

COLORS AND MARKINGS OF NORTH AMERICAN FINNSHEEP



Photo Credit: Cedar View Farm

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Revised July 2022



TABLE OF CONTENTS

Page	
1	Foreword
2	Colors
3	- White
4	- Black & Brown
5	- Gray & Fawn
6	Patterns
7	- Badgerface
8	- Reverse Badgerface
9	- Blue
10	- Self/Solid
11	Spotting
12	- Head, Socks, Tail
13	- Piebald
14	Additional Genetics of Interest
15	- Dalmatian Spotting
16	- Fading (Age Graying)
17	- Dilution, Extension Dominance & Codominance
18	Acknowledgements

COLORS AND MARKINGS OF NORTH AMERICAN FINNSHEEP

In determining the color of a lamb it is important to examine pigmentation of the skin as well as wool color. This will tell whether the base color is black or brown. If any light markings are from pink skin, spotting is responsible. If they originate from colored skin, pattern is responsible. Pay special attention to all symmetrical markings. Since the appearance of wool color may change with age, length of fleece, nutritional deficiencies, and sun exposure it is best to record color at birth and again at several weeks of age. All color, patterns and spotting are visible at birth, but shade and intensity will change with age.

It is important to note that colors, markings and patterns are one aspect that make up Finnsheep. As breeders, we should strive to produce animals with sound conformation and health that meet or exceed the breed standard.

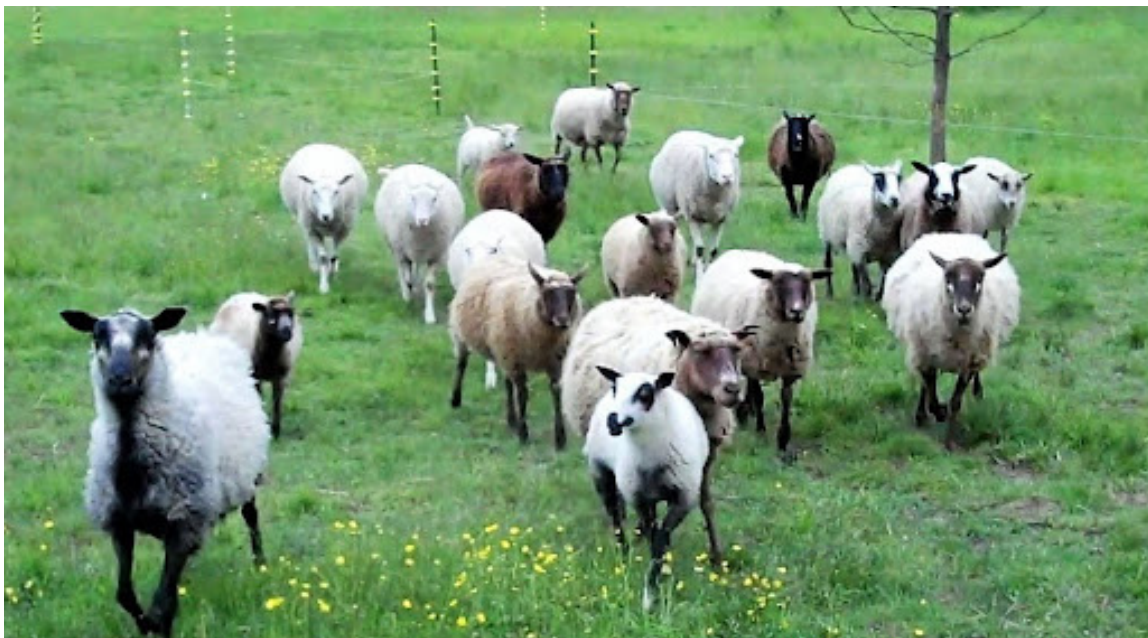


Photo credit: Wild Rose Finnsheep

COLORS

Possible registration selections for Color are:

White/Hidden - W Black - BL Brown - BR Gray - G Fawn - F



Photo Credit: Cedar View Farm
WHITE



Photo Credit: Johanna Hunt/ Bigfoot Farm
BLACK - piebald



Photo Credit: Woodsong Farm
BROWN - HST



Photo Credit: Woodsong Farm
GRAY - HST



Photo Credit: Wild Rose Finnsheep
FAWN - HST

WHITE (HIDDEN COLOR)

White lambs will display white wool, pink skin; and hooves which are white, black, or streaked. Black or brown pigment spots may be present on the skin of the nose, lips, eyelids, and inside of the ear. Some tan pigmentation may be present on the legs and or face of the lamb that will fade with age. It is very important to note that white is not genetically a color but the absence of color and therefore a member of the pattern group. All white sheep carry genes for black and/or brown as well. Although genetically a pattern, for the purpose of registration, white is a color selection.



Photo Credit: Cedar View Farm
WHITE



Wild Rose Finnsheep

Photo Credit: Wild Rose Finnsheep
WHITE

This white lamb displays the tan coloration seen in some animals. Although there is tan on its legs, it is still genetically white and should be registered as such.

To identify if a lamb is colored or white with tan, examine skin pigment beneath the colored hair. A white lamb will have pink skin beneath the colored hair. A colored lamb will have colored skin beneath colored hair.



Photo Credit: Wild Rose Finnsheep
WHITE

BLACK & BROWN

All sheep are genetically black or brown, even when it is hidden by white. Modifying genes can cause the wool to gray or become fawn with age. Pattern also affects fleece color and will be visible at birth.

Black is dominant to brown and can be inherited from only one parent and still express. Black lambs display black wool, black hair on legs and face, black tongue and gray-black skin. Black animals may carry brown.

Brown is recessive to black and must be inherited from both parents. Brown lambs display brown wool (light, medium, or dark shades), brown hair on legs and face, liver-colored tongue and reddish skin.



Photo Credit: Wild Rose Finnsheep
BLACK - self/solid



Photo Credit: Woodsong Farm
BROWN - HST self/solid



Photo Credit: Johanna Hunt/ Bigfoot Farm
BLACK - badgerface piebald



Photo Credit: Cream City Lamb and Wool
BROWN - piebald self/solid



Photo Credit: Cedar View Farm
BLACK - piebald



Photo Credit: Cedar View Farm
BROWN - HST self/solid

GRAY & FAWN

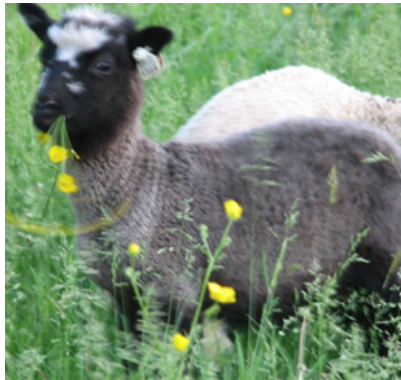
This will appear as a gray/fawn sheep with varying degrees of frosting on the legs and head. Lambs will be born with black or brown head, legs, tail and solid to dark gray/fawn wool. Sugar lips and eye rings may or may not be present at birth but will develop soon after. Fiber tips retain the birth color, as the new wool growth becomes paler in color until the process is complete, usually after the 6th to 8th month of age. Please note, there is a difference between this form of gray and the age-related graying and fading seen in some sheep from one year onwards. Although genetically a pattern like badger, for the purpose of registration, gray and fawn are color selections.



Photo Credit: Wild Rose Finnsheep
FAWN - HST



Photo Credit: Wild Rose Finnsheep
FAWN - HST



The gray lamb pictured above is shown at day 45 and 6 months of age.
Photo Credit: Mary Tucker
GRAY



Photo Credit: Woodsong Farm
GRAY - HST

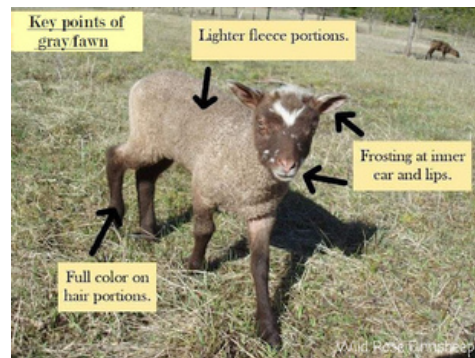


Photo Credit: Wild Rose Finnsheep
FAWN

PATTERNS

Possible registration selections for Patterns are:

Badgerface - B

Reverse Badgerface - RB

Blue - BU

Self/Solid - S



Photo Credit: Woodsong Farm
BADGERFACE - black HST



Photo Credit: Wild Rose Finnsheep
REVERSE BADGERFACE - brown



Photo Credit: Wild Rose Finnsheep
BLUE - brown



Photo Credit: Wild Rose Finnsheep
SELF/SOLID - brown

BADGERFACE

The badger pattern is visible at birth and will be paired with the color gene black or brown. In badger lambs, the underside of the jaw, throat, brisket, belly, legs, and under the tail are all dark. Upper parts of the body are light to medium gray/fawn. Ears are dark inside, and badger markings are visible along the sides of the face as well as teardrops just under the eye. A dark side bar or knee spot is usually present. At birth, there may be tan spots in the fleece, which disappear as the lamb ages. These do not make the lamb brown based. Although the genes are separate, badger is frequently seen in combination with HST spotting, and piebald.



Photo Credit: Woodsong Farm
BADGERFACE - black HST



Photo Credit: Cedar View Farm
BADGERFACE - brown HST



Photo Credit: Woodsong Farm
BADGERFACE - black



Photo Credit: Wild Rose Finnsheep
BADGERFACE - black

REVERSE BADGERFACE

Also referred to as black & tan or mouflon in other breeds. The reverse badger pattern is visible at birth and can be on black or brown lambs. Tan markings will be present inside of the ears, at the front corner of the eye sometimes extending toward the nose in a face bar, at the lips and underside of the jaw, the belly extending up the throat and to either side of the tail, and on the legs. A lighter side bar or knee spot may be present. Fleece will range from almost black or brown, to a light gray or fawn in the adult.



Photo Credit: Wild Rose Finnsheep
REVERSE BADGERFACE - brown hst



Photo Credit: Wild Rose Finnsheep
REVERSE BADGERFACE - black



Photo Credit: Wild Rose Finnsheep
REVERSE BADGERFACE - black HST

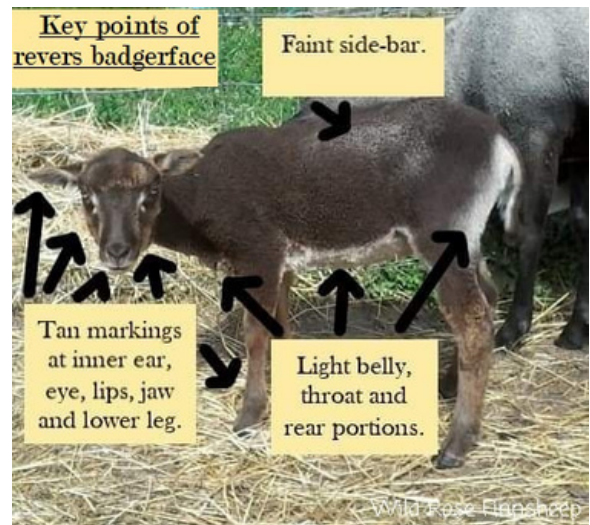


Photo Credit: Wild Rose Finnsheep
REVERSE BADGERFACE - brown

BLUE

The blue patterns are subtle, but still visible at birth. They are darker than badger and characterized by a white teardrop (sometimes very small) just off the tear duct, with very little other symmetrical light markings. Light coloration may be present on the lips, inside of the ear, at the knee and hock, and as a faint nose ring. An area of lighter shading is sometimes present across the back. Fleece will range from black or brown to dark gray or variegated brown. All blues will have white teardrops (also seen in badgers) and a gradual change from dark belly to lighter back, as opposed to the sharp delineation between light and dark seen in badgers. For purposes of registration “blue” can refer to the patterns; light blue, blue, dark blue, english blue, paddington blue, and midnight blue. It is not clear if the Finnsheep gene pool contains all of these patterns which is why, for the time being, they are classified together.



Photo Credit: Wild Rose Finnsheep
BLUE - brown



Photo Credit: Cream City Lamb and Wool
BLUE - brown HST



Photo Credit: Wild Rose Finnsheep
BLUE - black HST



Photo Credit: Wild Rose Finnsheep
BLUE - black

SELF/SOLID

The self pattern is the gene for full expression of the base pigment, black or brown, with no expression of the previously discussed patterns. Self is recessive to all other patterns. Please note, Head, Socks, Tail and Piebald spotting can be present. Self, when paired with any of the patterns above, will allow the dominant pattern's full expression.



Photo Credit: Wild Rose Finnsheep
SELF/SOLID - black HST



Photo Credit: Wild Rose Finnsheep
SELF/SOLID - brown



Photo Credit: Woodsong Farm
SELF/SOLID - brown HST



Photo Credit: Johanna Hunt/ Bigfoot Farm
SELF/SOLID - black piebald

SPOTTING

Possible selections for Spotting are:

Head, Socks, Tail - HST

Piebald - PIE

None - NO



Photo Credit: Cedar View Farm
HST - brown



Photo Credit: Wild Rose Finsheep
No Spotting - black



Photo Credit: Johanna Hunt/ Bigfoot Farm
PIEBALD - black



Photo Credit: Cedar View Farm
PIEBALD - black (both lambs)

HEAD, SOCKS, TAIL

This form of spotting is represented by white markings on the head, legs, and/or tail. The spots do not have to display in all three areas but frequently do. The spots must appear in at least one of the areas - the head, socks (legs), or tail. Facial blazes, crowns, and panda eye spots are typical. It should not be confused with Piebald (which displays patches of white in the fleece areas as well). Head, socks, & tail (HST) spotting can be in combination with any of the patterns. Lambs displaying HST will not show spotting in the wool of the body, only on the legs, head, tail and throat. Any spotting on the fleece is considered piebald. Spotting is dominant and will be seen with one or two genes (one from each parent.)



Photo Credit: Woodsong Farm
HST - brown



Photo Credit: Wild Rose Finnsheep
HST - brown



Photo Credit: Johanna Hunt/ Bigfoot Farm
HST - black



Photo Credit: Wild Rose Finnsheep
HST - black

PIEBALD

Piebald is the expression of the gene for spots in combination with several other as of yet unidentified genes.

These secondary modifier genes can only be seen when at least one gene for spotting is also present. This combination of genes results in irregular white spots on the fleece portion of a colored sheep. The appearance can vary between large areas of color and small dotted areas of ticking (referred to as Dalmatian spotting. See further discussion below), or a combination of both types. Areas of pink skin produce the white wool, while the darker fleece grows from pigmented skin. Although not visible, white sheep can also be piebald. As Piebald is not an actual pattern, the spotting on each sheep may vary considerably and can be in combination with any of the patterns and colors mentioned above.



Photo Credit: Cedar View Farm
PIEBALD - black



Photo Credit: Wild Rose Finnsheep
PIEBALD - brown self/solid



Photo Credit: Cedar View Farm
PIEBALD - brown badger



Photo Credit: Johanna Hunt/ Bigfoot Farm
PIEBALD - black self/slud

ADDITIONAL GENETICS OF INTEREST

**Dalmatian Spotting - Fading - Dilution
Extension Dominance (Dominant Color) - Codominance**



Photo Credit: Johanna Hunt/ Bigfoot Farm
Black Piebald displaying dalmatian spotting



Photo Credit: Wild Rose Finnsheep
Brown self/solid HST displaying fading



Photo Credit: Wild Rose Finnsheep
**Brown Badger/Reverse Badger displaying
codominance**



Photo Credit: Cedar View Farm
Black HST displaying fading

DALMATIAN SPOTTING

Dalmatian spotting is presently suspected to be caused by a very dark and highly dominant pattern with no visible expression of its own interacting with spotting. It is seen in some piebald animals (and in some HST, if the white on the face and legs is closely examined). It is believed that these (as of yet undefined) agouti patterns in conjunction with piebald spotting result in small color spots within the areas of white. In very unscientific terms, this suspected pattern is so strong in its pigment prediction that it leaks through the white areas as dark spotting within white spotting. This theory explains why dalmatian spotting can be so difficult to breed for, as it is the visual result of piebald spotting combined with an intensely pigmented agouti pattern, not an easily tracked separate gene or form of spotting. There is still much to learn about dalmatian spotting and how it is inherited and expressed. There may well be other modifier genes involved that have yet to be discovered.

The photos below depict the same sheep as a lamb and adult and show the progression of dalmatian spotting
Black Piebald lamb displaying DALMATIAN SPOTTING



Photo Credit: Johanna Hunt/ Bigfoot Farm



Photo Credit: Johanna Hunt/ Bigfoot Farm



Photo Credit: Johanna Hunt/ Bigfoot Farm



Photo Credit: Johanna Hunt/ Bigfoot Farm

FADING (AGE GRAYING)

Fading is the partial loss of pigment in an older sheep giving them a gray or fawn appearance. This is usually visible after the first shearing from one year of age onwards. Some color loss may be visible as soon as six to eight months when the wool close to the skin is examined. Fading is a slow, continual loss of color restricted to the fleece. Head and legs will remain dark. The animal will appear more and more gray or fawn as they age. Color loss is strongest at the shoulder, across the back and at the rump, gradually darkening towards the underside. This should not be confused with the badger or blue patterns which are visible at birth.

It is important to note that fading is not a designation available on registration but is a genetic expression some breeders choose to track. Fading should not be confused with sun bleaching seen during summer months or gray/fawn.



The above photos are of the same sheep. As seen in the left photo the lamb was born a black piebald and remained a visually black piebald after her first shearing. By her second year she faded dramatically as seen in the right photo.

Photo Credit: Johanna Hunt/ Bigfoot Farm



Above: brown ewe at six weeks and three years. Notice the fading from dark chocolate to fawn.

Photo Credit: Wild Rose Finnsheep

DILUTION, EXTENSION DOMINANCE & CODOMINANCE

DILUTION: Dilution is a more rapid loss of color across the entire fleece. Once it fully takes place, it remains fairly consistent throughout the sheep's life. This should not be confused with the gray pattern gene that will result in a very similar looking animal as a sheep with fading but takes place at a much younger age

EXTENSION DOMINANCE (DOMINANT COLOR): The extension gene (extension dominance and extension wild) only affects the pattern gene pair. It does not affect spotting or base color (black or brown). This gene is responsible for white lambs out of colored or patterned parents. When a sheep has the extension dominant gene, they will express full color regardless of what patterns they carry.

Extension wild allows the patterns to be expressed. All patterned sheep: badger, reverse badger, gray and blues, are extension wild.

The presence of extension dominance is difficult to identify, as a sheep with extension dominance appears the same as a sheep expressing the self/solid pattern mentioned above. To identify if a sheep carries extension dominance, examine the pedigree or progeny. If a sheep traces its lineage back to only patterned animals (i.e. white, badger etc.), they are not extension dominant, as patterns are not visible in conjunction with extension dominance. If any animal is listed as brown or black without having patterned parents, they are possibly extension dominant, and it will be necessary to look at progeny to prove the presence of extension dominance. If the sheep in question produces patterned offspring when bred to a self/solid extension wild mate; it proves the presence of extension dominance, as extension dominance is concealing the patterns passed to the lamb. If the same sheep is bred to a mate where both patterns are known and not self/solid, and a solid lamb is produced, it also proves the presence of extension. There is no way with test breeding to prove a sheep is extension wild, only that they carry at least one copy of the gene.

CODOMINANCE: All color, pattern and spotting genes come in sets of two, one from each parent. Codominance is when both genes in the pair are expressed with similar intensity. In sheep, color, pattern and spotting are codominant to each other and all three can be seen on the same sheep: a black piebald badger. An example of codominance between patterns would be a badger/reverse badger sheep. In this animal the patterns are overlaid on each other and both visible. An example of complete dominance would be a sheep that is white/self. In this animal, the self pattern is completely concealed by the white pattern. Another example would be a black sheep carrying brown. Although the sheep has a gene for brown, it is concealed by the dominant gene for black.

ACKNOWLEDGEMENTS

Many thanks to all who participated in the creation of this color guide.

FBA Color and Marking Guide Committee: Kaeli R. Bailey, Ashley Hoffman, Pat Maas, Kristen McCann



Photo Credit: Donna Putnam/ Spinning Sheep Fiber Farm

Photo Credits

Ashley Hoffman–Cedar View Farm
Catherine Precht–Cream City Lamb and Wool
Donna Putnam–Spinning Sheep Fiber Farm
Johanna Dufort Hunt–Bigfoot Farm
Kaeli R. Bailey–Wild Rose Finnsheep
Kristen McCann–Woodsong Farm
Mary Tucker–Lighthouse Farm

References

Beyond the Coat of Many Colors by
Margaret Howard
Dee Heinrich
Christan Posbergh
Melissa Wubben