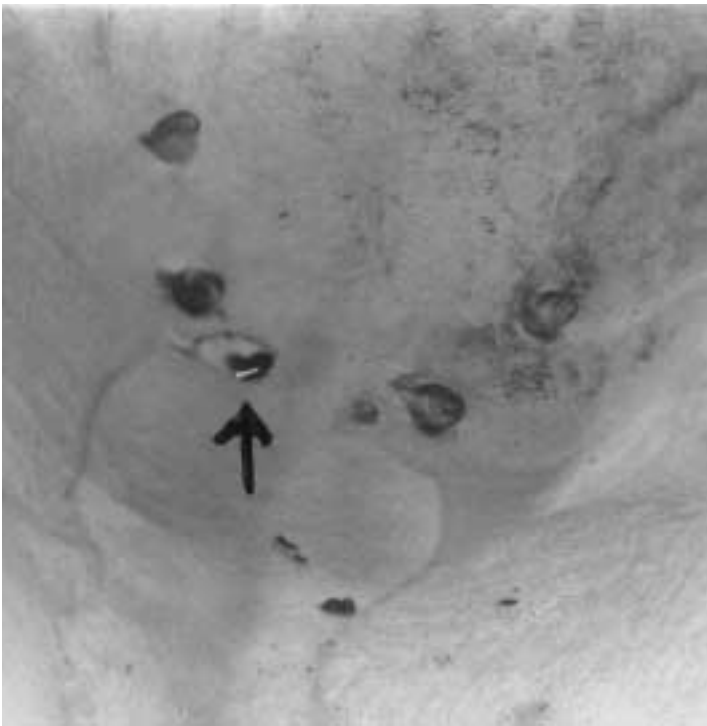
An alternate method of removing teats is to pull the teat outward and clamp artery forceps on the udder above where the cut will be made. Then, slide a scalpel along the forceps and remove the teat, leaving the forceps attached to the skin of the udder. When the forceps are removed, bleeding will be minimal.

Dress the wound liberally with a tincture of iodine (*Figure 4*) or antibiotic ointment. The calf's pen should be clean and well-bedded to prevent infection.

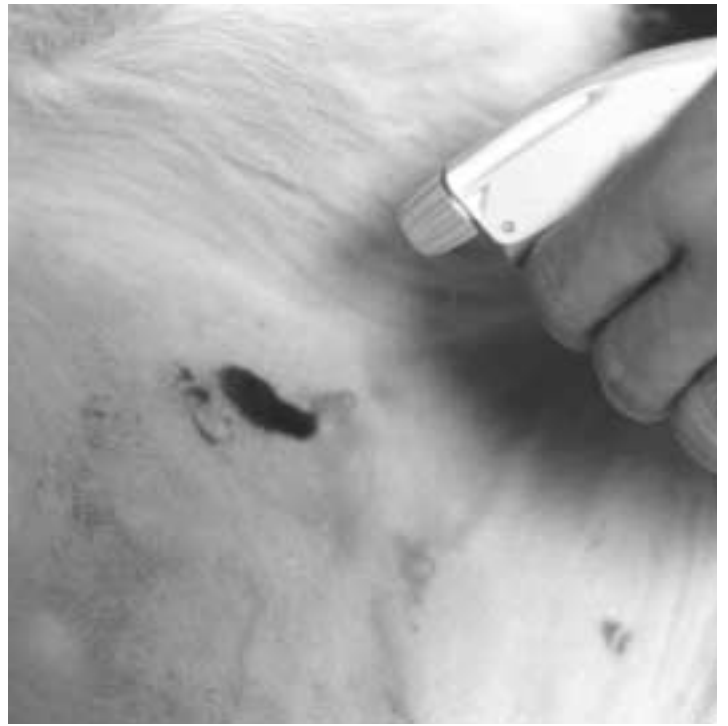


*Figure 1*

Scissors or a scalpel may be used, but scissors are most preferred because there is less chance of cutting yourself or the calf if the calf should move. Generally, the sharper the scissors are, the easier the job can be accomplished, but scissors don't need to be razor sharp. Actually, slightly dull scissors tend to crush the blood vessels as they cut. This minimizes bleeding, although bleeding is not a big problem for this operation.



*Figure 3*



*Figure 4*

## Tail Docking

Tail docking is becoming more widely accepted by farmers in both freestall and stall barns (*Figure 1*). Reasons for docking include added cleanliness of cows, ease of milker attachment in parallel parlors, and reduced chance of the farmer getting swatted in the face. Research results comparing cows with and without tails have yielded mixed results. One study showed that heifers with docked tails on pasture had more flies on their backs. Another study showed no improvement in cleanliness or udder health for cows with docked tails. Practical experience would indicate that in many housing situations cows with docked tails will be significantly cleaner. There are no studies that say tail docking has any effect on performance or production.



*Figure 1*

Some people object to the docking of tails for humane reasons. In fact, the practice of docking tails is banned in Great Britain. Others see no difference between docking cattle compared to docking the tails of pigs and sheep or the dehorning of cattle.

Tail docking is a relatively simple procedure and there are several different methods used. Producers dock tails at less than a week of age, at time of dehorning, at first breeding, or as freshened heifers enter the herd. Some producers only dock the tails of “problem” cows. Docking seems to cause very little or no stress on the animal.

The most common method of docking tails is the use of elastator bands. In young calves the band is placed three finger widths below the bottom of the vulva (*Figure 2*). In cows the band is placed two hand widths below the vulva or at the top of the rear udder attachment (*Figure 3*). Docking the tail too short may result in an increase in vaginal infections as a cow may stick her tail into the vulva. A tail that is left too long can be a nasty weapon without a switch. The rubber band should be placed between the vertebrae. The tail will fall off in two to four weeks. Following are variations of this procedure:



*Figure 2*



*Figure 3*

1. Some people prefer to place two rubber bands on the tail.
2. One option is after the band is on for four or five days, is to cut off the dying tail with a hoof trimmer or knife immediately below the band.

## Calves

3. Another option is to put the band on in the morning and cut the tail off one vertebrae lower in the evening. The rubber band is cut off three days later.
4. To facilitate the placement of the band, some people load the bands onto a 1.25 to 1.75 inch PVC pipe. Slide the pipe up the tail and then slide the band off the pipe into the tail (*Figure 4*).
5. If tetanus is a concern, two tetanus vaccinations can be given. The first is given two weeks before and the second is given on the day the band is put on. This is not a concern on most farms.



*Figure 4*

Some people prefer not to use rubber bands. An option is to clamp a “Burdizzo” a few fingers below the vulva on a calf less than a week old (*Figure 5*). Cut the tail off with a sharp knife or scalpel below the clamp. Remove the burdizzo 30 seconds later and bleeding should be minimal.

A veterinarian from Canada recommends the following procedure for removing tails from cows:

1. 18 mg. of xylazine with 6 ml. of saline is given epidurally in the tailhead to numb the tail.
2. The tail is washed at the place of incision with a chlorohexidine soap.
3. A scalpel is used to make a skin incision a little lower than the joint.
4. A Mayo scissors or shears is used to sever the tail at the joint.



*Figure 5*

This method should only be done by a veterinarian.