

Who's Who?

Tired of trying to figure it out? Freeze branding offers an effective solution.

STORY BY JENNIFER SHIKE



PHOTO BY SHAUNA ROSE HERMEL

After years of losing ear tags, Vance Uden of TC Ranch near Franklin, Neb., decided it was time for a change.

"We got tired of looking for lost ear tags and wanted to find a form of identification that would be readable from a long distance," Uden says.

"We decided to try freeze branding in 1980 and have used it ever since. We can't imagine raising cattle without it."

Though freeze branding was

invented in 1966, its popularity has risen recently as more cattle producers are realizing its advantages, says Twig Marston, Extension cow-calf management specialist at Kansas State University, Manhattan.

"Freeze branding requires a relatively small investment," Marston says. "It's also less stressful on the animal than hot-iron branding."

When freeze branding is performed

properly, the pigment-producing part of the hair follicle is destroyed. This results in the growth of white, or colorless, hair within the brand site. Under normal circumstances, hair grows as a clear shaft from the growth follicle. The color follicle adds the pigment to the clear hairshaft, resulting in visible hair-coat-color patterns, Marston explains.

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Select your brand

Once you've decided to freeze brand, you need to select a brand that is suitable for the age of the animal you are branding, Marston

says. The lengths of brands vary from 2 inches (in.) to 6 inches. The 2- to 4-in. brands work best on smaller animals or calves. Brands larger than 4 in. are preferred

for cows and yearlings.

Choose branding irons that are cast of copper alloy (brass) because they have a better temperature-holding capacity, Marston advises. The branding irons should not be vented and should have a handle that is 18 in. long for convenient application (see Photo A).

When selecting a set of branders, it's a good idea to choose those with the corresponding characters stamped on the handle. This prevents handlers from having to remove the brander from the coolant container to see which brand they are choosing.

Brand location is another important consideration. State and local governments have regulations about proper brand placement. Authorities, such as the state animal health department, local Extension office or county clerk, can provide further instructions about brand-ownership regulations.

Brands are usually placed at the shoulder, rib or hip areas. The best site to brand, Marston says, is the hip because it's a flat, fleshy surface. However, some cattlemen prefer to brand on the rib area. Marston says this works best when the cattle are fleshy because the up-and-down rib structure on thinner animals makes it difficult to produce equal pressure on the branding iron's head.

Uden says they prefer to brand on the ribs because the brands are more visible from a distance.

"We use a 6-inch brand on the yearling heifers we are going to breed," Uden says. "Since we prefer larger rib brands, we have to brand at a time when the cattle have more flesh."

Proper equipment

Freeze branding requires more equipment than most identification methods. Locating the proper equipment beforehand is an important step.

First, a squeeze chute or similar restraining device is necessary to keep the animal from moving (see Photo B). Naturally, an animal will resist when the brand is first applied, so the animal must be properly restrained to avoid an illegible brand. When choosing a restraining device, make sure the brand site will be readily accessible.

Other needed equipment include branding irons, a container filled with coolant, gloves, a currycomb, stiff-bristle brush, rice-root brush, clippers, squirt bottle full of 99% alcohol, a stopwatch and recordkeeping tools (see Photo C).

You'll need a set of branding irons and an insulated container that is large enough to allow the branding irons to stand upright with the branding heads emerged in the



A



B



C

PHOTOS BY JENNIFER SHIKE

coolant. Uden says he borrows from a friend or neighbor the branding irons he expects to use most often during a branding. This ensures there always will be a cold iron ready for the next brand.

It's up to the producer to decide which form of coolant to use. Some options include (1) a combination of dry ice, alcohol, gasoline and antifreeze or (2) liquid nitrogen. Gloves are optional, but Marston recommends using them to protect hands from frostbite when handling the cold materials.

Uden prefers dry ice and alcohol because he believes they are more forgiving than liquid nitrogen when estimating the time branding irons need to be applied to the skin.

"I had no luck with liquid nitrogen," he says. "Most people prefer dry ice and alcohol because they seem to produce more consistent results. But, then again, some people get along with liquid nitrogen just fine. You just have to see what works best for you."

To prepare the branding site, you will need to have a currycomb, stiff-bristle brush, rice-root brush and electric clippers. Surgical clippers are preferred because they remove more hair. You'll also need a squirt bottle full of 99% alcohol to clean the hair and to transfer the brand to the hide.

A good stopwatch or timer on a wristwatch will be needed to measure accurately the length of time the brands are applied to the hide. Marston also suggests having a pen and paper nearby to record the procedures followed during each branding session.

Branding procedure

Once the equipment is gathered, chill the branding irons in the desired coolant (see Photo D). The amount of coolant needed varies upon the number of animals, total times the irons will need to be recooled, the outside temperature and the time needed to complete the project.

"It's better to have a surplus of coolant than to run out and shut down production," Marston says. He suggests obtaining 40 liters (L) of liquid nitrogen to brand 50-75 head of cattle. Liquid nitrogen may be purchased through artificial insemination (AI) organizations, welding suppliers or some gas companies.

If alcohol is used with dry ice to cool the irons, use 1-1½ gallons (gal.)/100 head. The alcohol used must be 99% pure, or it will turn to slush at the extremely cold temperature needed to cool the irons (-160° F to -180° F). A minimum of 10 pounds (lb.) of dry ice is required to cool the irons initially. An additional ½-lb. of dry ice will be needed per head branded.



The branding irons' heads must be emerged completely in the coolant. Additional coolant will need to be added throughout the day to replace the coolant that evaporates. When the coolant is placed over the branding irons in the container, it

will create fog (see Photo E). This fog indicates the coolant and the branding irons are equalizing to the same temperature. When the fog disappears, the branding irons will be adjusted to the temperature of the coolant.

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Meanwhile, the animal should be restrained and prepared for branding. The branding site should be cleaned with a stiff brush or currycomb to remove foreign materials (see Photo F). Then the area should be clipped as short as possible. To accomplish this, clip against the hair growth, Marston says (see Photo G).

"It's important to remove the hair because it acts as insulation to the cold iron," Marston says. "The closer the iron gets to the skin, the shorter the amount of time the brands need to be applied."

After the hair is clipped, brush the brand site again (see Photo H) with a rice-root

brush to remove loose hair and dirt. Then apply alcohol at room temperature from a spray bottle to the brand site.

The alcohol should thoroughly cover the entire shaved area. Alcohol will remove skin oils and will act as a medium to transfer cold from the iron's head to the skin. The site must be soaked with alcohol when the irons are applied (see Photo I).

"Most people don't apply enough alcohol before they apply the branding iron," Uden says. "You have to be really liberal with the alcohol in order to get a nice brand."

Apply the brand

Once the brand site is prepared and the branding irons cool to the temperature of the dry ice or liquid nitrogen, the brands are ready to apply. Double-check the brand number you wish to use (see Photo J), and quickly remove the appropriate branding irons. Align the brands, and press squarely onto the prepared site (see Photo K). As soon as the irons are pressed to the skin, have another person start the stopwatch (see Photo L).

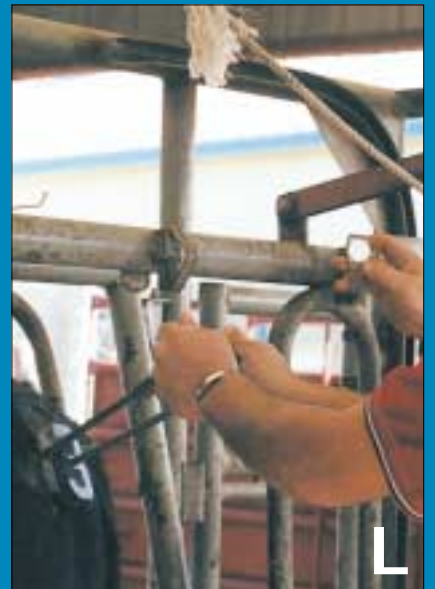
The branding irons should be applied with steady pressure and a slight rocking motion. A lack of pressure or uneven



J



K



L

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pressure will result in poor brands.

After the branding iron has been applied for the correct amount of time (see Photo M), remove the irons from the branding site and immediately place them in the insulated container of coolant. Be sure to allow the irons to recool to the temperature of the coolant before reusing.

Uden says they apply a 6-inch brand for 60 seconds when freeze-branding with dry ice and alcohol.

"Timing is crucial when applying the brand," Marston adds. "Three seconds can mean the difference between success and failure."

If the iron is applied for the proper duration, the brand site will peel and form a scab in two to three weeks. If the brand is not applied long enough, the site will not scab.

The hair will either continue to grow with pigmentation, or part of the hair will grow back white. This streaked appearance is often referred to as a "frosted brand" or a "no-brand."

On the other hand, if the iron is applied too long, the cold will destroy both the growth and the color follicle. The brand site will appear scarred and hairless. These brands are often illegible.

One of the disadvantages of freeze branding is not knowing how good the brand will be until the scabs disappear and the white or colorless hair grows. Success or failure will not become evident until several months later, Marston says.

After the branding is completed, it's important to write down the procedures used that day. Marston also recommends

recording the weather conditions, the members of the branding crew and any other observations that may affect the results (see Photo N).

"It's important to follow the same procedures on each animal," Marston says. "In order to find out what's working and what's not, you need to have a standard that you can go back and review in order to discover what you need to fix."

Freeze branding can be a time-consuming process, Uden says. But the extra time involved pays.

"Regardless of what method you use, remember to take your time," Uden says. "Try to do it right the first time because the brands are permanent." 