

Breeding of White Swiss Shepherds in four of the Nordic countries.

As a part of my strategy when it comes to breeding I scrutinize data, I compare, I analyse and I try, and then I try again. My aim is healthy, happy dogs with a solid mentality. It might sound easy, but everyone who ever has been involved in breeding knows that it is far from easy. It is complicated, difficult, highly interesting and exhausting. At the same time, it is fantastic, it is fun and it is a true passion. It is the above mentioned reasons that made me do this survey and it all began with the search for the best possible father for our future litter. I hope you will find this survey as interesting as I do. With best regards//Kennel Erövarens

Content

In the first part of this survey dogs born in Finland, Sweden, Norway and Denmark are included. I had two basic questions: How many dogs have been born during the years 2010-2016, and how many of them have been x-rayed? As there are four different databases, I collected data in four different ways. This has of course been a challenge, and one must accept that there could be a few more, or a few less dogs and x-ray results.

Secondly I looked at the individual breeders. I have limited the huge amount of data only to include breeders with a kennel name who have had two or more litters born in the years 2010-2016. I have looked at the number of puppies born, and at the number of dogs having had their x-ray done in either their country of birth, or in another Nordic country¹. I also noticed that there are quite a few new breeders engaging in the breed, which I consider positive. I hope you feel welcomed in our small community.

I looked at the number of dogs with free hips and elbows, born 2010-2016. In this part I included all dogs born, not limiting the data to a particular set of breeders.

When I had gathered answers on my first questions, I continued by looking at the dogs used in breeding. In this part I compared Finland and Sweden.

And finally, I looked at imported dogs, comparing them with dogs born in either Finland or Sweden.

Difficulties

I have had difficulties searching for dogs with kennel names that are spelled differently in the different databases. Particular problems that I have been facing are the names that do not start with the kennel name, but has the kennel name at the end or somewhere within the name of the dog. For that reason I might have got the wrong numbers in some cases. In some cases, the kennel name ends with apostrophe and the letter s, and in some without the apostrophe and only the letter s, which made the search a bit trickier. In some sad cases dogs have passed away before the age of x-ray, but that is more of an exception than a rule.

Dogs that have been exported to a country outside Finland, Sweden, Norway or Denmark and made their x-ray outside these countries are not included as I do not have the information.

¹ The Nordic countries or the Nordics are a geographical and cultural region in Northern Europe and the North Atlantic, where they are most commonly known as Norden (literally "the North"). The term includes Denmark, Finland, Iceland, Norway, and Sweden, as well as Greenland and the Faroe Islands—which are both part of the Kingdom of Denmark—and the Åland Islands and Svalbard—archipelagos belonging to Finland and Norway respectively. (https://en.wikipedia.org/wiki/Nordic_countries) In this survey we have included Finland, Sweden, Norway and Denmark, being aware that "the North" is larger than those four countries.

Some dog only have had their hips x-rayed, or only elbows x-rayed. I have chosen to base this survey upon hips as a first priority, elbows as a second priority, in order to manage the data. As surveys like this tends to include a large amount of data, the data has been processed in order to be manageable.

I decided to write this survey in English, as some of my friends abroad might not understand Swedish. However, I are not at all experts in the English language but I hope my language skills are sufficient enough. I am just a breeder with a true passion, I am not a scientist or a language teacher.

How many dogs were born, and how many had their x-ray?

Step one was to find out how many dogs were actually born in each country, and how many of them have had their x-ray done in the same country as they were born. I found out that during the years 2010-2016, 3360 White Swiss Shepherds were born in our four Nordic countries. 42,29% of them (1421 dogs) have had their x-ray done².

2010-2016	Finland	Sweden	Denmark	Norway
Dogs registered	1757	703	454	446
Dogs x-rayed	736	338	131	216
Percentage born/x-ray	41,89%	48,08%	28,85%	48,43%

The breeders and their efforts

90 breeders have had two or more litters during the years 2010-2016 in our four countries. The statistic regarding how many of the dogs from a certain breeder have had their x-ray done goes from 0% to 100%. Out of 90 breeders only 9 breeders have had 80% or more of their offspring x-rayed in the Nordic countries.

Together we have x-rayed 42,29% of our offspring born during 2010-2016. If all breeders would have had 80% or more of their offspring x-rayed, we would almost double the number of dogs that can help us make better decisions based on statistics. Most likely it would also increase the number of dogs that could be used in breeding, at least we could add more than 1200 dogs to our statistics.

At first, I included a list of all the 90 breeders in this survey, but as some probably would not appreciate to be at the bottom of the list, I decided to include the 9 breeders with 80% or more only. I hope they will take this as a tribute to their outstanding commitment, and I was happy to notice I was one of the 9.

² The data was collected during the first weeks of November 2018.

Breeders with 80% or more of their dogs x-rayed:

Breeders	Country of Birth	Number of dogs born	Number of dogs x-rayed in Norway	Number of dogs x-rayed in Finland	Number of dogs x-rayed in Sweden	Number of dogs x-rayed in Denmark	Total	% of dogs x-rayed
Konglegrend's	Norway	15	15	0	0	0	15	100%
Gentle Miracles	Finland	18	0	17	0	0	17	94,44%
Aksinas	Norway	17	14	0	1	0	15	88,24%
Erövrarens	Sweden	22	1	3	15	0	19	86,36%
Albus Lupus	Norway	29	25	0	0	0	25	86,21%
Ny Hviddueholm	Denmark	14	1	0	2	9	12	85,71%
Kasmurens	Sweden	38	4	0	28	0	32	84,21%
Secret Moonshine	Finland	11	0	9	0	0	9	81,82%
Safe Guardian's	Finland	71	0	57	0	0	57	80,28%

- 30 breeders have had 60-79,99% of their offspring x-rayed in the Nordic countries.
- 17 breeders have had 40-59,99% of their offspring x-rayed in the Nordic countries.
- 19 breeders have had 20-39,99% of their offspring x-rayed in the Nordic countries.
- 15 breeders have had less than 20% of their offspring x-rayed in the Nordic countries, 3 out of these 15 have had 0% dogs x-rayed.

How many dogs have free hips and elbows?

In this data I include all the White Swiss Shepherds born in the years 2010-2016³. Some dogs might appear more than once, if they have been registered in more than one database. Some dogs might have been imported from other countries, but is registered with a new national number⁴.

2010-2016	Finland	Sweden	Denmark	Norway
HD A	36,48%	51,54%	68,15%	50%
HD B	33,77%	27,31%	23,70%	32,30%
HD C	20,19%	16,30%	5,93%	13,72%
HD D	8,26%	4,85%	1,48%	3,98%
HD E	1,30%	0%	0,74%	0%

2010-2016	Finland	Sweden	Denmark	Norway
ED 0	80,67%	80,52%	75,94%	78%
ED 1	15,18%	12,99%	17,29%	10,41%
ED 2	2,61%	4,76%	5,26%	7,24%
ED 3	1,54%	1,73%	1,50%	4,07%

³ In the first chart of this survey I included only dogs from breeders with a kennel name, and only breeders who have had two or more litters during 2010-2016.

⁴ For example a dog that has a registration number starting with VHS when it is imported, might be changed to SE when it is registered in the Swedish database.

Finland

In the Finnish database the dogs get their actual result per hip, and per elbow. For example, a dog might get HD A/C, or elbow 0/1. In order to make this survey I have looked upon the results as the Swedish Kennel Club does. If a dog in Sweden would get HD A/C, the results presented in the database would be HD C. The same rule applies for elbows, if a dog gets ED 0/1, the database presents it as ED1.

255 Finnish dogs born between 2010-2016 have HD A and ED0. 223 have one or two hips with HD B and ED0.

Sweden

In the Swedish database one can only see the hip results, or the elbow results. Therefore I cannot present the number of dogs that have both free hips and free elbows unfortunately. One has to look at every specific dog, a task that would take too much time to complete.

234 dogs born between 2010-2016 have HD A. 124 dogs have HD B.

372 dogs have ED0.

Denmark

72 dogs have HD A and ED0. 32 dogs have HD B and ED0.

Norway

86 dogs have HD A and ED0. 55 dogs have HD B and ED0.

Dogs used in breeding.

In this part of my survey I compare breeding in Sweden and Finland. I have not had the possibility to include Denmark and Norway due to the limitation in their databases. As we already looked at the status of the dogs born between 2010-2016 we see that the health regarding hips and elbows differ between the two countries, which I find interesting.

In Finland the breeders have had access to the hip-index since 2013⁵ but has no index for elbows. In Sweden the White Swiss Shepherd got both hip and elbow-index in late 2017⁶. Since the index is always changing, I have not included index-data in this survey. The index also differs between the countries. For example, an imported male with HD A get around 95 in the Swedish index, while in Finland an imported male with HD A seems to get about 10 units more, around 105-110 according to my findings. Thus, it is not possible to compare the index data between Finland and Sweden.

Hips

From the year 2000 up until 2018⁷ we have had 135 females and 120 males in the Swedish breeding. In Finland it has been 280 females, and 158 males. If we only look at those individuals who have a

⁵ This is an assumption we made, due to the Finnish database where one can see hip-index updates beginning at 2013.

⁶ The White Swiss Shepherd was the first breed in Sweden to get the requirement of a litter hip-index above 100. This requirement was later changed to a recommendation, as it was endangering the entire breeding.

⁷ We focused on the dogs born 2000 or later, but due to the fact that some dogs get a different year in their registration-number it can be a handful of dogs born earlier as well. Of course, no dog born 2018 has gone into breeding as I write this paper, but that was the end-date I had as a parameter when extracting the data.

known status of their hips it is; 126 females and 97 males in Sweden and 280 females and 153 males in Finland⁸.

67 of 126 (53,17%) of the Swedish females have HD A. 50 females (39,68%) have HD B. 7 females (5,56%) have HD C. 2 females (1,59%) have HD D.

58 of 97 (59,79%) of the Swedish males have HD A. 37 males (38,14%) have HD B. 2 males (2,06%) have HD C.

119 of 280 (42,50%) of the Finnish females have HD A. 101 females (36,07%) have one or two HD B. 56 females (20%) have one or two HD C. 4 females (1,43%) have one or two HD D.

75 of 153 (49,02%) of the Finnish males have HD A. 52 males (33,99%) have one or two HD B. 26 males (16,99%) have one or two HD C.

Year 2000->>	HD A	HD B	HD C	HD D
Swedish females	53,17%	39,68%	5,56%	1,59%
Swedish males	59,79%	38,14%	2,06%	0%
Finnish females	42,50%	36,07%	20%	1,43%
Finnish males	49,02%	33,99%	16,99%	0%

When comparing these numbers, one can see that the Swedish breeders tend to use around 10% more HD A, both male and female. The Swedish breeders use around 5% less HD B when it comes to choosing a male.

It is a rather big difference regarding the use of dogs with HD C. While the Finnish breeders use 20% HD C females, Sweden use only 5,56%. When choosing males, the Finnish breeders also use a higher number of HD C, 16,99% compared to Sweden using 2,06%. When it comes to the more current offspring, born 2010-2016 we can see that Sweden clearly has more HD A, the HD B is slightly different and regarding the HD C in the offspring we see even less difference, which is very interesting.

Offspring 10-16	Finland	Sweden
HD A	36,48%	51,54%
HD B	33,77%	27,31%
HD C	20,19%	16,30%
HD D	8,26%	4,85%
HD E	1,30%	0%

Elbows

121 Swedish females have known status of the elbows. 115 of 121 (95,04%) have ED0. 5 females (4,13%) have ED1. 1 female (0,83%) have ED3.

91 Swedish males have known status of the elbows. 85 males (93,41%) have ED0. 6 males (6,59%) have ED1.

⁸ There are several explanations to why some dogs does not have a known hip and elbow result, some have for example been used in the earlier years when it was different rules, some are registered as mother/father of a puppy born abroad, meaning the Swedish or the Finnish kennel clubs does not have their x-ray results in their databases.

231 of 280 (82,50%) of the Finnish females have ED 0. 45 females (16,07%) have ED1 or ED1/1. 3 females (1,07%) have ED0/2. 1 female (0,36%) have ED0/3.

134 of 153 (87,58%) of the Finnish males have ED0. 18 males (11,76%) have ED1 or ED0/1. 1 male (0,65%) have ED2/2.

Year 2000->>	ED0	ED1	ED2	ED3
Swedish females	95,04%	4,13%	0,00%	0,83%
Swedish males	93,41%	6,59%	0,00%	0%
Finnish females	82,50%	16,07%	1%	0,36%
Finnish males	87,58%	11,76%	0,65%	0%

When comparing these numbers, one can see that the Finnish breeders tend to use around 12% more females with ED1 and about 7-8% more males with ED1. Looking again at the statistics of the offspring born between 2010-2016 one can see that the numbers does not differ that much. Both countries have about 80% ED0. Finland has slightly more ED1, but less ED2 and ED3.

Offspring 10-16	Finland	Sweden
ED0	80,67%	80,52%
ED1	15,18%	12,99%
ED2	2,61%	4,76%
ED3	1,54%	1,73%

Could we possibly blame someone?

As we breeders invest not only our time and money, but endless of emotions into our breeding, we often like to find a scapegoat if something goes wrong. It might not be fair, but perhaps it is in the nature of mankind? One easy way out is to blame the male that we used, but yet again, that is probably not fair. As breeders we have the ultimate responsibility to select the right combination, and no one but the breeder can be held responsible for that decision. However, breeding is more than selecting genes as all dogs are facing environmental impact during their lifetime. Some dogs are hit by cars, some break their legs in accidents, and of course it all effects the x-ray results. Nutrition for the pregnant female, the first weeks for the puppies and up until the day they get their x-ray probably also has an effect, a responsibility shared by both the breeder and the "puppybyers".

As the White Swiss Shepherd is a rather small population, when compared to for example German Shepherds, Labrador, Poodle and so forth, we are dependent on import and export, in order to keep the inbreeding low. For that reason, we have tried to find out if it is more likely that imported dogs have hip- or elbow dysplasia. Again, the Finnish database is much more user friendly than the Swedish, and the Norwegian and Danish does not offer the possibility at all to do this kind of search. Thus, we compared Finland and Sweden.

HD result	Born in Finland	Imp. to Finland	Born in Sweden	Imp. to Sweden
HD A	83,47%	16,53%	85,74%	14,26%
HD B	84%	16%	88,16%	11,84%
HD C	81,16%	18,84%	88,42%	11,58%
HD D	87,60%	12,40%	78,12%	21,88%
HD E	93,75%	6,25%	100%	0%

As the tablet above shows, it is not an overwhelmingly number of imported dogs that contribute to hip dysplasia in the statistics. In this case the Swedish figures must be considered as approximate as

the database does not have the search function, the search has been conducted manually which always gives room for mistakes. Another problem that I encountered is how to measure dogs that are born in Sweden or Finland but has one or two imported parents. I choose only to look at dogs born⁹, and to summarize who were imported and who were “home-born”, regardless of their parent’s birthplace.

ED result	Born in Finland	Imp. to Finland	Born in Sweden	Imp. to Sweden
ED 0	84,34%	15,66%	85,51%	14,49%
ED 1	83%	17%	78,01%	21,99%
ED 2	86,54%	13,46%	75,00%	25,00%
ED 3	69,57%	30,43%	58,33%	41,67%

When making the ED-tablet I encountered the same difficulties as mentioned regarding the HD-tablet, so let’s not dwell on that. What I find interesting is that the ED-statistics shows a bigger difference when it comes to elbow dysplasia. One reason could be that several countries might not x-ray elbows in the same systematic manner as we do in the North, giving the foreign breeders less data to base their breeding upon.

SUMMARY

During this process I have found a lot of interesting information, and I will continue to look at breeding from many different perspectives in the future. The health of a dog is not only hips and elbows, but it is one of the parameters that we can measure easily. A survey like this can raise a lot of questions, such as; how much is inheritance and how much is environmental impact when it comes to causes of dysplasia? Are some bloodlines doomed to have dysplasia forever, or can combinations be made to erase the problems? How much would the health result differ if every single dog got the perfect nutrition? One thing we know for sure is that breeders need to have not only their own dogs x-rayed, but also their offspring. 42,29% is not enough, so let us agree to have at least 75% of our offspring x-rayed in the future, ok? Together we can make the White Swiss Shepherd to an even greater dog than it is today!

And if I found the perfect male during this process? I’d like to think so 😊

⁹ For this tablets we looked at dogs born 2000-2018, which in fact excludes the 2018 dogs as they haven’t had their x-ray done yet.