Identification of Beef Animals

No matter how many beef animals you might own, you should have some method to identify each individual animal. This is required for keeping accurate records. For breeding animals, you need to know the sire and dam of each animal as well as the animal's performance from its weight at birth through its productive life. For market animals, identification helps maintain birth date and performance records.

Three reasons for animal identification are (1) source verification, (2) permanent identification, and (3) temporary or visual identification.

The coming of the twenty-first century has brought the need for sophistication and accountability to document herd health, to provide trace-back capabilities for antibiotic residue testing, and to provide a means of tracing or controlling food-borne illness.

Electronic identification systems (EID), while in their infancy, have several new and innovative emerging technologies. EID options include the following:

- Bar-coded, tamper-resistant ear tags
- Radio frequency identification (RFID) ear tags
- Injectable transponders
- Rumen boluses

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Permanent Identification Options

Ear Tattooing

This method of permanent identification uses special tattoo pliers that place numbers, letters, or a combination of numbers and letters in the skin in the inside of the ear by means of a series of needlelike points. Special indelible ink is then forced into the puncture holes made by the points. As the punctures heal, the ink is trapped under the surface and shows up as a number or letter. If a proper job of tattooing is done, tattoos will remain in the ear throughout the life of the animal.

Procedure

1. If the animal is to be registered with a breed association, check with that organization for the proper system of numbers and letters that should be used for their particular breed and possibly for that particular birth year.

2. Select the type of pliers, numbers, letters, and tattoo ink or paste that will meet your needs. Green ink or paste should be used on cattle with black skin because the numbers will be easier to read.

3. Select the proper combination of numbers and letters and place them in the tattoo pliers. Check to make sure they are correct by practicing on a piece of paper. This should be done before each animal is tattooed.

4. Secure the animal in the squeeze chute and head gate.

5. Use a cloth to remove dirt and wax from the inside of the animal’s ear.

6. With your thumb or finger, spread a thin layer of ink or paste between the middle ribs on the inside of the ear. Select an area where there is no hair growth.

7. Insert the ear between the jaws of the pliers with the numbers on the inside of the ear in the area where the ink is spread. Close the pliers quickly and firmly and release quickly to avoid tearing the ear.

8. Spread another layer of ink over the punctures and rub it into the holes with your thumb or finger. Be sure you force ink or paste into each puncture. Failure to do this step properly is the cause of most nonreadable tattoos.
Hot Iron Branding

Although not approved in Beef Quality Assurance (BQA) guidelines, hot iron branding is one of the best methods of permanent identification of beef animals. If done properly, farm brands, numbers, or letters can be read easily and cannot be altered. Some breed associations have their own requirements as to the numbering system to be used. If you are branding animals that will be registered, make sure you follow the instructions of that particular breed. Proper selection of branding irons is necessary to obtain quality brands. Letters, numbers, or characters should be 4 inches high to ensure a brand that is easy to read and to avoid blotching. Metal used to make the numbers, letters, or symbols should be approximately ⅛ inch wide. The face of the branding iron should be smooth and flat or with very little angle. Irons should have notches in the face where the bars join. This will help to prevent the blotching of closed numbers such as 0. The handle of hot iron brands should be at least 2½ feet long for easy handling.

Electric branding irons are available from commercial sources. Evaluate your needs and study the literature on various electric branding irons before purchasing.

Procedure

1. Wood is the best fuel for heating branding irons. Fire should be built in a barrel or other container to hold the heat and for safety reasons. Start the fire early enough to have the irons hot before moving cattle into the working chute. Make sure you have enough wood on hand to maintain a hot fire for the length of time you will be branding.

2. A working chute with some type of squeeze mechanism is essential to limit the movement of cattle.

3. Heat irons to ash gray color. Never use an iron that is too hot because satisfactory brands will not be obtained.

4. Restrain the animal to be branded.

5. Clip the hair in the area to be branded as close as possible.

6. Select the correct number, letter, or symbol when the brand reaches the proper temperature.

7. Place the iron firmly against the hide of the animal and remove immediately. This will deaden the area to be branded and reduce the pain to the animal.
8. Place the branding iron back on the animal in the exact location as before. Hold for a few seconds and remove. Continue this process until the hide becomes a copper color—about the same as a penny.

9. Record brand numbers and other desired information in the herd book.

**Freeze Branding**

Freeze branding destroys the natural pigment in the hair resulting in white hair growth where branding irons are placed. This method of permanent identification works well on all cattle except those with white hair coats. It is less painful to the animal than hot iron branding but requires more time and the results may not be as consistent.

Branding irons used for freeze branding are much different from those used for hot branding. They should be solid copper, $\frac{1}{4}$ inch to $\frac{5}{8}$ inch thick, 1 inch to $1\frac{1}{2}$ inches from face to back, and 4 inches high. The handle can be much shorter (12 to 18 inches) than that of hot brands for better control.

Several solutions can be used to cool the irons. If the humidity is low, 95 percent isopropyl, ethyl, or methyl alcohol and dry ice work well. If the humidity is high, gasoline and dry ice can be used. About $\frac{1}{4}$ pound of dry ice per animal plus enough to cool the coolant is necessary. Fifty to 75 pounds will be enough to last 8 to 10 hours.

An insulated container is necessary to keep the coolant at low temperatures. An old picnic cooler or 3-gallon bucket in a larger container with insulation between them works satisfactorily.

**Procedure**

1. Use copper irons.

2. Reduce the temperature of the liquid coolant to minus 106 degrees C or minus 157 degrees F.

3. Immerse the irons in the liquid coolant and dry ice bath. Make sure the liquid completely covers the irons.

4. Allow about 20 minutes for the irons to cool the first time.

5. While the irons are cooling, move cattle up the chute and clip the branding area. The rump is usually the best area to brand.

6. Use surgical clippers or regular clippers with a fine clipper head.

7. To clean the area and improve contact with the iron, soak the clipped area with the same solvent used with the dry ice, using a squirt bottle or rag.
8. Rub off the liquid.
9. Resoak the area and apply the appropriate branding iron.
10. Apply the branding iron firmly against the hide for 40 to 45 seconds. Time with a stop watch.
11. Replace branding iron in the solution and dry ice at least 1 minute before using again.

**Visual, Temporary Options**

**Ear Tags**

Ear tags that are large enough to be read from a distance provide an excellent way to identify cattle quickly and easily. Colored blank tags give you a great deal of flexibility in designing a custom identification system to meet a variety of needs. One of the problems with ear tags is that some will be lost. To reduce record problems, replace lost tags immediately.

Ear tags can usually be classified into one of three styles: one-piece plastic, two-piece plastic, and metal. These tags vary in shape, size, color, and method of attachment to the ear. In most cases you will use a special tool, knife, or pliers to pierce the ear and pass a portion of the tag through the ear. Large, plastic ear tags make it easy to identify the animal from a distance. Therefore, you should consider size and color combinations. In all cases, the ear tag and the tattoo should match.

**Procedure**

Many different types of tags are available. Consider some of the basic steps involved in selecting and attaching ear tags.

1. Determine the type of numbering system you will use to identify your cattle. Some producers use the first digit in the number to represent the year of birth and the next two or three digits to represent the order in which the calves are born; for example, you could assign 301 to the first calf born in 2003.

2. Visit with your county Extension agent and cattlemen in your area to learn which tags have a high success rate. Discuss cost, ease of application, and other factors.

3. Visit a livestock supply store, examine the tags available, and select the type that will meet your needs. Most manufacturers provide prenumbered and blank tags in several colors. You can buy special marking pens to apply numbers to the blank tags. You might use colored tags to identify calves sired by a particular bull. Colored blank tags give you flexibility in developing your own identification system. You might put the animal’s number on the bottom of the tag and put the numbers of the sire and/or dam on the top.

4. Make sure you get the correct tool, knife, or pliers needed to install your type of tag. Some tags are attached to the ear with a special rivet-type button. If you select that type of tag, you will need to purchase enough buttons.

5. Most tag manufacturers provide printed instructions on how to attach their tags properly. Ask for the instructions when you purchase your tags. You must attach the tags to the ear in a certain way and in a certain
location. This makes it easy to see the tag, and fewer tags will be lost. Therefore, follow the manufacturer’s recommendations.

6. Ask an experienced adult to show you how to install your tags properly and to assist you until you become experienced.

7. Select the ear to be tagged. Your handling facilities will determine this to some degree. If you are working your cattle from the right side, put the tag in the right ear.

8. To do a good, safe job of ear tagging, you must restrain the animal so that it cannot move its head. The best way to do this is to use the headgate and squeeze chute.

9. Treat the pierced ear around the tag with an antiseptic compound to prevent infection.

10. After you have properly installed the tag, record the identification information.

To get the most out of your identification system, you must have written records. Again, eartags and tattoos should match.

Caution! Most of the tools used to insert ear tags through the ear are sharp. Be careful and avoid injury to yourself and to your animal.

Fraud Proof Options:

- DNA profiling (Blood test or hair sample to provide permanent identification)
- Retinal imaging
- Nose printing

Nose Printing

The basic principle of the noseprint method of identification is that no other animal has an identical pattern on its nose. When you are halter breaking or working cattle through your squeeze chute, observe the area between a calf’s upper lip and the top of the nostril. You will see a series of ridges and grooves, and, on close inspection, you will probably see that the patterns are different among animals.
The equipment and materials you will need for obtaining an ink noseprint are the following:

1. Terry cloth towels or quality paper towels
2. Stamp pad—the regular office supply 3- x 4½-inch felt pad is large enough.
3. Black, fast-drying stamp pad ink
4. Headgate, preferably with a squeeze chute
5. Index cards, 3- x 5-inch or 4- x 6-inch, non-lined standard grade (dull finish). A slick-finished card or paper will result in a smeared print.
6. A ¾-inch thick piece of wood similar in size to the index card.

**Procedure**

1. Place the animal in a headgate.
2. Stand to the right of the animal’s head and reach over and around the neck with your left arm to restrain the head. You may have to use the halter to pull the head to one side.
3. Use the towel to dry thoroughly the hairless area of the muzzle.
4. Immediately cover the hairless area with the black ink. For good results, start the edge of the pad at the edge of the upper lip and roll the pad upward toward the animal’s face.
5. Using the piece of wood as a support, immediately press the index card against the muzzle and lift the print. You can get good prints by placing the lower edge of the index card at the edge of the upper lip and then rolling it upward toward the animal’s face.
6. If the print is smeared by movement or perspiration, repeat the steps.
7. Label the index card with the owner’s name, the animal’s tattoo/tag number, and the date.

Remember these two important steps to get good noseprints: thoroughly dry the muzzle before applying the ink and quickly lift the print before perspiration appears. Moisture will cause the ink to run, and this will result in a smeared print.

You can use noseprints to identify beef cattle positively. Some countries are using noseprints to identify stolen cattle. Some national and state steer shows require that steers be nominated several months before the show and that noseprints accompany the nomination forms. Noseprints taken at the show are matched with the nomination prints to make certain that the steers are the same and the ownership requirements have been met.
What Did You Learn?

1. List at least three reasons for keeping identification records of your beef cattle.

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

2. The ________________ _____________ method uses indelible ink rubbed into punctures.

3. One of the major disadvantages of plastic ear tags is that they

__________________________________________________________________

4. An ear tag with the number 603 probably means the animal was born in the year __________ and was the ____________ calf born that year.

5. One of the most permanent methods of identification is ____________ ____________ branding.

6. ________________ branding uses a liquid coolant and a dry ice bath to freeze copper irons.

7. Why is the noseprint method a good identification technique?

__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

Things You Can Do

1. Check with your breed association to find their system of numbers and letters used in identifying cattle.

2. Observe adults performing each of the methods of identification—tattooing, ear tags, hot iron branding, freeze branding, and noseprints.

3. Visit several cattle operations and observe the different handling facilities.