



A Discussion of Nose Color in the Akita
By
Sherry E. Wallis

TOTAL LACK OF PIGMENTATION

The photos below are good illustrations of noses where pigment is missing. A nose that is completely lacking pigment is a disqualification, and one which, incidentally, I've never seen on an adult.

I have, however, seen whites that were so close many judges would consider disqualification warranted. The trick here is the word "total," because even whites with bright pink noses have a rim of pigmented skin around the margin of the nose leather.

The two dogs here provide good cases in point. The nose here is about the same color as the tongue. Like the dog on the next page, black pigment is present at the borders of the nose. Both have very black lips, so much so that the bottom of the nose and the hair between the nose and lips in the front is black. It's not the best nose possible on a white, but it is certainly permitted.



Pigment loss can be due to other factors as well. One of my black Akitas whose nose was much darker than his coat had a ball with a large handle that he loved it so much, he even slept with his head resting on it. After a few months of carrying it around all day long, at the age of 6, he developed true butterfly nose! The pigment on the front of his nose, the skin at the front of his muzzle and on his lips was pinkish-white. I found a new toy and disposed of the ball, but it took about a year for all the pigment to return. (This is of some cause for alarm because this kind of depigmentation can also be the result of an autoimmune disorder). Of course, a judge faced with such a dog in the ring must follow the standard, but breeders should realize that not all pigment problems are due to serious genetic problems.

WILL THE REAL WHITE PLEASE STAND UP

The next problem in applying the words of the standard involves determining which whites are white. This may seem silly until you are faced with real dogs, and then the issue isn't so clear cut. Since the standard has no preference regarding color other than that its being clear and brilliant, the only reason to distinguish whites from non-whites arises because of nose color.

Faded or dilute nose pigment is permitted in whites, but colored dogs should have black ones. The faded pigment on the red dog on the right is probably a snow nose, but it should be considered a fault. In weighing the degree to which it should be faulted, I think you need to consider the extent of the deviation from the ideal. Certainly this nose is much less faded than the Malamute pictured earlier and faded nose pigment is not a disqualification in any Akita. However, since the standard permits dilute noses *only* in whites, again, in my opinion, fading pigment in a colored dog should be regarded more seriously than it is in a white.



Hooded is a good term for a dog that is an almost all-over spot

Just the snippet of photo available shows clearly that this dog isn't white, but what about the dog on the left? Many people refer to dogs like this as being "white," but, in fact, they are the product of a different set of genes and always have color left somewhere, especially on the head about the ears, in a spot on either side of the back in the middle of the body, and around the base of the tail. My favorite term for these Akitas is "hooded" because it so aptly describes their look.

The real problem is that dogs have several genetic pathways available to produce what would be considered a solid white, although not all of them exist in every breed. (Note: Although we refer to white as a coat color, technically, it is the absence of color. *See also; Spots Before Your Eyes*, on this Website) Remember, white hair and skin have no melanin (color granules) in them. They can result from injury or age, but when they are the result of genetics, white hairs occur because the melanin production has stopped.

Genes that affect melanin production are found in several locations. One controls merling, another one spotting, and another fading. Merling doesn't occur in Akitas but spotting and fading do.

White Akitas occurs when alleles of the “C” series genes cause pigment to oxidize or bleach. The liver gene does this to some degree, also, but it only works on black melanin; whereas C genes affects both brown and black. In simpler terms, it causes fading of almost all pigment in the coat and may affect the leather as well. This is quite different from the action of the spotting genes which actually stop melanin production, resulting in white hair.

If this is hard for you follow, think of the body as a huge city, the genes as a board of directors, and the different alleles (genetic possibilities or expressions available for each gene) as individual directors on a board.

In the case of color, then, each hair is like the smokestack of a factory that makes and distributes color granules. These are pumped up into the hair or skin cells, producing what we see as color.

The S series Board controls power to these factories. The combination of individuals (alleles) on the board determines the pattern of power distribution. If they’re especially generous, they supply power to all the factories and all parts of the city/dog have color. Stingier boards cut off power to whole areas, resulting in hair that is white.

Each factory’s is controlled by a C series board. Production varies according to the board’s composition. Some push for more production than others. Those that run all out produce as much pigment as possible, and those that have fallen on hard times, produce little or none.

Valid to this analogy, sometimes factories fail for other reasons. They may be destroyed or damaged by external factors, such as injury. They may also be affected other gene series whose boards may change the product or alter the production rate.

While the end product of the S and C series genes is white hair, the methods used to produce it are very different. Power, controlled by the S series, is either on or off (mostly); whereas, production controlled by the C series fluctuates. The end product of one factory can then be a pale copy of another’s because that factory wasn’t allowed to work all-out. Of course, if the power isn’t there to begin with, what the C series would produce is irrelevant.

In real examples, a self-colored dog like a black Labrador, then, would have full power and all-out production. A black and white Border Collie might have full production on the part of the Cs, but not full power from the S series.

Hooded Akitas occur because the C’s allow all-out production, but the S group shuts off almost all the power. White Akitas have a few factories functioning at quarter power. The rest are so low that you can’t tell whether the resulting white is because of an S power shut off or a factory shut-down. Either way, the effect is the same.

A sort of genetic power struggle goes on in almost all whites between what you could consider the factory designers (these would be the A series which is basic coat color) and the C group. Wherever the A group is the very strongest, some vestige of color will show up.

This means that whatever area would be darkest on a colored dog is more likely to have some residual pigment in a white. For instance, a dog with a dorsal strip or a dark



Whites typically have some buff or biscuit color in their coat which is typical and acceptable. This puppy has biscuit on his ears. The pigment on his mouth may fill in with maturity.

saddle will probably have some cream or buff that remains in that area.

Without looking at test breedings or the actual genes, exactly what genetic combinations are present in a white are impossible to determine. Anything characteristic of another gene's actions can still exist in a white. Although these may not be apparent, some features may hint at these.

For instance, missing pigment on the leather, including a true butterfly nose, may indicate part of the white on the face is from S series. The stripes of a brindle may be completely faded out, but bred to a non-brindle,

this white will produce brindles. Ice-whites with strong color remaining in areas common to hooded dogs may be mainly hooded and will breed that way if the recessives from the C series are lost.

The C series has several identified alleles. The normal and most dominant form allows full expression of color. In other words, a black dog will be black. The other alleles are neither completely dominant or recessive. Depending on which are present, they can interact with each other to produce gradations of color fading.

Just as the Spotting series alleles allow varying degrees of



From the chinchilla at the top to the cream at the bottom, genes in the C series result in general dilution of the coat color of the dog. This can be accompanied by a loss of pigment in the leather, but in Akitas, this is not usual except in whites.

color deposition in the coat, the C series results in gradations of bleaching. In the most extreme cases, the dog is considered white.

Obviously, dogs can and do fall on either side of the line. The dog on the right, shown with a close up of his head is an example. Is

he white or red? Since he has excellent pigment, it doesn't really matter for purposes of the standard, but what about the dog below? Yes, she's long-coated and has no tail, but with regard to color and nose pigment, is she a white or a red?

Compare the middle and bottom dogs on the right. Although the color is distributed over more of the bottom dog's body, it is actually lighter than the red on the dog above him.

His mask makes this dog indisputably colored rather than "white."



According to the standard, the presence or absence of a mask is one of the defining points of a white. Perhaps the intention was to differentiate whites from “hooded” dogs and issues associated with that marking pattern. “White dogs have no mask” could just as well be written to differentiate between dogs that are light colored rather than less-diluted whites. I suspect that when a dog is so close to white you have to ask yourself whether it is or isn’t, you might as well consider it white. It will probably produce as if it were.

Regardless of where it occurs, judges and breeders alike need to realize that because of the genetics involved in producing whites, some areas of the coat will have color. It is always some form of bleached or faded red, varying from orangish tan to pale cream (“*biscuit*”) and can occur anywhere on the dog.

For the standard’s purposes, I think a dog that doesn’t have color on its head and is predominantly white should be considered a white.

Such a dog shouldn’t be penalized in the ring for having a dilute nose, although it might



The color of this female’s nose is consistent with her coat color, although dilution of the underlying color isn’t as complete in this female as in other Akitas. The vestiges of what would have been a very black mask remain on her ears and muzzle, expressed as an orange-tan. Still she should be considered a white.

have to give way because of poor pigment to a dog of equal quality with black leather. Further, whites should not be penalized for having biscuit shadings nor should they not be considered white.



These three are whiter than the dog at the top of the page. Buff or biscuit is clearly visible in the coats of the two on the left. Marks on the elbows and legs of the one above right are stains and calluses from lying on concrete.

The Best for Last

I hope this discussion clarifies some of the issues surrounding the Nose section of the standard even if it doesn’t provide pat answers for all the questions that section provokes. I’d like to thank all the people who provided photos and

invite you to send me more. You can email them to me or send them for me to scan and I'll return them immediately.

I've saved a little something for last.

One of the most confusing things about Akitas is that you cannot always predict the color of the adult from puppies. You can rule out some things. For instance, a black puppy will not end up a white. You cannot say, though, that it will not be red or gray.

Take a look at this series of photos where a puppy has clear biscuit markings and a classic butterfly nose even as he ages. The picture of the two littermates is a good comparison of



the difference between butterfly and dilute noses. What a surprise then to see this same dog as an adult, a typical white!

Because color deposition results from different genetic operations, whether it increases, decreases, or remains the same is going to depend on which genes are causing it. So, you can't really predict it even in whites.



For a last little puzzler, I've included the entire photo of the example for butterfly noses. I wish we had a side view of her! She certainly has no mask, and she has a lot of white on her face, but I'll leave it up to you to decide whether she is red or white.

