

**EXTENSION**

AFS-3255

Livestock branding in Oklahoma

June 2026

The beef cattle industry is a dynamic business that must continually adjust to market signals, public opinion, state and national policies, and other industry issues. Branding cattle to show ownership, legal title and record keeping have been promoted and practiced by cattlemen in the western states for the past 150 years. However, in recent years, questions have been raised concerning the humane treatment of cattle with respect to certain management practices and the impact of those practices on the overall value of a beef product and/or by-products.

In the 2016 National Beef Quality Audit, discounts for various carcass defects and quality issues cost the beef industry an estimated \$49.06 per head, of which only about 98¢ was attributed to hide brands and other hide defects — comparable to similar estimates in earlier audits (e.g., \$1.90 in 2005, \$2.39 in 2000, etc.). More recent data from the 2022 NBQA show a continued increase in the proportion of cattle with unbranded hides (88.3% in 2022 vs. 74.3% in 2016), suggesting that branding practices have continued to shift toward locations (such as the hip) and methods that preserve hide value and reduce economic loss; although the 2022 audit does not provide a direct per-head dollar loss estimate for hide defects, the trend in unbranded hides aligns with ongoing value retention.

The NAHMS Beef 2017 cow-calf survey indicated that hot-iron branding was used on at least some cows in about 26.6 % of operations, with other methods such as plastic ear tags and brucellosis vaccination tags also common; however, freeze branding remained comparatively uncommon. Hot-iron branding continues to be a significant, albeit evolving, component of cattle identification on U.S. operations.

Why brand?

Livestock identification requirements in Oklahoma have evolved from reliance on metal ear tags, including traditional brucellosis vaccination tags, toward electronic identification (EID) systems. Under recent updates to the USDA Animal Disease Traceability program, official identification used for brucellosis vaccination and interstate movement now requires visually and electronically readable 840 RFID ear tags, while metal tags applied previously remain valid for the life of the animal. As electronic ear tags increasingly serve as the primary method of individual animal identification for disease traceability and transportation, the role of hot-iron branding has shifted more toward ownership identification rather than official animal ID. This transition likely reduces the need to rely on branding as a primary identification tool, while preserving its value for theft deterrence and ownership verification.

Summary of Oklahoma brand laws

Those applying for state brand registration must complete and file the Application for Registration of Brands and Marks (found at: <https://www.okcattlemen.org/brands>) with the Oklahoma Cattlemen's Association Brand Division, P.O. Box 82395, Oklahoma City, Oklahoma 73148. The application must be accompanied by a \$60 registration fee. Upon approval, a brand certificate will be mailed to the applicant indicating the brand registered. All brands approved by the Oklahoma Cattlemen's Association (OCA) will appear in the following brand book or supplement printed.

All brands must be renewed at the beginning of each five year registration period, regardless of when the brand was registered. State registered brand owners will be notified by mail before the five year registration period ends. At this time, brands are renewed prior to publication of the newest Oklahoma Brand Book.

1. A brand is defined as a permanent mark not less than three inches in length or diameter and burned into the hide with a hot iron. "Freeze branding" is also a form of identifying animal ownership. Acid brands are not recognized as state registration.
2. Single unit brands including one initial, number, bar, slash or quarter circle are not accepted as forms of state registration.
3. Each brand registration must be confined to one location on the animal. When the same brand is used on two sites, two applications must be filed. Brands must be registered in the following eight positions ONLY: left neck, left shoulder, left rib, left hip, right neck, right shoulder, right rib and right hip. However, previously registered Oklahoma brand positions are not affected (O.S. 2, Sections 405). The left jaw is reserved for the use of B and T brands, identifying cattle having a detectable antibody titer for Brucellosis and Tuberculosis.
4. Applicants are required by law to list, in order of preference, three distinct brands and three positions on the animal for application of the brand.
5. State registration of your brand is not required by law. Recorded brands, however, take precedence over similar unrecorded brands when questions of ownership arise, placing the burden of proof on unregistered brand users in the event of controversy. Registered brands are prima facie evidence of ownership in a court of law.

Brand books are furnished to county sheriffs, county Extension agents, vocational agricultural instructors and libraries without charge. They can be purchased by the public from OCA at a price equal to the cost of preparation, printing and delivery.

Where, when and how to brand

When ownership brands are applied it is best to use hot brands. The clarity of the application can be determined shortly after branding, and animal-to-animal variation does not affect the end results as greatly as with freeze branding. A good hot brand is recognizable because it destroys hair follicles located under several layers of skin and leaves a permanent bald scar on the hide of the animal.

Identification and ownership brands can be applied at any time during the year, but this procedure is usually performed in combination with one or more practices such as weaning, castration and vaccination. Calves are usually branded before or during weaning because the probability of a calf straying is greater after weaning.

Good brands can be achieved by properly heating the irons until they appear a silvery-gray (similar to the color of ashes) in the daylight, but glow a cherry-red color when held in a dark area. Clipping excessive hair growth or mud from the hide area to be branded, and keeping irons clean at all times with a steel brush to remove hair, dirt and other debris are management practices which should be utilized. The irons can be heated in a wood fire (bed of coals) or a propane (bottled) gas fire. An electric branding iron can be used successfully after a certain amount of experience is gained.

The size of the iron is important. Each character should be (in outside measurements) 4 inches by 3 inches for calves less than one year old and 6 inches by 3½ inches for older cattle. The face width of the branding iron should be ¼ inch to ½ inch wide, with the surface edges slightly rounded. All circles and corners should be vented to prevent excessive scarring. Again, in utilizing the "value added" approach, the branding location is restricted to the hip. This should be the first consideration, as the brand registry may require an applicant to move their chosen location (thigh, shoulder) or choose a different design in order for the brand to be registered.

Tips on fire branding procedures

Catch the calf's head in the headgate of a squeeze chute, then squeeze to restrict motion. Heat the branding irons to the proper temperature as previously described. Firmly press the ash-gray colored branding iron against the hide and rock the handle slightly to vary the pressure, allowing for uniform application of the entire character.

The color of the branded hide should be light tan, similar to the color of new saddle leather. If the iron is the proper temperature and the cattle have a light (summer) hair coat, the brand should be held for no more than three to five seconds. Cattle with a heavy (winter) hair coat should be clipped before branding. Otherwise, the brand requires an application of five to ten seconds.

Do not brand wet animals. An iron applied to a wet animal loses temperature rapidly and tends to scald rather than burn the hide. The result is a serious, slow-healing scar that is hard to read. Apply one iron at a time, taking caution to avoid slippage on the hide. Place brand numbers or characters at least one inch apart. Be sure the branding iron is clean and free of hair before it is used again.

If a second application is necessary to touch-up a spot, or more burn is needed, the procedure should be done with extreme care. The iron must be placed in the exact position of the first application so the character does not blotch.

It is best to brand when flies are not a problem. If they are present, apply a small amount of insecticide to the brand area to prevent infection. A light application of oil or grease to the area will also aid in smoother, faster peeling.

Freeze branding

Freeze branding (cryogenic branding) of cattle with super-chilled irons has been developed within the past 30 years, and is recognized as a legal method of ownership and animal identification in Oklahoma. With this method, the hair of a freeze branded animal is discolored or white due to damage by contact with extreme cold to the melanocytes (color producing cells) of the hair. However, the Oklahoma Cattlemen’s Association recommends that hot iron brands be used for ownership purposes.

Freeze branding has not fulfilled all of the early expectations for the technique, though some people have been satisfied with the results. Drawbacks of the process include:

- Brand sites need to be clipped in the winter for complete clarity.
- The process is relatively expensive on small numbers of cattle.
- Visibility of the brand is not as distinct on yellow, white or red cattle as on black cattle.

Freeze branding materials include:

- hair clippers, brush and squirt bottle
- branding irons (preferably copper or brass heads)
- insulated container for coolant
- alcohol (95% ethyl, methyl or isopropyl) or acetone
- dry ice or liquid nitrogen

Tips on freeze branding procedures

Factors critical to the success of freeze branding include properly cooled irons, uniform pressure on the brand site and correct timing.

Key steps of the procedure include:

1. Cool irons in alcohol and dry ice or liquid nitrogen.
2. Restrain the animal in a headgate and squeeze chute.
3. Clip area to be branded closely.
4. Clean brand site by brushing and wet thoroughly with alcohol from a squirt bottle or sponge.
5. Firmly hold the iron in place on the brand site for the necessary time.

Table 1. Timing of branding for calves and mature cattle

Timing	Calves	Mature cattle
Alcohol and dry ice	40 seconds	60 seconds
Liquid nitrogen	10–15 seconds	22–25 seconds

How to read a brand

Brands are read from left to right, top to bottom and outside to inside. Figures, symbols, letters and numbers will become easily recognizable with practice (see Figure 1). An alternative to the more customary and traditional brand symbols is the angle brand system (see Figure 2). This universal identification system is based on two concentric squares designed by USDA Agricultural Research Service workers.

In the basic square, numbering starts with 2 (in the top left corner) and continues clockwise to the other three corners as 4, 6 and 8. Odd numbered angles are indicated by a second square rotated 1/8 of a turn to the right (clockwise). The top angle (corner of second square) is designated as the number 3 with the 5, 7 and 9 angles following in the same clockwise manner. Two adjacent vertical lines, as with the number “11,” represents the number 1. Two adjacent horizontal lines, or an equals sign (=), depicts the number 0.

These identification marks can be applied with either hot or cold branding techniques. Furthermore, these angles proved to be more easily read than numbers in recognition trials.

The following examples should give you an idea to help you get started.

Figure 1. Traditional brand symbols.

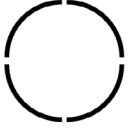
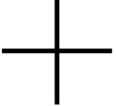
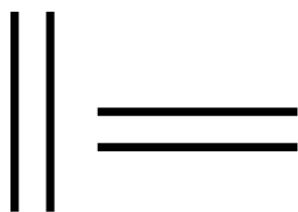
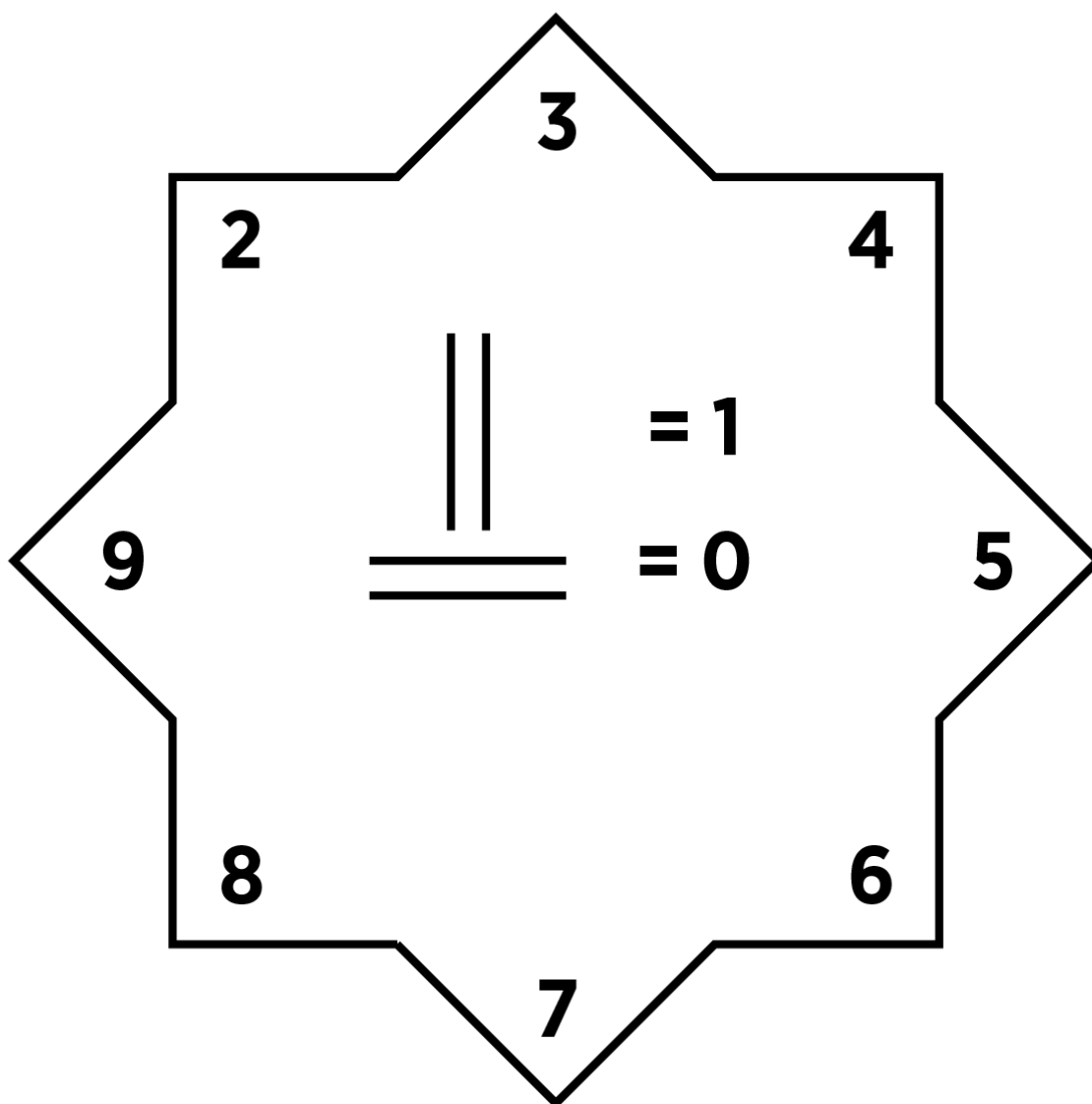
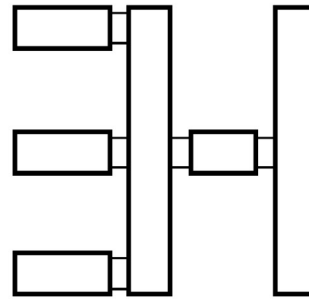
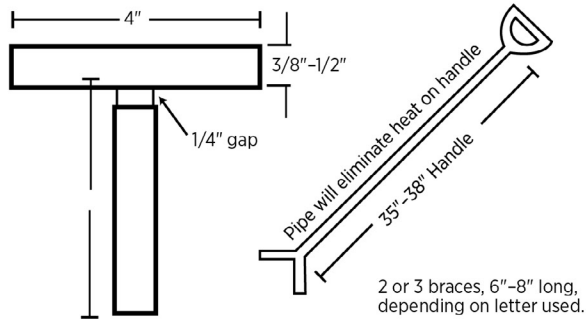
Bar, a short, horizontal line.		Tumbling or tilting brands are no longer registered. Brands must be straight up or lazy.	
Bar, straight up is an "i."			
Slash, a line slanting right or left.		Add legs and it becomes "Walking T."	
Box.		Add wings, it's a "Flying T."	
These are read "half box."		Any letter hanging by its top "Swings." A "Swinging M."	
But this may read "bench."		"BVT" Connected.	
Circle, (Filed with the OCA under "O").		"JHD" Disconnected.	
Half circle, may open up or down.		Often letters and numerals are "connected." This is a "JHD Connected."	
Quarter circle, may be in any position.		Placed on part of a circle, it becomes a "Rocking M."	
Cross or plus.		This is the "Running M."	
May be X or roman numeral 10 as in XIT, "Ten in Texas," but is filed under "X."		"TVD" Connected.	
Diamond.		"KDH" Connected.	
Open "A" (not half diamond).			
But placed over a letter or number, it's a "Rafter," and filed behind "A."		Stacked letters are easy to read.	

Figure 2. Angle brand system.

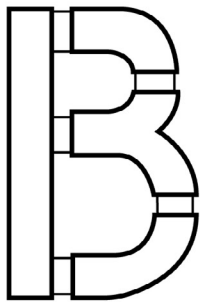


is read 1048

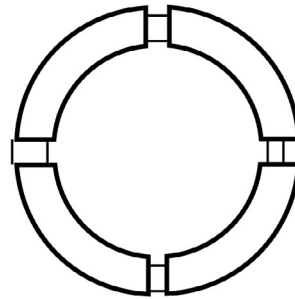
Figure 3. Constructing and branding iron.



It is not recommended that brands of this type be combined in one iron. Otherwise, they are hard to handle and difficult to apply on the animal evenly. Separate irons for the E and a running iron for the H may take longer to make, but the results will be well worth the time.

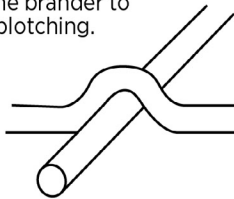


This B iron is made into one piece and has five gaps cut into the face to allow extra heat to escape, therefore eliminating blotching. Another method of making a B is to use a 3 and a bar iron (13).

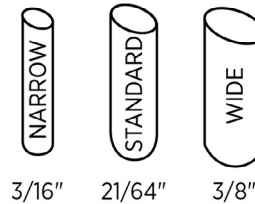
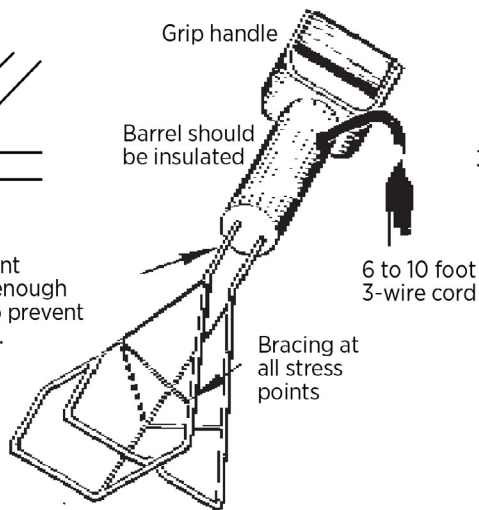


The letter O has gaps to allow heat to escape. It is recommended that branding irons of this nature be made slightly larger than those consisting of straight lines to eliminate blotching.

Adequate spacing should be allowed when intersecting the face of the brander to prevent blotching.



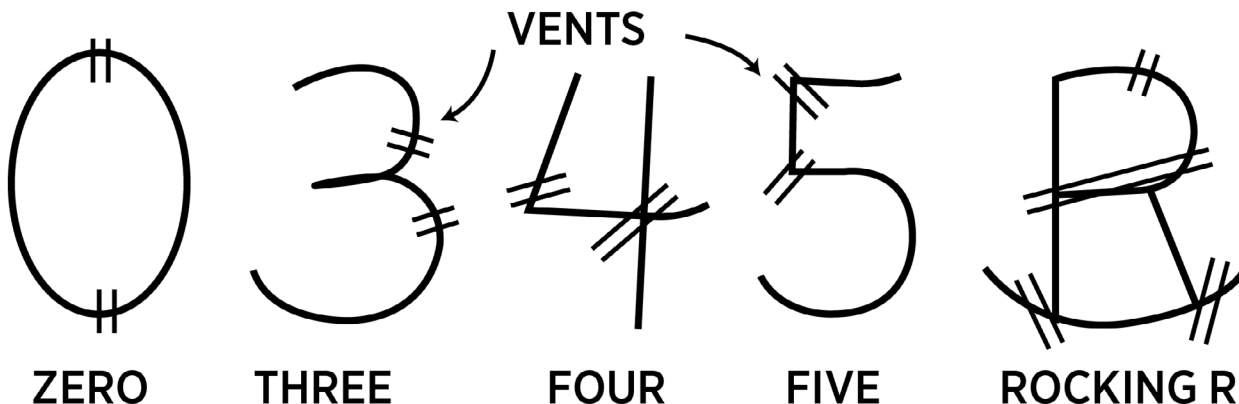
Heating element should be far enough from handle to prevent excessive heat.



Electric branders are available with three different width faces: NARROW for horses, STANDARD for general use, and WIDE for heavy hair growth in northern areas.

Approximate heating time for electric branders is 90 seconds. Blotching is minimal, as the design allows excessive heat to escape. Extensive venting is unnecessary on most brands. Operated on 110 volt AC or DC, a constant temperature is characteristic.

Figure 4. Branding irons should be vented to prevent excessive scarring.



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