

The following article is a result of a discussion on the internet regarding the 'eternal chestnut' - how much white is too much? Francois Bernier posted this in response to Susan Mulley regarding the inheritance of white. It is reprinted here with his permission.

VIZSLAS and WHITE MARKINGS

As Susan Mulley must have known, I cannot resist a further response.

Susan wrote:

"It is true that a number of early pictures of vizslas show dogs with considerable white, but we need to keep several things in mind when we look at them. First, seldom are those pictures identified as "Baron so-and-so's prize stud dog, or brood bitch" generally they are pictures of a vizsla back from a hunt or standing with their owner. Those vizslas may not have been breeding quality at all."

But some undoubtedly were. Here are two examples: at p.9 Gay Gottlieb's *The Complete Vizsla*, there is a 1918 picture of Wittl whose name is said to appear "in every pedigree dated 1918". The dog clearly has white on the chest and may have had white on his feet (see Boggs, *The Vizsla*, p.22) It is true that the caption goes on to say that "for sixteen years his puppies were in-bred and those with white were culled". I'll come back to the effect of culling later. In the same book, is a picture of Hanved, a dog that belonged to *Nimrod* magazine and that was one of the dogs that were selected to be entered on a temporary registry in 1917-1918 at the time the breed was re-established. This dog (p.11 of Gottlieb's book) has a massive area of white running from the throat to the chest. The dozen or so dogs selected to re-establish the breed were supposed to be the best specimens available.

It has been suggested that white is a sign that a Vizsla is not purebred. That suggestion has no scientific basis that I can tell. The coat colour of the Vizsla has been proposed to be AAbbCCDDEEgmmSSit by Willis (1989) and Bowles (1995) (Bowles also suggests a C ch allele at the C locus). The S (or Spotting) series controls the amount and repartition of white on a dog. The Vizsla, as other self-coloured dogs, is SS at that locus. This is what gives the solid colour. Willis however, warns that: "In dealing with the S series it has to be borne in mind that there are complicating factors caused by various genes called modifiers. Their number and effect is uncertain and likely to remain so but they can be basically described as plus or minus modifiers. Plus modifiers will lead to more colour and minus will lead to more white. These modifiers act on each of the four alleles of the S series..." Those modifiers are recessive and not dominant genes. This has significant ramifications in terms of whether or not it is even feasible to achieve what the white disqualification seeks to achieve, as I'll explain shortly.

It is interesting to note that in a 1957 study of 2,353 dogs from seven breeds in which white was not desired, C.C. Little found that 11.3% were mismarked in the sense of having white. In reporting the results of this study, Willis adds that: "Such effects are not due to other s alleles but to minus modifiers of the S allele". Another point of interest is that studies have shown that white markings tend to appear in specific places in a kind of orderly fashion, and not only in dogs but in other mammals as well. Dogs with small

amounts of white will have it "on toes, chest, belly, muzzle or tail tip".

In short, white on a Vizsla (contrary to black) is NOT a sign that the Vizsla is not purebred. All purebred Vizslas carry the SS genes and recessive modifiers of the S allele. Minus modifiers of the S allele are responsible for white markings.

The next obvious question is whether white markings can be eliminated from the gene pool of the Vizsla. The short answer is NO. While selecting against recessive traits can reduce their incidence, it cannot eliminate the trait. Those who have a mathematical turn of mind may want to refer to Willis (1989) at p.296 for the equations that prove this. They are beyond me but the upshot is that "the elimination of recessives is more or less impossible", particularly in a case such as this one where it is not possible to test dogs to determine carrier state (i.e. which dogs carry recessive minus modifiers). While it is possible to select against these dogs to an extent (e.g.: not breeding to a sire that is known to have produced too much white), this is pretty much hit and miss. This is not to say that initially at least, selection against dogs that are homozygous recessive (those that actually have white on them) will not reduce the incidence of white marks in the breed. But past this initial success, it becomes increasingly difficult to eliminate the trait. Willis explains that: "The rarer an allele becomes the more difficult it is to reduce further, so that the breeder's very success in the early stages makes his task harder and slower in later years. If for example, we have something as rare as 1 pup in 20,000 it would take us about 59 generations or 236 years to achieve a reduction to 1 pup in 40,000 even if we killed every affected pup. Many recessives in dogs may be more frequent but at least this gives some idea of the enormity of the task." Of course, white on Vizsla puppies is not quite so rare but the point is to illustrate that there is a law of diminishing returns that operates in the selection against certain recessives.

It may be said that white markings are part and parcel of the genetic make up of the Vizsla breed and that selection against the expression of this trait may reduce its occurrence but will never successfully eliminate it. To the extent that there is no established connection between the minus modifiers responsible for white markings and deleterious health or temperamental conditions, the reality is that this is purely a fancy point. In other words, the only reason for which we select against white markings is because we have decided we prefer to see Vizslas without any such markings. There is nothing wrong with fancy points but we should at least be clear that white is "wrong" only because we have said so and for no other reason of any seriousness. A Vizsla with white markings is just as much a Vizsla from a genetic point of view as the Vizsla without any markings and white is as much part of the genetic heritage of the Vizsla as any number of other traits.

I now return to the Canadian breed standard which includes a disqualification as follows: "White markings over 2 inches (5 cm) on the chest or white markings anywhere else other than the chest."

VIZSLAS and WHITE MARKINGS continued

According to Susan:

"White" meant, I'm afraid, white hairs not just solid white. Roan patches are the combination of white and rust hairs and those patches either on the chest or on the feet were also considered white for the purposes of disqualification. While later vizsla competitors may debate the definition, early breeders had no doubts. All dogs who had even small amounts of white on the toes were sold as pets ONLY by the reputable breeders of the 1970's when I came on the scene."

I am sure Susan would agree the meaning of the standard is to be ascertained from the words of that standard. In this context, what people may believe (whether they are early breeders or not) to be the meaning of the standard is not directly relevant. I would also add (Susan please do not take this wrong) that is hearsay evidence. Which early breeders? And is there documented proof of such an intent? Unless statements such as those can be backed up by written documentation, they are a poor guide to the interpretation of any standard. There is another tool that may be used to assist in the proper application of a standard and that is a comparative analysis of current and previous breed standards in other countries. Finally, reason and common sense should be used in reading a standard.

The CKC standard disqualifies white "markings" anywhere but the chest. A marking is "a mark or pattern of marks" (Shorter Oxford) and a mark is a "visible trace or impression diversifying a surface, as a line, dot, stain, discolouration, scar or the like". In the verbal sense, to mark is "to separate from something else as by a line or distinctive mark". I suggest that a white marking refers to a white area of coat that is clearly and visibly distinct from the surrounding area. A roan area has no distinct borders and on my reading of the standard cannot be characterised as a white marking. I add that this reading of the CKC standard is supported by a comparison with the American and FCI standards.

Roaning involves an intermingling of white and coloured hair with no defined or distinct boundary and I don't think it is a reasonable reading of the words of the standard to characterise roan as a "white marking". If "early breeders", to the extent they were responsible for the drafting of the standard, did indeed intend to disqualify any Vizsla that had white hair anywhere other than the chest, they could and would, in my opinion, have said so. The relevant portion of the standard could well have stated "white hair anywhere else other than the chest". It does not. And rightly so, in my opinion. While there is a legitimate reason for selecting against white (bearing in mind the limitations mentioned earlier), namely that we don't like white, one also has to be careful not to push selection for one trait at the expense of others. In my opinion, to propose the disqualification of any dog that has 3 (?), 7 (?), or 10 (?) interspersed white hair somewhere else than on its chest is sheer fanaticism. Other breeds have paid a heavy price for this sort of extremism in the application of a breed standard.

As Susan also knows, I am critical of the Canadian standard having a disqualification that no other country in the world

does (small white markings on feet). Or are Canadians suggesting they are better guardians of this breeds than anyone else on the planet. Preposterous! In my opinion it's high time we adjust our standard to the world rather than wait for the world to change. Breeds standards do change, and that's a fact of life. Sometimes for the better sometimes for worse. But we cannot adopt the attitude that we must keep things the way they were in the "early" days... By that reasoning, we should all move to the 1920 standard that was formulated in Hungary as this must be the "purest" because it is the oldest! There is absolutely nothing wrong with changing a standard provided it is not done arbitrarily or capriciously. In her post, Susan is rightly critical of those who would want to change a standard to fit the fashion of the day. But what guarantees do we have that this is not what early breeders were doing? In other words, I'm not sure I accept the logic that if it's 50 years old, it must be perfection. People are people and there is no reason to think that kennel blindness, greed, ignorance and ambition only afflict our contemporaries. If you have breeders today willing to change the standard to suit their dogs, it's a sure bet you had breeders in Hungary at the beginning of the century who were willing to write the standard to suit their own dogs! Coming back to the Canadian disqualification for white on toes, it could have the following result. In theory, there could exist a breed champion in Hungary with a white mark on one toe of one foot that is imported to Britain, wins Best of Breed at Cruft's and later comes to the US Nationals only to take Best of Breed there! Bring this dog to Canada and our standard would require that he be disqualified!!! Sorry, I can't bring myself to think this is desirable or reasonable...

Susan added:

"However, there ARE equally important concerns to just colour in vizslas. Hunting ability, temperament and health are the three primary ones that come to mind. Certainly no breeder in their right mind would breed ONLY for solid colour. But we never breed for just one thing, do we?"

Then, why on earth do we disqualify only for two things (height and colour), neither of which is directly related to hunting ability, health or temperament ??? Now before the flames start from the few who will have had the patience to make it to the end of this post, I wish to make one thing absolutely clear: I FULLY AGREE THAT WE SHOULD SEEK TO BREED VIZSLAS THAT ARE SELF-COLOURED and that an excessive amount of white on a Vizsla is FAULTY and should be penalised. I entertain some doubts that a disqualification is the best way of achieving the desired result but I will certainly live with it. If breeders (including breeders of the '70s) spent as much time agonising over serious health defects such as epilepsy and thyroid deficiencies as they do over the amount of white on a dog, we might be a little further ahead on these things.

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