

IV. The Risk of Genetic Diseases in the Petit Basset Griffon Vendeen
By George Padgett
Commentary and Terminology adapted from American White Shepherd
Association Health and Genetics Report by Judy Huston

General

Of the 147 diseases mentioned at least once in our survey, Dr Padgett has determined that 49 of them are likely to be genetic diseases.

An important number to remember is 7.9! This represents the average number of defects carried in each of our dogs. This means is that whether you know it or not, your dog carries the genes to pass along, on an average of 7.9 different genetic defects to its offspring. Dr. Padgett's work and the results of this survey will help you to identify these traits and breed healthier dogs.

Explanation of Terminology

The chart on page 4 and 5 of this section entitled "Genetic Diseases of the PBGV" was developed by Dr George Padgett based on the frequency of genetic diseases seen in our survey.

The fourth column is the Mode of Inheritance. "Und" means undetermined. "R" means it is a recessive trait. 'Poly' means Polygenic (more than one gene is involved), "D" means dominant and the one with a "?" indicates there is still uncertainty about the mode of inheritance.

The fifth column indicates the % of dogs affected with the disease per 100 dogs. For example 1.0 signifies 1 in 10 PBGVs is affected with the disease.

The sixth column is the one you will want to learn to use and become very familiar with. This column was figured by using the Hardy-Weinberg Law. Based on this law, a formula was used to determine a guesstimate of carrier frequency in our general population of PBGVs. One way to interpret the meaning of this column is to understand that if you randomly pick a dog for your bitch, this column indicates the risk that the dog you pick will be a carrier of a particular disease. For example, the risk for Tricuspid Valve Defect in the general population of PBGVs is 8.4%. If you have picked a mate that you know based on your research is "clear" for that disease, you reduce the risk to zero.

In order to thoroughly understand how to utilize this chart we highly recommend that you read Dr. Padgett's book , The Control of Canine Genetic Diseases or view the Padgett Seminar Video or both.

Keeping Records

If you have been a breeder who has kept records of all diseases thrown by your dogs, you are ahead of the game. If you have not, you will have to gather records, go back through the pedigrees, call other breeders, and call puppy buyers. The good news is that you only have to do this once and from then on, keep good records. Since we buy dogs from each other, we can help each other gather the information. The biggest job that you have to do is go back and call every puppy buyer you can locate and find out whether your puppy is healthy or whether it is affected with one or more genetic defects. Some are easy to pinpoint like the missing teeth, umbilical hernias, etc. Others need to have been diagnosed by a veterinarian. Once you accumulate this data, you will have the facts you need right at your fingertips to help make good breeding decisions.

Pet Owners (non-breeders)

You may find this information about PBGVs quite interesting. Since you are not a breeder, however, you may think it doesn't really affect you -- or does it? If the information could help you in selecting your next puppy, how would it help?

It would help because you are now a more informed buyer. Any breeder who would tell you there are no genetic defects in their line would not be telling you the truth. It doesn't mean they would necessarily be telling you an untruth -- some of them did not have the knowledge to determine these risks before we did this survey. How do you know this for sure? Because, as a result of this survey, we "KNOW" that each one of our dogs carries on the average of 7.9 genetic defects. And, you would know that if your breeder selected a breeding pair that didn't carry the SAME genetic defects, the puppy you buy from that litter is probably going to be healthy. Your breeder would even be able to tell you the likelihood the puppy may have Epilepsy or Atopic Dermatitis in the event both dogs did carry these defects but were otherwise very compatible. Or, if you've had the good fortune of living with a healthy dog from a breeder you trust, you know that breeder is a good bet to buy from again.

The breeder you want to run away from and don't go back to would be the one who tells you they have totally healthy lines and have never had any genetic defects. It could be they don't follow-up on their dogs.

Even though you never intend on breeding your dog, it is still critical for you to keep records on your dogs health and convey the information to your breeder. This information will also be useful to have on hand for any future surveys that the PBGVCA conducts.

Summary

The bottom line is that dogs have defects just like we do. We can't make good breeding decisions if we don't know what defects they carry. We can't know what they carry unless we tell each other.

TABLE 5.6 from Control of Canine Genetic Diseases George A. Padgett, DVM
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**RISK OF BEING A CARRIER IF RELATED TO AN
AFFECTED DOG
(AUTOSOMAL RECESSIVE TRAIT)***

		<u>Degree of Relationship</u>	<u>Minimum Carrier Risk</u>
1 =	Parent, progeny	1	100.0%
2 =	Full brother/sister	1	66.6%
3 =	Grandparents, aunts, uncles, half-brothers or sisters, grand- children	2	50.0%
4 =	Niece, nephew	2	33.3%
5 =	Great-grandparent, first cousins half-aunts and uncles, great grandchildren	3	25.0%
6 =	Great-great-grandparents, first cousin once removed, second cousins	-	12.5%
7 =	Great-great-great grandparent, first cousin twice removed, third cousins	-	6.25%

*This chart is used for Autosomal Recessive Traits as well as Polygenic Traits – the risk for the Polygenic Trait will be “at least” this percentage.