



MORGAN COLOR HISTORY AND STATISTICAL ANALYSIS

By Erica Eulau, AMHA Registrar • Captions and photos of uniquely colored Morgans courtesy of Laura Behning

After publishing the coat color and color characteristics for all Morgan horses (*The Morgan Horse Breeding Guide*, January/February 2021, "Registrar's Report"), the Registry received correspondence from color enthusiasts and through that dialogue came to realize that the statistics provided were really of little benefit to those who study coat colors and/or breed for them. We thought it might be helpful to have a history of accepted Morgan coat colors to better understand the statistics and so that there would be a written record. This information was assembled from board and committee minutes and a review of older registration applications and registry rules.

ORIGINAL COLORS

Bay, Brown, Black, Buckskin, Dun, Gray, Chestnut, Palomino

UNACCEPTED COLORS

Spotted horses: pintos, appaloosa, and white horses

1962: High White Rule adopted by AMHA.

Mid-80s: Black/dark chestnut added.

1996: High White Rule rescinded; Creme added.

2004: Bay/dun, chestnut/dun, and grulla added.

2006: Black/dark chestnut, bay/dun, chestnut/dun, creme, and grulla removed as base coat color. Foal owners were requested to report base coat color and characteristics. A characteristic is a modifier to the base coat color or a dilution gene that change a horse's color appearance.

CURRENTLY RECOGNIZED BASE COAT COLORS

Chestnut, Black, Bay, Brown, Palomino, Buckskin, Smoky black, Cremello, Perlino, Smoky cream

CURRENTLY RECOGNIZED COLOR CHARACTERISTICS

Dun, Flaxen, Silver, Gray, Roan, Sabino, Frame overo, Splash white

Thank you, Laura Behning, author and administrator of the website morgancolors.com, for advice and guidance.



DUNALINO (palomino + dun)

Blitzen Desperate Raine (Amberfields Desperado x Coachman's Tsunami) (CN 17895), 2017 dunalino mare owned by Caylyn Walker, Ontario, Canada.



GRULLA (black + dun)

MHB Bacchus' Blessing (Ragtime Dun D x Alpinemist Blessing), 2017 grulla stallion owned by Natalie Tanaka (photo by Steve White).



PALOMINO SPLASH CARRYING SILVER

(palomino + heterozygous splash + silver)

Conjured (KS Bluestem The Old Guard x Positively Charmed) 2020 palomino/splash/silver mare owned by Jennifer Poulin-Novaria. Pictured at age five months, this mare is the only Morgan with this particular color combination at present. The silver dilution only shows on black and bay based individuals, so it is invisible on red based horses, but can be passed on to their offspring. One copy of the splashed white gene shows as so-called “normal” white markings—this filly has four low socks, a star and a snip—but some heterozygous splashes, especially in the Morgan breed, have no white at all. In this way the splash gene survived in the Morgan breed during the years that the White Rule was in effect (photo by Laura Behning).



SMOKY BLACK SILVER (smoky black + silver)

Positively Charmed (Gone Gold x Foxtan Frosty Dawn) 2007 smoky black silver mare owned and photographed by Laura Behning. One of just two of this color combination in the breed at present. It is easy to see how silver dilutes were mistakenly registered as chestnuts in the past, but this is genetically a black-based horse and not a red-based one. As a younger horse this mare showed more contrast between her body color and the mane and tail; this “age darkening” is not uncommon on silver dilutes, especially in the Morgan breed where darker colors have been selected for many generations.

The changes in terminology did not mean that certain colors were suddenly allowed. Duns have always been allowed, for example, but the specific terms used to describe them for registration have changed as our knowledge of color genetics has evolved. The only colors that were ever not allowed—and then, only for a specific time period during the White Rule—were the double creams, horses with blue eyes, and pintos with white markings above the knee or hock and beyond certain parameters on the face. While these colors have been in the breed all along, it was not until 1996 that they were recognized.

The Registry offers the following optional coat color tests: Cream Dilution, Lethal White Overo, Red Factor/Agouti, Sabino 1, Silver, Gray, Splash, Dun, and Dominant White Pattern.

FOR THE REGISTRATION CERTIFICATE TO READ “COAT COLOR VERIFIED,” HORSES MUST HAVE THE FOLLOWING COLOR TESTS

CHESTNUT OR BLACK: Red Factor/Agouti Test

PALOMINO, BUCKSKIN, SMOKY BLACK, CREMELLO,

PERLINO, OR SMOKY CREAM: Red Factor/Agouti Test and Cream Dilution Test

SILVER: base coat color tests plus characteristics Silver Test

GRAY: base coat color tests plus characteristics Gray Test

SPLASH: base coat color tests plus characteristics Splash Test

DUN: base coat color tests plus characteristics Dun Test

The Red Factor/Agouti Test does not differentiate between the colors bay and brown, so these colors cannot be verified.

COLORFUL TIPS TO REMEMBER

- Two chestnuts can only produce a chestnut.
- Palomino, buckskin, and smoky black foals must have one parent that is a cream dilute color.
- Both the sire and dam of cremello, perlino, and smoky cream foals must be a cream dilute color.
- A gray horse must have at least one gray parent.
- A silver horse must have at least one silver parent.
- A dun horse must have at least one dun parent.
- A roan horse must have at least one roan parent.

It is worth noting, a foal's coat color test may sometimes be an over-riding exception if the parents' coat colors were misidentified when registered. The color of many older Morgans may have been incorrectly registered when color selection was more limited. For instance, two parents registered as black may in fact have a smoky black foal when the foal's coat color test reveals the cream dilution gene.

Following is a breakdown of the base coat colors with the recorded color characteristic of *living* Morgans done in February 2021. Please note that while AMHA does offer coat color testing the Association does not require it, therefore many of the coat colors and/or coat color characteristics have not been verified through AMHA. Some owners may opt to have coat color testing done on their horses privately. AMHA does not record these results since the identity of the sample cannot be verified. It is also important to note that while some Morgans have a coat color characteristic of



BAY SPLASH (bay + homozygous splash)

Prairie Hill Atlas (Prairie Hill Armani x Prairie Hill Grace), 2020 bay splash stallion owned by Susan Motter and Megan Motter Kramer. Two copies of the splash gene have a cumulative effect. These homozygous splashes will be visibly pinto, with white markings that extend onto the body, as here.



BAY DUN SILVER (bay dun + silver)

Coulee Bend Talisman (Unconventional x Mirabella's Mesmerized) 2014 bay dun silver stallion owned by Rosita Hamar, UK (who is holding the stallion in this picture). Primitive markings courtesy of the dun gene, with all the horse's black pigment diluted to chocolate by the silver gene, which has also lightened the mane and tail. Talisman is one of only three Morgans with this color combination at present (photo by Helen Prentice).



BAY DUN (bay + dun)

HCTF Lost In A Storm (Stormwashed x Tigers Silent Saint) 2003 bay dun mare owned by Julia Lord. Bay dun was the original ancestral color of the horse; all other equine colors are the result of mutations that took place over thousands of years from bay dun (photo: Laura Behning).



PERLINO (buckskin + homozygous cream)

JKM Platinum Blue (Ragtime Doc Holliday x Prairie Hill Prima Donna) 2010 perlino stallion owned by Moonridge Morgans. The cream gene has an additive effect when two are present. The homozygous cream dilutes are so "white" as to be fairly indistinguishable from one another, though smoky creams (black + 2 cream genes) are sometimes slightly darker in shade than cremellos (chestnut + 2 cream genes) or perlinos (bay + 2 cream genes). All homozygous cream dilutes have pink skin and blue or blue-green eyes.



BUCKSKIN (bay + heterozygous cream)

PKR Primavera Brio (Primavera Valdez x Rose Hill Lapapillon) 1994 buckskin stallion (deceased) owned by John Hutcheson. Brio shows quite a bit of the sooty countershading over his topline, which often assists in creating vivid dappling. On palominos, sooty can darken the horse so much as to be neatly unrecognizable as a palomino (photo by Laura Behning).



GRAY

RDK's Knight Hawk (Winter Moon Enlightenment x Blacksaddle Jasmine) 2003 gray gelding owned by Grace Kingman. Gray can be present over any base color, eventually turning the horse completely "white." Gray foals can be identified by their darker-than-normal foal coat, often as dark as an adult horse of the same color, and lack of "foal camouflage," which are the lighter lower legs and belly usually seen on non-gray foals.



GRULLA SILVER (black + dun + silver)

Selcroft Sublime Spice (Coulee Bend Talisman x Justin Pala Masala) (UK) 2019 grulla silver filly, pictured at age two. Owned by Goldy Murphy, Sussex, UK. Spice is an interesting combination of two dilution genes. She shows the primitive markings of a dun with the dual dilution effects of both dun and silver. The lighter mane and tail is also typical of most silver dilutes. ■



BAY ROAN

Watching Moonshadows (Mt Tawonga King x Mt Tawonga Sophia) 2018 bay roan mare owned by Eva Hornung, Australia. Roan died out in the Morgan breed late in the last century. There are Morgans with roan hairs (which is called "ticking"), and Morgans who have an overall roan appearance but their roaning is due to another white pattern rather than actual roan. This mare's roan gene is due to a spontaneous mutation—neither of her parents are roan. There are a few documented cases in other breeds of mutations resulting in what are known as "de novo,"—or spontaneously occurring—true roans. These horses do not have a roan parent; their coloring is due to a random mutation in KIT, the genetic locus for roan, sabino, the various dominant white genes, and tobiano.

COLOR	MARES	STALLIONS	GELDINGS	TOTAL	PERCENT
Bay	14,126	5,062	8,210	27,398	38.10%
Bay/Dun	60	41	19	120	0.17%
Bay/Dun/Gray	0	1	0	1	0.00%
Bay/Dun/Silver Dapple	0	2	1	3	0.00%
Bay/Flaxen	4	2	0	6	0.01%
Bay/Gray	20	9	7	36	0.05%
Bay/Gray/Sabino	0	0	1	1	0.00%
Bay/Sabino	5	3	1	9	0.01%
Bay/Silver Dapple	8	5	1	14	0.02%
Bay/Silver Dapple/Flaxen	0	1	0	1	0.00%
Bay/Splash White	13	8	1	22	0.03%
Bay/Splash White/Pinto	1	0	0	1	0.00%
Bay/Splash White/Sabino	3	1	1	5	0.01%
Black	5,952	3,033	2,500	11,485	15.97%
Black/Dun/Grulla	58	37	21	116	0.16%
Black/Dun/Silver Dapple	0	2	0	2	0.00%
Black/Flaxen	0	0	1	1	0.00%
Black/Gray	25	18	12	55	0.08%
Black/Gray/Silver Dapple	0	1	0	1	0.00%
Black/Roan	1	0	0	1	0.00%
Black/Sabino	0	2	1	3	0.00%
Black/Silver Dapple	26	15	2	43	0.06%
Black/Silver Dapple/Flaxen	0	2	0	2	0.00%
Black/Silver Dapple/Sabino	1	0	0	1	0.00%
Black/Splash White	1	3	1	5	0.01%
Brown	2,226	964	1,176	4,366	6.07%
Brown/Dun	1	1	1	3	0.00%
Brown/Flaxen	1	0	0	1	0.00%
Brown/Gray	4	1	2	7	0.01%
Brown/Splash White	0	0	1	1	0.00%
Brown/Silver Dapple	4	5	0	9	0.01%
Brown/Splash White/Sabino	1	0	0	1	0.00%
Buckskin	824	354	383	1,561	2.17%
Buckskin/Dun	42	23	9	74	0.10%
Buckskin/Dun/Gray	1	1	0	2	0.00%
Buckskin/Dun/Silver Dapple	1	1	0	2	0.00%
Buckskin/Flaxen	2	2	2	6	0.01%
Buckskin/Frame Overo	1	1	0	2	0.00%
Buckskin/Gray	8	1	1	10	0.01%
Buckskin/Sabino	0	1	0	1	0.00%
Buckskin/Silver Dapple	5	5	0	10	0.01%
Buckskin/Splash White	7	2	0	9	0.01%
Buckskin/Splash White/Pinto	0	1	0	1	0.00%
Buckskin/Splash White/Sabino	0	1	0	1	0.00%
Chestnut	11,658	4,357	6,511	22,526	31.32%
Chestnut/Dun	19	12	7	38	0.05%
Chestnut/Dun/Sabino	0	1	0	1	0.00%
Chestnut/Dun/Silver Dapple	1	0	0	1	0.00%
Chestnut/Flaxen	138	57	53	248	0.34%

COLOR	MARES	STALLIONS	GELDINGS	TOTAL	PERCENT
Chestnut/Flaxen/Roan	1	0	0	1	0.00%
Chestnut/Flaxen/Sabino	5	8	3	16	0.02%
Chestnut/Gray	12	4	11	27	0.04%
Chestnut/Gray/Sabino	0	0	1	1	0.00%
Chestnut/Pinto	2	0	1	3	0.00%
Chestnut/Pinto/Sabino	1	0	0	1	0.00%
Chestnut/Roan	1	1	0	2	0.00%
Chestnut/Sabino	23	7	9	39	0.05%
Chestnut/Silver Dapple	1	2	1	4	0.01%
Chestnut/Splash White	8	7	6	21	0.03%
Chestnut/Splash White/Flaxen	2	1	1	4	0.01%
Chestnut/Splash White/Sabino	7	3	2	12	0.02%
Chestnut/Splash White/Sabino/Flaxen	1	2	2	5	0.01%
Chestnut/Splash White/Sabino/Flaxen/Pinto	1	0	0	1	0.00%
Crème	63	51	11	125	0.17%
Cremello	63	45	22	130	0.18%
Cremello/Dun	1	0	0	1	0.00%
Cremello/Gray	2	0	1	3	0.00%
Cremello/Flaxen	1	0	1	2	0.00%
Dun	49	20	21	90	0.13%
Gray	32	20	15	67	0.09%
Palomino	1,301	610	625	2,536	3.53%
Palomino/Dun	15	10	1	26	0.04%
Palomino/Dun/Flaxen	1	0	1	2	0.00%
Palomino/Flaxen	29	9	15	53	0.07%
Palomino/Flaxen/Sabino	0	1	0	1	0.00%
Palomino/Flaxen/Silver Dapple	1	0	0	1	0.00%
Palomino/Gray	2	2	1	5	0.01%
Palomino/Sabino	10	5	6	21	0.03%
Palomino/Sabino/Pinto	0	1	0	1	0.00%
Palomino/Silver Dapple	1	1	2	4	0.01%
Palomino/Splash White	1	2	3	6	0.01%
Palomino/Splash White/Sabino	3	1	0	4	0.01%
Palomino/Splash White/Silver Dapple	1	0	0	1	0.00%
Perlino	48	34	6	88	0.12%
Perlino/Dun	2	1	0	3	0.00%
Perlino/Flaxen	1	0	0	1	0.00%
Perlino/Gray	1	1	0	2	0.00%
Smoky Black	178	88	64	330	0.46%
Smoky Black/Dun	12	12	2	26	0.04%
Smoky Black/Flaxen	0	1	0	1	0.00%
Smoky Black/Gray	4	2	3	9	0.01%
Smoky Black/Sabino	1	1	0	2	0.00%
Smoky Black/Silver Dapple	2	0	0	2	0.00%
Smoky Cream	11	8	2	21	0.03%
Smoky Cream/Dun	0	1	0	1	0.00%
TOTAL	37,149	15,001	19,765	71,915	100.00%