

Freeze-Branding Techniques for Horse Owners



Many horse and/or cattle owners have probably considered branding options for their animals to help with identification and to deter theft. In addition, branding can be a form of marketing for ranches and pedigrees.

While cattle owners often choose hot-branding, most horse owners prefer freeze-branding to permanently identify their horses. Freeze-branding is a safe, economical, and simple method that can be used on horses of any age. This method seems to be painless and is legible, permanent, and difficult to alter.

How It Works

Hair on a horse's hide is comprised of a shaft, a color-producing follicle, and a growth follicle. The shaft of the hair is clear, and the follicle is pigmented, which gives the horse its coat color.

A branding iron is placed in liquid nitrogen and becomes extremely cold. When placed on the horse's skin, it destroys the color-producing follicle but not the growth follicle. As a result, the hair at the site of the brand continues to grow as normal, but the pigmentation does not, which gives the hair a white appearance.

To get an attractive and uniform brand, you must apply proper, evenly distributed pressure for the correct length of time.

Equipment and Procedure

You will need the following equipment:

- A standing stock (not required but preferable for safety)
- Clippers (surgical clippers are best)
- Liquid nitrogen in a container large enough for the branding iron to stand upright with the head completely submerged
- Spray bottle with 99 percent alcohol (lower percentages contain water, which can cause an ice layer to form during branding and decrease the penetration of the cold through the skin)
- Stopwatch or phone
- Personal freeze-branding iron (Irons are made from stainless steel, brass, and copper or combinations of metals. The type of metal you choose will determine the length of time the brand must be held against the skin. See **Table 1.**)
- Twitch

Step 1

Place the horse in a confined area, preferably a stock, to prevent the horse from moving once the branding iron is placed on the skin.

Step 2

Place the branding iron into the liquid nitrogen container with the head of the iron completely submerged. Once a warm iron is submerged, the liquid nitrogen will bubble or boil. Once the boiling and intense bubbling have subsided, small bubbles will appear (resembling carbonation bubbles in soda). This means that the iron head has chilled to the proper temperature (approximately -300°F). Keep the container close to the horse so that the iron will maintain the proper temperature until it reaches the horse's skin.

Step 3

Clean the area to be branded and clip the hair down. Tip: Clip the area as evenly as possible to leave a straight line to line up the branding iron squarely on the horse.

Step 4

If the horse is docile and easy to handle, twitching may not be needed. However, to ensure that the horse stands completely still, place the twitch on the nose. Keep horse still.

Step 5

Place the timer/stopwatch close to the branding site.

Step 6

Soak the branding site with alcohol.

Step 7

Immediately after soaking with alcohol, remove the branding iron from the liquid nitrogen, align it properly, and firmly press it onto the skin. Use the verbal cue "on" immediately upon placing the iron on the skin; the person timing should immediately start the stopwatch. Press the brand firmly (recommended around 40 pounds of pressure) and make sure that no part of the head loses contact with the skin. Use a gentle rocking motion with the branding iron head to ensure uniform contact with the entire surface area. Move with the horse if it starts to move so you will not lose contact. Once the appropriate time has elapsed, the timer should give the verbal cue "off." At this cue, immediately remove the iron from the horse's skin.

If multiple horses are being branded, immediately place the iron back into the nitrogen and leave it there until it is properly cooled. This may take up to 3 to 5 minutes.

Timing

The time it takes a brand to work depends on the age and color of the horse and the type of branding iron used. See Table 1.

Post-branding Results

You will notice a swollen outline of the brand shortly after removing the iron. Within 30 minutes to an hour, swelling may go away and not much, if any, visible outline of the brand will be noticeable. After a week or so, the skin on the brand site may start to peel much like a sunburn. It will take up to 2 months for the brand to heal.

The following photos show a red dun horse that was branded with a copper branding iron held on the site for 10 seconds.

Table 1. Branding times based on age and color of horse and type of branding iron used.

Color (age)	Stainless steel	Copper/brass
Dark* horses (8 months and younger)	8 seconds	7 seconds
Dark horses (older)	8 seconds	10 seconds
Light* horses (8 months and younger)	12 seconds	15 seconds
Light horses (older)	12 seconds	15 seconds

Source: Householder, D., G. Webb, S. Wigington, and J. Breummer. Freeze Branding Horses. Texas Horse Owner's Reference Guide. Texas A&M University.

*Dark horses are defined as palomino, bay, brown, black, chestnut, sorrel, etc. Light horses are defined as white, light gray, etc.



Freeze brand immediately after branding.



Freeze brand 1 week post-branding.



Freeze brand 2 weeks post-branding.



Freeze brand 4 weeks post-branding.



Freeze brand 8 weeks post-branding.

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By Clay Cavinder, PhD, Professor, Animal and Dairy Sciences.



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