

Methods of Identification for Horses

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In today's competitive world of equine sports, proper identification has become a top priority. Thorough and effective identification ensures that the horse being bought, sold, raced, or bred is indeed the horse it is claimed to be.

The Jockey Club was the first organization in the United States to set up an accurate identification system for horses. In the early 1900s, the thoroughbred racing industry was having problems with "ringers" running under assumed names. (A ringer is a falsely identified horse entered in a race below its class, giving it an almost certain chance to win.)

Today, many methods are used to identify a horse, including markings, cowlicks, chestnuts, tattooing, freeze branding, blood typing, DNA typing, and microchip identification.

Body Markings

Chestnuts—Chestnuts, or night eyes, are horny, irregular growths on the inside of the horse's legs. On the front legs, they are just above the knee. On the rear legs, they are toward the back of the hock.

Cowlicks—Cowlicks are permanent hair whorls which cannot be brushed or clipped out. They are located mainly on the forehead and neck.

Dimples—Dimples are permanent indentations in the muscle under the skin. They are usually located at the point of the shoulder or in the neck muscles.

Others—White or black patches on the body, scars, and firing marks on the legs are also useful for identifying horses.

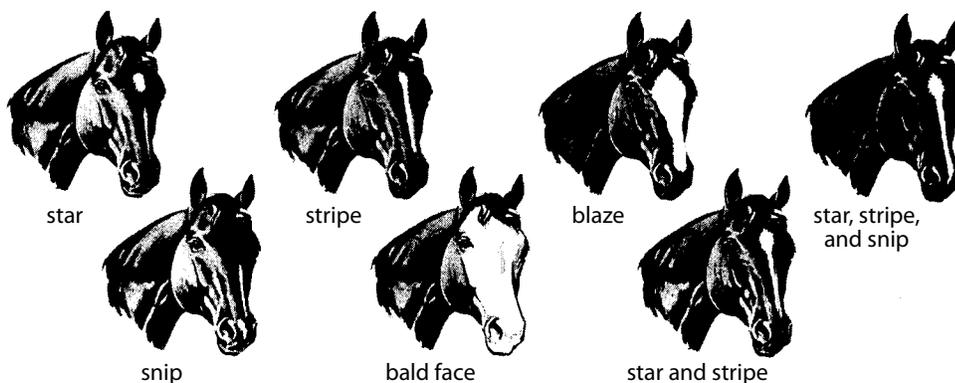


Figure 1. Common head markings.

Head Markings

Star—A solid white mark on the forehead. The shape may range from oval- to diamond-shaped to a narrow vertical, diagonal, or horizontal star.

Stripe—A white mark starting at eye level or below and ending on or above the upper lip. The size and shape of a stripe may vary widely and must be described in detail as to width, length, and whether it is connected or unconnected to a star.

Snip—A white or beige mark over the muzzle between the nostrils.

Blaze—A wide patch of white extending down the face and covering the full width of the nasal bones.

Bald face—A wide white marking which extends beyond both eyes and nostrils.

Leg Markings

Coronet—A white marking covering the coronary band.

Pastern—A white marking from the coronet to the pastern.

Ankle—A white marking from the coronet to the fetlock.

Half-stocking—A white marking from the coronet to the middle of the cannon.

Stocking—A white marking from the coronet to the knee.

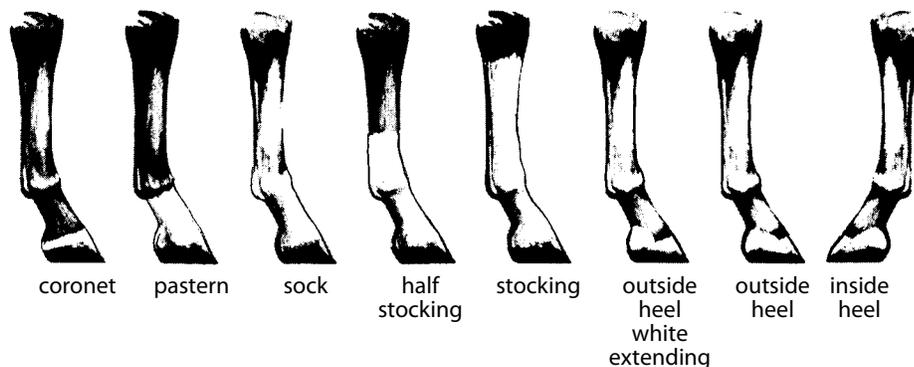
Stocking plus—A white marking like the stocking, but the white extends onto the knee or hock.

White on knee or hock—A separate white mark on the knee or hock.

White spots—White spots on the front of the coronet band or on the heel.

Distal spots—Dark spots on a white coronet band.

Figure 2. Common leg markings.



Color

Bay—Body color ranging from tan through red to reddish brown; mane and tail black; usually black legs.

Black—Body color true black without light areas; mane and tail black.

Chestnut—Body color dark red or brownish red; mane and tail usually dark red or brownish red, but may be flaxen.

Brown—Body color brown or black with light areas at muzzle, eyes, flank, and inside legs; mane and tail black.

Buckskin—Body color yellowish or gold; mane and tail black; usually black on lower legs. Buckskin color is the result of one cream dilution gene, which will lighten the coat (but not the points) of a bay horse. Buckskins may or may not have dorsal stripes, depending whether they have the dun gene as well as the cream dilution gene.

Palomino—Body color golden yellow; mane and tail white. Palomino color is the result of one cream dilution gene on a chestnut horse. Palominos do not have a dorsal stripe.

Cremello—The body color is white or light cream with white mane and tail. The skin is pink, and the eyes are pale blue. This color is the result of double cream dilution on a chestnut horse.

Perlino—The body color is white or light cream, with darker tinted mane and tail (pale copper or orange). The skin is pink, and eyes are blue. This color is the result of double cream dilution on a bay, brown, or black horse.

Dun—Body color yellowish or gold; mane and tail may be black, brown, red, yellow, white, or mixed; usually has dorsal stripe, zebra stripes on legs, and transverse stripes over withers.

Red dun—A form of dun with body color yellowish or beige; mane, tail, and dorsal stripe are red.

Gray—Mixture of white with any colored hairs; often born solid-colored or almost solid-colored and becomes whiter lighter with age. The skin is dark. Gray horses' heads are lighter colored than the rest of the body.

Roan (blue roan, red roan, or bay roan)—Roan is a pattern of white hairs superimposed on the body but not the head and legs. The color is evident in the first shedding of foal coat if not already apparent at birth. Roan is named after the base color it is acting upon; for example, a blue roan is the roan gene on a black horse; a red roan is the roan gene on a chestnut horse; and a bay roan is the roan gene on a bay horse.

Grullo—Body color smoky or mouse-colored (not a mixture of black and white hairs, but each hair mouse-colored); mane and tail black; usually black on lower legs. Usually has dorsal stripe.

Pinto—The two most common pinto color patterns are tobiano and overo. The tobiano horse will usually have head markings like those of a solid-colored horse; legs may be white; body markings are often regular and distinct, being oval or round patterns. The overo horse will often have a bald face, at least one dark-colored leg, and body markings that are usually irregular, scattered, or splashy white (these markings do not cross the back between the withers and tail).

White—A true white horse is born white and remains white throughout its life. A white horse has snow-white hair, pink skin, and brown, hazel, or blue eyes. This color is very rare.

Tattoos

Lip tattooing was perfected by the Thoroughbred Racing Protective Bureau (TRPB). The Jockey Club uses this method of identification to guarantee the identity of every racing horse at a track that is a member of the Thoroughbred Racing Association (TRA).

In Thoroughbreds, the tattoo consists of a letter which corresponds to the year the horse was born and a number that matches the registration number of the horse. The tattoo may be placed in several areas, but the upper lip is the most common site. However, a horse owner can tattoo his or her horse in other areas with different letters and numbers.

Freeze Branding

Freeze branding uses copper stamps or marking rods cooled in liquid nitrogen or dry ice. The Bureau of Land Management uses freeze branding to identify the animals rounded up in its National Wild Horse and Burro Program, and the United States Trotting Association uses freeze branding to identify its registered Standardbreds. The branding consists of angular symbols that represent the year the horse was born followed by its registration number. The brand is most commonly applied to an area approximately 2" x 7" in size midway on the neck and underneath the mane. However, different horse farm and organizations may choose to identify their horses by freeze branding them elsewhere, such as the thigh or shoulder. An indentation is left in the skin immediately after the brand is applied, and some swelling may occur in the first few days. However, after two months, a distinct and permanent mark remains. On dark-colored animals, the hair grows back white, and on white animals an area with no hair results.

Freeze branding has many advantages over fire branding. A freeze brand produces minimal changes in the hide, is more distinct and legible, does not produce an open wound, and is relatively painless. Horses accept being freeze branded very well, unlike being fire branded.

Blood Typing and DNA Testing

Although markings, tattooing, and freeze branding are effective in differentiating individual horses, blood typing and DNA testing have been developed and are more useful.

Blood typing is used by most breed organizations. Seven blood groups (including red cells, red cell antigens, and serum proteins) and 10 biochemical markers are tested for 40 different factors. The testing results in specific, detailed information about an individual horse in order to identify it.

That information is useful, for example, in drug testing cases or cases where horses with similar color and markings may have been switched. The profile can also be compared to the blood types of the horse's sire and dam for confirmation of parentage.

DNA testing is available to generate DNA genotypes and perform parentage testing as well as identify individual horses. A panel of 13 markers is used for standard testing. DNA can be extracted from hair bulbs, blood, or any tissue. DNA types and blood types are not the same and should not be used interchangeably. For example, the parentage of a foal that was DNA tested cannot be confirmed if its parents were only blood typed. However, depending on the lab, if the blood samples used to determine blood type were stored, DNA types can be generated from those stored samples, and parentage can be determined.

Microchip Identification

Horses, like small animals, can also be microchipped to assist in identifying the horse. It involves implantation of a microchip the size of a grain of rice containing the horse's registration number or identification number. The veterinarian uses a specially designed needle and syringe to implant the microchip about midway down the horse's neck, just below the crest. The chip is inserted into the ligament in the neck, and is lodged about an inch underneath the skin's surface. It is equipped with a non-migratory tip to ensure that it stays in place. The chip can be installed in foals as young as 1 day old.

What separates the microchip identification method from other methods is that it cannot be altered. The chip is read using a hand-held scanner. Its main purpose is to identify ownership of the horse.

Resources

- Bureau of Land Management www.blm.gov
- United States Trotting Association <http://standardbreds.ustrotting.com/>
- Animal Genetic Testing and Research Laboratory <http://www.ca.uky.edu/gluck/AGTRL.asp>
- Gower, Jeanette. 2000. *Horse Color Explained: A Breeder's Perspective*. North Pomfret, Vermont.: Trafalgar Square Publishing.