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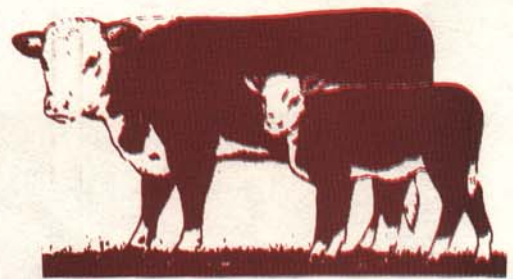
Freeze Branding Cattle – Michigan Beef Production
Michigan State University Cooperative Extension Service
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MICHIGAN BEEF PRODUCTION



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Freeze Branding Cattle

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Figure 1. Most of the equipment needed for freeze branding is shown here: branding irons, styrofoam picnic cooler, squeeze bottle for alcohol, coarse clippers, fine clippers, safety goggles, and gloves. Not shown are: dry ice, alcohol, soap, and a squeeze chute.



Figure 2. Clipping the hip area with a coarse clipper. The animal is restrained in a squeeze chute.

Freeze branding turns the hair of colored cattle white by killing the pigment and not the hair. When performed properly, it makes a sharp, easy-to-read white brand that is always legible. Proper equipment and procedures are extremely important to achieve a successful brand. This method of identification is not recommended if you are not willing to invest the time and patience needed to obtain a good brand. Furthermore, freeze brands are not recognized as proof of ownership in states with brand laws; only firebrands provide legal proof of ownership in those states.

Equipment Needed

1. *Coolant:* Dry ice and 95 percent alcohol (ethyl, methyl or isopropyl). Methyl alcohol can be purchased in 5-gallon quantities at a reasonable cost. In addition, it will take 10-20 lb. of dry ice. Liquid nitrogen is *not* satisfactory.

2. *Insulated container:* A picnic cooler is sufficient.

3. *Set of Copper or High-Quality Bronze Alloy Branding Irons:* These should be specifically designed for freeze branding. Four-inch irons are recom-

mended for yearlings and older cattle, 3-inch for cattle 6-12 months of age, and 2-inch for calves up to 6 months.

4. *Gloves & Goggles:* Gloves should be worn during branding. Goggles are also recommended.

5. *Clippers:* Both coarse and fine clippers should be used.

6. *Squeeze Bottle of Alcohol.*

7. *Soap & Water.*

8. *Squeeze Chute or Other Means of Restraining the Animal.*

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Figure 3. Clipping the brand site with a fine clipper. Using a fine "surgical" blade in the coarse clippers would accomplish the same objective. Clipping as close to the skin as possible is very important.



Figure 4. After washing the brand site with soap and water and immediately before applying the iron, soak the area with alcohol. Soak for one number at a time. The moistening effect of alcohol provides better contact between the iron and the skin.



Figure 5. Applying the iron to the brand site. Accurate timing is important for a successful freeze brand.

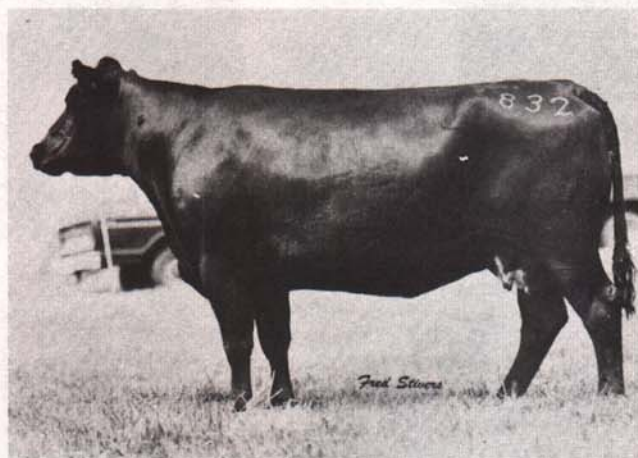


Figure 6. The finished product—a legible, easy-to-read brand.

Preparation

1. Pour enough 95 percent alcohol into an insulated container to completely cover the head of the branding iron. Add chipped, dry ice to adequately chill the alcohol (until mixture quits bubbling). To maintain the correct temperature, it is necessary to have dry ice in the solution at all times.

2. Place the irons in the solution. At first, vigorous boiling will occur and continue until the temperature of irons and coolant is equal. This takes place when the bubbles around the irons are being produced at the same rate as in the surrounding solution.

Branding Procedure

1. Restrain the animal so it cannot move. A squeeze chute is preferred.

2. Select the brand site. The hip area is generally considered best (Figure 2). The rib area is poor.

3. Clip the hair from the area to be branded as close to the skin as possible. Clip first with a coarse blade and then with a fine surgical blade (Figure 3).

4. Wash brand site with soap and water (VERY IMPORTANT).

5. Soak the area to be branded with alcohol (Figure 4) immediately before applying the iron (repeat for each digit).

6. Select the proper iron, shake off excess coolant solution and apply to the brand site (Figure 5). Exert enough pressure to assure firm contact between the face of the iron and skin. Maintain the pressure for the desired time.

7. The following times are recommended for legible brands:

Age	TYPE OF CATTLE	
	Dairy	Beef
2-3 mo.	20 sec.	25 sec.
4-8 mo.	25 sec.	30 sec.
9-18 mo.	30 sec.	35 sec.
Over 18 mo.	35 sec.	40 sec.

8. Some procedures call for slightly longer times than those noted above. Individual situations may vary slightly. Up to 60 seconds may be needed on some mature beef cattle.

9. For white animals, allow an additional 10-15 seconds of exposure. This will destroy the hair and result in a "bald" or "bare" brand.

10. After the first 10 seconds, the animal will feel some pain and try to move. Following this initial pain, the area becomes numb and the animal will settle down. During the period of movement, it is important to maintain firm and constant pressure or else the brand will not be successful.

11. It takes about 6 to 8 weeks for the hair to grow back in and produce a readable brand (Figure 6).