



BRANDING FACT SHEET

A Fact Sheet for the Canadian Beef Industry

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Purpose of Branding

The purpose of branding is to permanently identify cattle for proof of ownership and/or for export. Brands may be applied either by hot-iron or by freeze branding [1-6]. Remember, all cattle must be tagged with an approved radio frequency identification (RFID) tag before they can leave the farm.

Methods of Branding

All methods of branding are stressful and painful. However, freeze branding has been shown to cause less acute pain than hot-iron branding [1-6]. To improve cattle care, the “Code of Practice for the Care and Handling of Beef Cattle” requires that branding must be performed by trained personnel to minimize pain, and recommends that veterinary consultation should be sought regarding pain control [7].

The Code also requires that wet cattle **not** be branded [7], as this can scald the skin and cause unnecessary pain. If at all possible, the Code recommends that you avoid re-branding cattle [7].

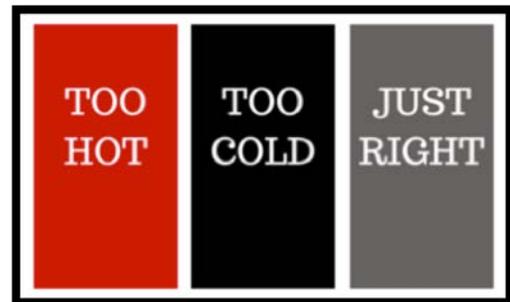
It should be noted that cattle must be branded with the operation’s registered brand and in the registered location, if it is to be recognized. A brand may be registered for any of the six locations: shoulder, hip, or rib on either side of the animal [8].

To avoid a botched brand and the need to re-brand, branding should be performed with the animal as still as possible. Depending on the size of the animal, this may require a squeeze chute [9].

Hot-Iron Branding

Hot branding works by destroying the hair follicles, causing a permanent scar. An important part of hot-iron branding is making sure that the iron is the right temperature. The colour of the iron is a good indicator of temperature. A black iron indicates that the iron is too cold, it may burn the skin but it is not hot enough to cause a permanent brand.

A red iron indicates that the iron is too hot, which can cause the hair to catch fire, thereby ruining the brand. An ash grey colour indicates the proper temperature for branding. If you use a copper iron the colours are different. A black copper iron is too cold. The proper temperature is indicated by a dull copper colour [9].



If the animal has a long hair coat, clip the hair prior to branding, as this decreases the amount of time it takes to apply the brand [9].

Once you’ve checked the temperature of the iron and the animal is restrained, place the iron on the branding site and press firmly while rocking the iron. An animal with light coloured skin may take 3-5 seconds to brand and animals with darker skin will take less time. The hide should be a buckskin colour. If the iron is taken off too soon, the brand will fade. If the iron is left on too long it will cause a burn that takes longer to heal [9].



Source: Livestock Identification Services LTD.

Figure 1: Example of hot-iron brand.

Freeze Branding

Freeze branding works by destroying the pigment producing hair cells, causing the hair to grow back white (Figure 2). This involves using special equipment to allow the iron to reach a low enough temperature. As you will be working with dry ice or liquid nitrogen, it is best to be trained on how to freeze brand. Proper protective equipment should be worn (gloves) when working with these materials, as temperatures can be as low as -73.3°C (-100°F) [10].

No matter the animal's age and thickness of hair, the hair should be clipped and the area washed with alcohol to remove any dirt. The time needed to hold the iron to the skin depends on the colour of the animal's hair, thickness of hide, method of cooling the iron, and the temperature outside (Table 1). Lighter animals will take longer to brand. When done the iron should leave an indent in the hide that you can run your finger around [10].

Age of Cattle	Iron Contact Time (Seconds)	
	Dry Ice & Alcohol	Liquid Nitrogen
4 – 8 months	25	15
9 – 18 months	30 – 40	20
> 18 months	45 – 50	25 – 30
Adult	50 – 60	35

Table 1: Contact time for freeze branding [11].



Source: Livestock Identification Services LTD.

Figure 2: Example of freeze brand.

Pain

All methods of branding are stressful and painful [1-6]. Work with your local veterinarian to plan an appropriate branding protocol for your operation. Indicators of pain include:

- Tail swishing
- Stomping feet
- Head turning
- Abnormal stance
- Abnormal gait
- Reduced activity level
- Reduced interest in feed and/or water

Acknowledgement

Livestock Identification Services LTD., supplied the photos used in this fact sheet.

References:

1. Lay, D.C., Friend, T.H., Grissom, K.K., Bowers C.L. & Mal M.E. 1992. Effects of freeze or hot-iron branding of Angus calves on some physiological and behavioral indicators of stress. *Appl Anim Behav Sci.* 33:137-147.
2. Lay D.C. Jr, Friend T.H., Randel R.D., Bowers C.L., Grissom K.K. & Jenkins O.C. 1992. Behavioral and physiological effects of freeze or hot-iron branding on crossbred cattle. *J Anim Sci.* 70:330-336.
3. Schwartzkopf-Genswein K.S., Stookey J.M., de Passillé A.M. & Rushen J. 1997. Comparison of hot-iron and freeze branding on cortisol levels and pain sensitivity in beef cattle. *Can J Anim Sci.* 77:369-374.
4. Schwartzkopf-Genswein, K.S., Stookey J.M. & Welford R. 1997. Behavior of cattle during hot-iron and freeze branding and the effects on subsequent handling ease. *J Anim Sci.* 75:2064-2072.
5. Schwartzkopf-Genswein K.S., Stookey J.M., Janzen E.D. & McKinnon J. 1997. Effects of branding on weight gain, antibiotic treatment rates and subsequent handling ease in feedlot cattle. *Can J Anim Sci.* 77:361-367.
6. National Farm Animal Care Council (NFACC). 2013. Code of Practice for the Care and Handling of Beef Cattle: Review of Scientific Research on Priority Issues. Available from: <http://www.nfacc.ca>.
7. National Farm Animal Care Council (NFACC). 2013. Code of practice: for the care and handling of beef cattle. Available at: http://www.nfacc.ca/pdfs/codes/beef_code_of_practice.pdf Accessed: 08/29/14.
8. Livestock Identification Services LTD. Purchase brands. Available at: http://www.lis-alberta.com/brands/purchase_main.aspx Accessed: 08/24/15.
9. Livestock Identification Services LTD. Applying brands: Hot iron branding. Available at: http://www.lis-alberta.com/brands/applying_iron.aspx Accessed: 08/24/15.
10. Livestock Identification Services LTD. Applying brands: Freeze branding. Available at: http://www.lis-alberta.com/brands/applying_freezing.aspx Accessed: 08/25/15.
11. Hall, J.B., Greiner, S.P. & Gregg, C. 2009. Cattle identification: Free branding. Available at: https://pubs.ext.vt.edu/400/400-301/400-301_pdf.pdf Accessed: 09/11/15.

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