## Svenska Isländsk Fårhund Klubben - Sweden



## Annual report for the year 2012

The $18{ }^{\text {th }}$ International seminar for The Icelandic Sheepdog Copenhagen $25^{\text {th }}-27^{\text {th }}$ October 2013

## Club information

## Board members

Chairman: Ingbritt Sannel
Vice Chairman: Elisabet Idefelt
Treasurer: Johanna Beijer
Secretary: Susanne Rosén
Committee member: May Britt Sannerholt

1. Substitute: Nina Hellström
2. Substitute: Mi Lilja

## Commitees

Breeding responsible: May Britt Sannerholt, e-mail: avel@islandshunden.se
Editor for the club magazine: Johanna Beijer
Herding responsible: Louise Westerberg
Mentality responsible: Susanne Rosén
Show Committee responsible: Ingbritt Sannel

## Club members

|  | $\mathbf{2 0 1 2}$ <br> $31^{\text {th }}$ December | 2011 <br> $31^{\text {th }}$ December | $\mathbf{2 0 1 0}$ <br> $31^{1 \mathrm{~h}}$ December | $\mathbf{2 0 0 9}$ <br> $31^{\text {th }}$ December | 2008 <br> $31^{\text {th }}$ December |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Members | 262 | 304 | 382 | 439 | 509 |
| New members <br> this year |  |  |  |  |  |

## Others

## Official address:

SIF, c/o Susanne Rosén, Stensvik Viared, 50494 Borås

## Summary

53 dogs registered 2012
Average litter size $=3,2$
Average inbreeding $=1,3 \%$
Average generation interval $=5,1$ years
Utilized effective populations size (Ne)=300, Available (Ne)=62
Mating types $=345$ litters less related than cousins
Fifty three dogs were registered by Svenska Kennelklubben (SKK) last year. That is very few dog registered. It is the lowest numbers of dog since 1998. Among the total number of registered dogs 2012 were 51 puppies out of 17 litters. The other two (2) dogs were imports from other countries. The imported dogs came from Iceland and Norway.

Among the dogs used in breeding 2012 were 13 males and 17 females. Every one of them were between $2-6$ years of age.

The average litter size was 3,2 puppies/litter which is a result we wish to become higher. Year 2007 we had a result of 5 puppies/litter. A result that we only have reached once. Knowing that 5 puppies/litter is possible to reach, it is our goal to reach that level again.

The average inbreeding calculated on five generation is as low as $1,3 \%$. This result is below SIFK's recommendation which is $2,5 \%$.
The effective population size for the period 2008-2012 is: The utilized $\mathrm{Ne}=300$ and the available $\mathrm{Ne}=62$ animals. Together with an average generation interval of 5,1 years we are very satisfied with the result of the breeders work. It is a very positive result but..... The use of new blood is still essential in practical breeding as well as international exchanges of dogs.

## Health

The Icelandic Sheepdog is a very healthy breed. As far as we know from official results and from SIFKs' members there are no signals telling us about diseases to be aware of. The kind of diseases that shows up in the breed is what is normal in a dog breed as well as in a population of humans.
SIFK will still keep an eye on the HD situation together with the results from eye examinations and of cause we follow what happens in the other countries as well.

SIFK's main goal is to keep the genetic variation wide. The effect of a wide genetic variation is to keep the risk for serious diseases to be spread in the whole population low and hopefully we still will be able to look up on the breed from a healthy point of view also in the future.

## Mentality

There are 120 dogs between 12 - 24 months of age with a complete score sheet from mental description.
In average the intensity scale shows that the dogs do not play but show interest.
They show less activity in all kinds of play.
The intensity scale for curiosity/fearlessness shows that dogs in average walk up to the unknown thing/functionary when their owner stands beside.

The intensity scale for sociability shows that dogs in average accept contact and walk away without engagement with an unknown person.

The intensity scale for aggressiveness shows that dogs in average do not show any aggressively or maybe one or two aggressive threats in the beginning.

## Litters

|  | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 0 8}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Litters | 17 | 19 | 24 | 17 | 23 |
| Puppies <br> registrated | 53 | 87 | 123 | 69 | 120 |
| Average size <br> of litters | 3,2 | 4,3 | 4,8 | 4,0 | 4,5 |
| Average <br> inbreeding \% | 1,3 | 1,5 | 2,1 | 1,6 | 2,3 |

## Imports

|  | 2012 | 2011 | 2010 | 2009 | 2008 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Iceland | 1 | 3 | 2 | 2 | 3 |
| Norway | 1 |  | 4 | 1 | 4 |
| Denmark |  | 2 | 1 |  |  |
| Finland |  |  |  | 2 |  |
| Germany |  |  |  | 1 |  |

## Further comments:

Most of the dogs imported to Sweden are exported from Norway and Iceland. Iceland is the home country of the breed and it has always been interesting to look for good dogs there. The first dogs came from Norway where they had breed had been breed for some years already. It has always been easy to cross the border between the two countries and it has always been breeders in both countries that have been cooperating around the breed.

Statistics overview and comments, registrations

## Stud dogs

Who have reached - or are close - to the "ISIC breeding limit"

| Males |  |  |  | Name of the dog | Year of <br> birth |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Reg nr. | No. of <br> Litters | No. of <br> Puppies | No of <br> grandchildren |  |  |
| S38696/99 | Icetops Keipur | 1999 | 9 | 45 | 127 |
| S54928/94 | Yrar-Garpur | 1994 | 9 | 34 | 108 |
| S29301/2001 | Gunnar Fra Gull Lyklinum | 2001 | 4 | 12 | 84 |
| S37675/2000 | Pretty-Prud's Keli | 2000 | 5 | 19 | 78 |
| S34927/91 | Iskristallen Spoi | 1991 | 8 | 28 | 76 |
| DK07814/93 | Skovridergaardens Landi | 1993 | 6 | 21 | 65 |
| S57106/91 | Prickur | 1991 | 4 | 14 | 58 |
| S33051/96 | Baldi | 1996 | 8 | 31 | 49 |
| S45761/97 | Kersins-Tappi | 1997 | 7 | 28 | 47 |
| S13282/2004 | Vaskurs Flibbi Jakisson | 2004 | 6 | 30 | 44 |
| S14012/96 | Bjartmars Hrönn | 1996 | 8 | 30 | 44 |
| N07093/97 | Skreppeng's Gryssli | 1997 | 6 | 21 | 36 |
| S28573/2004 | Drengur | 2004 | 9 | 41 | 22 |


| Females |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Reg nr. | Name of the dog | Year of <br> birth | No. of <br> Litters | No. of <br> Puppies | No of <br> grandchildren |
| S10371/96 | Ullälvas Tibra | 1995 | 4 | 20 | 104 |
| S50825/2000 | Bjartmars Sunna | 2000 | 2 | 10 | 71 |
| S44533/94 | Pretty-Prud's Ekkja | 1994 | 4 | 12 | 58 |
| S25345/94 | Ullälvas Sota | 1994 | 4 | 15 | 56 |
| S39207/94 | Heartseeker's Björk | 1994 | 2 | 7 | 54 |
| S32495/2002 | Áasta | 2002 | 4 | 17 | 48 |
| S42252/2001 | Gimgölets Nibba | 2001 | 3 | 21 | 48 |

## Further comments:

Svenska Isländsk Fårhund Klubben (SIFK) breeding limit is five (5) litters or 25 puppies. For grandchildren the breed limit is about the double numbers of puppies. For the Icelandic sheepdog population in Sweden it should be around 50 grandchildren.

Statistics overview and comments, registrations

## Hip Dysplasia (HD)

| Total number of <br> X-rayed dogs | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 0 8}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A | 10 | 15 | 15 | 31 | 15 |
| B | 10 | 7 | 7 | 16 | 7 |
| A+B | 20 | 22 | 22 | 47 | 22 |
| C | 7 | 7 | 2 | 13 | 7 |
| D | 2 | 3 | 6 | 2 | 1 |
| E | 1 | 3 |  | 1 |  |
| C+D+E | $\mathbf{1 0}$ | 13 | 8 | 16 | 8 |
| In total | $\mathbf{3 0}$ | $\mathbf{3 5}$ | $\mathbf{3 0}$ | $\mathbf{6 3}$ | $\mathbf{3 0}$ |

## Further comments:

Method - FCl's (Fédération Internationale Cynologique) rules for x-ray.
The figurs shows the result of the total number of dogs which are e-rayed year by year. The average age of a dog when owners X-ray their icelandic sheepdogs in Sweden is about 21 25 months of age.

The numbers of dogs with $D$ and $E$ hips are quite constant. In the period of the last five years it has been between $1-6$ dogs/year. We had an increase in 2010 with 6 dogs with the remark D and there were 3 dogs with the remark E year 2011.
SIFK's recommendation is that the hip dysplasia situation should be known for dogs used in breeding. There are two reasons for that. One is to statistically certain the results and the second is that Svenska Kennelklubbens (SKK) breeding policy says: " It could never be recommended to mate two serious ( D and E ) dysplasi.

## Elbow dysplasia (ED)

| Total number of <br> x-rayed dogs | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 0 8}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Level 0 | 3 | 8 | 8 | 15 | 6 |
| Level 1 |  |  |  | 1 |  |
| Level 2 |  |  |  | 1 |  |
| Level 3 |  |  |  |  |  |
| In total | 3 | 8 | 8 | 17 | 6 |

## Further comments:

It is not very common to X-ray elbows in our breed. Therefore there are not many ED results in the Swedish Icelandic Sheepdog population. During the years 1990-2012 the total number of $X$-ray dogs is 133 . Only five of them have got remarks; four dogs have got grade 1 and one has got grade 2.

Patella luxation:

| Total number of <br> x-rayed dogs | 2012 | 2011 | 2010 | 2009 | 2008 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Level 0 |  |  |  | 3 | 0 |
| Level 1 |  |  |  |  |  |
| Level 2 |  |  |  |  |  |
| Level 3 |  |  |  | 3 | 0 |
| In total | 0 | 0 | 0 | 3 |  |

## Further comments:

Some years ago SKK decided to make all results from patella luxation official for all breeds.
Only four dogs are diagnosed and all are free.
The first Icelandic Sheepdog which was diagnosed was registered 2002 and number two was registered 2005.

## Eye examinations

| Total number of <br> x-rayed dogs | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 0 9}$ | 2008 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Unaffected <br> signifies (free) | 29 | 32 | 34 | 47 | 21 |
| Hereditary <br> Cataract | 1 |  |  |  |  |
| Cornea Distrophe |  | 1 |  |  |  |
| Distichiatis |  |  |  |  |  |
| Others <br> (see below) |  | 2 | 1 | 1 |  |
| In total | $\mathbf{3 0}$ | $\mathbf{3 5}$ | $\mathbf{3 5}$ | $\mathbf{4 8}$ | $\mathbf{2 1}$ |

## Other hereditary eye diseases:

## Cataract in the hinder area of the central lens

## Cataract others.

## Further comments:

About $25 \%$ of all registered dogs since 1990 have done an eye examination.
Last year one dog got the remark, hereditary cataract. The dog's name, Elmo Av Ylveli is born in Norway
Two dogs registered 2011, one 2010 and one 2009 have got the remark (cataract in the hinder central lens). The total number of dogs with remarks is listed in appendix.

We need more dogs to be eye examine though the results do not show any health problem. The numbers of dogs yearly examined are too few to guarantee a healthy situation in the breed.

SIFK's recommendation is that all dogs used in breeding should be eye examine before mating.

## Health, optional testing

|  | 2012 | 2011 | 2010 | 2009 | 2008 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| BEAR <br> (Hearingdiseases) |  |  |  |  |  |
| Heart diseases |  |  |  |  |  |$\quad$| Kidney diseases |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
|  |  |  |  |  |

## Further comments:

There aren't any official results recognized by the Swedish Kennel Club for the breed.

## Mentality descriptions

|  | 2012 | 2011 | 2010 | 2009 | 2008 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Descripted <br> dogs MH | 9 | 13 | 3 | 22 | 9 |
| Descripted <br> Dogs BPH | 2 |  |  |  |  |
| In total | 11 | 13 | 3 | 22 | 9 |

## Further comments: 9 MH and 2 BPH

The total numbers of Icelandic Sheepdogs which have taken part in Mentalbeskrivning Hund (MH) with a complete score sheet is by the end of 2012, 199 dogs.
Last year, 2012, nine (9) dogs participated and all except one fulfill the description.
Last year The Swedish Kennel Club open up for all breeds to take part in the new behavior and personality description in dogs, in Swedish called Beteende och Personlighetsbeskrivning Hund (BPH). Two Icelandic Sheepdogs took part in the description with a complete score sheet.

If we see to the group of dogs between $12-24$ months with a complete score sheet at MH , the total numbers of dogs is 120 . The average figures for these dogs are shown in an intensity scale above.

## Egenskapsvärden



[^0]
## The average figures for these dogs on the intensity scale 1-5 are:

## Deskription

Curiosity /fearlessness (Nyfikenhet/Orädsla)
Aggressiveness (Aggressivitet)
Sociability (Socialitet)
Chase- proneness (Jaktintresse)
Playfullness (Lekfullhet)

## Average

2,9
1,8
3,6
1,8
2,5

The average figures means:
With an average of $\mathbf{2 , 9}$ for curiosity/fearlessness means that dogs in average walk up to the unknown thing/functionary when their owner stands beside.

With an average of $\mathbf{1 , 8}$ for aggressiveness means that dogs in average do not show any aggressively or one or two aggressive threats in the beginning.

With an average of 3,6 for sociability means that dogs in average accept contact and walk away without engagement with an unknown person.

With an average of $\mathbf{1 , 8}$ for chase-proneness means that dogs in average do not start or they start but stopped.

With an average of $\mathbf{2 , 5}$ for playfulness means that dogs in average do not play but shows interest.

## Working abilities (herding) descriptions

|  | 2012 | 2011 | 2010 | 2009 | 2008 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Descripted <br> dogs | 12 | 19 | 17 | 32 | 12 |
| In total | 12 | 19 | 17 | 32 | 12 |

## Further comments:

Svenska Isländsk Fårhund Klubben (SIFK) arranged one herding descriptions last year. ? dogs were evaluated on sheep.

## Shows

|  | 2012 | 2011 | 2010 | 2009 | 2008 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Number of <br> shows | 1 |  | 1 |  |  |
| Number of <br> dogs | 64 |  | 32 |  |  |
| In total <br> (dogs) | 64 |  | 32 |  |  |

## Further comments:

Svenska Isländsk Fårhund Klubben's yearly clubshow were held at Dalsjöfors, Borås Agust the $12^{\text {th }}$.

## Events

During 2012 we had a meeting for all members in May about laws concerning dogs and breeding and also about insurance for dogs and breeders. We got very interesting and useful information.
In September we arranged an activity day in Dalsjöfors, Göran Hallberger lectured about anatomy and the participants also had the opportunity to practice Rally obedience and how to show their dog at shows.
Our clubshow was also held in Dalsjöfors with 64 participating dogs. We had a very nice day with visitors also from Denmark, Finland and Germany. The show was held on a Sunday but quite a few members met on Saturday evening for a good meal and "dogtalk".
In December we presented the breed during "Stockholms hundmässa 2012" both in an exhibition case and in a special presentation of a few breeds where we had the opportunity to show one male and one bitch and talk a little about the breed in front of a large audience.

## Effective population size

## Goals/Other Comments e.g. Lathunden; PerErik Sundgren

Recommended effective population size/breeding base is > (more than) 100 and not < (less than) 50.
An effective population size of about 150 - 200 is large enough to stop heavy losses of genetic variation.

Utilized Breeding Base shows how the dogs actually have been used in breeding.
Available Breeding Base tells us what is possible to reach with a different way to use the dogs in breeding and with the same dogs available in the same period.

The calculated effective population size has more opportunities (Available). The figure of available breeding base $=62$ dogs tells us what is possible to reach.
With the figure (Utilized breeding base $=300$ ) it does not say anything about the number of breeding animals actually used in breeding. It tells only that the increase of inbreeding in the entire population in Sweden was less than in a randomly mating idealized population of 500 individuals equally distributed on two sexes.
High values for Ne can sometimes show up in small populations. It happens when the progenies' inbreeding is slightly higher or maybe lower than their parents' generation.

The efficient population size in Sweden has slowly become better but it is still below the recommended level.

Utilized and available effective populations size of the Swedish population 1998-2012 ( $\mathrm{Ne}=$ effective populations size or breeding base)

| Period | No. of litters | No. of dogs | Utilized (Ne) | Available (Ne) | Inbreeding \% |
| :--- | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 0 8 - 2 0 1 2}$ | 129 | 464 | 300 | 62 | 1,8 |
| $\mathbf{2 0 0 3 - 2 0 0 7}$ | 188 | 762 | 55 | 71 | 3,1 |
| $\mathbf{1 9 9 8 - 2 0 0 2}$ | 215 | 787 | 96 | 53 | 4,3 |

## Mating types

| Mating types <br> (2003-2012) | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ |
| :--- | :---: | :---: | :---: | :---: |
| No. Of litters | 345 | 69 | 33 | 6 |
| Inbreeding \% | 2 | 8,7 | 15,7 | 29,5 |
| Average littersize | 4,1 | 4,1 | 3,8 | 4,2 |

Type I = parents less related than cousins ( $\mathrm{Fx}<6,25 \%$ )
Type II = parents related as cousins but less than half sibs ( $\mathrm{Fx}=6,25-12,24 \%$ )
Type III = parents related as half sibs but less than full sibs ( $\mathrm{Fx}=12,5-24,99 \%$ )
Type IV = parents are related as full sib or parents to progeny ( $\mathrm{Fx}>=25 \%$ )

## Further comments:

Mating types include all Swedish registered second and third litter in the database (LatHunden).
The average value calculated on less than 30 litters couldn't not be looked up on as representative for the breed and isn't show a reliable picture of the connection between inbreeding and fertility.

A scientific study shows that parents closer related than 12,5\% results in a higher risk of different inbreeding problems in the offspring.

## Generation interval

Dr. Per-Erik Sundgren says "Change in genetic, and thus loss of genetic variation, can only take place between successive generations. Thus the rate of change over time is dependent on the generation interval, the number of years between the first litter of the parents and the average age of their progenies when they produce their first litters."

Calculated on a ten years period (2003-2012) the average generation interval was:

Father to sons
Father to daugthers
Mother to sons
Mother to daughters
$=1932$ days $=5,3$ years
$=1809$ days $=5$ years
$=1923$ days $=5,1$ years
$=1843$ days $=5,1$ years

The total average generation interval for parents to progenies for the period is $=1877$ days $=\mathbf{5 , 1}$ years The recommended average generation interval is 5 years.

It is recommended that the average generation interval is a subject to keep an eye on because too strong selection and rapid generation turnover may cause a serious threat to the health and viability of the breed.

## Parents age when they debut in breeding

Parents age when they got their first litter. Litters born 2012.

|  | $0-6$ Months | $7-12$ months | $13-18$ months | $19-24$ months | $2-3$ years | $4-6$ years | $<7$ years | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mother | 0 | 0 | 1 | 0 | 3 | 4 | 0 | 8 |
| Father | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 7 |
| Total | 0 | 0 | 1 | 0 | 5 | 7 | 2 |  |


| Parents age when they got their first litter. Litters born 2011. |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $0-6$ months | $7-12$ months | $13-18$ months | $19-24$ months | $2-3$ years | $4-6$ years | $<7$ àr years | Total |
| Mother | 0 | 0 | 0 | 0 | 7 | 6 | 0 | 13 |
| Father | 0 | 0 | 1 | 0 | 4 | 6 | 1 | 12 |
| Total | 0 | 0 | 1 | 0 | 11 | 12 | 1 |  |

Parents age when they got their first litter. Litters born 2010.

|  |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mother | $0-6$ years | $7-12$ years | $13-18$ months | $19-24$ months | $2-3$ years | $4-6$ years | $<7$ years | Total |
| Father | 0 | 0 | 0 | 1 | 8 | 5 | 0 | 14 |
| Total | 0 | 0 | 1 | 0 | 2 | 4 | 1 | 8 |


| Parents age when they got their first litter. Litters born 2009. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-6 months | 7-12 months | 13-18 months | 19-24 months | 2-3 year | 4-6 years | $<7$ years | Total |
| Mother | 0 | 0 | 0 | 0 | 5 | 3 | 0 | 8 |
| Father | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 4 |
| Total | 0 | 0 | 1 | 0 | 6 | 5 | 0 |  |


|  | Parents age when they got their first litter. Litters born 2008. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0-6 months | 7-12 months | 13-18 months | 19-24 months | 2-3 years | 4-6 years | $<7$ years | Total |
| Mother | 0 | 0 | 0 | 0 | 7 | 4 | 0 | 11 |
| Father | 0 | 1 | 0 | 1 | 3 | 7 | 0 | 12 |
| Total | 0 | 1 | 0 | 1 | 10 | 11 | 0 |  |

## Further comments:

The total numbers of dogs used in breeding last year were 30 dogs. Twelve (15) of them did their debut in breeding. One of them was a young bith between 13-18 months of age.
During the last five years there have been six (6) dogs used in breeding which have been less than 24 months old.

## Statistics overview and comments, shows, descriptions and events

The ISIC and SIFK reckomentation is that dogs (males and females) are avoing from breeding before the age of 24 months.

## Males and females used in breeding

|  | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Litters | 18 | 24 | 19 | 20 | 22 | 25 | 24 | 23 | 23 | 17 | 16 | 19 | 17 |
| Bitches | $\underline{18}$ | $\underline{23}$ | $\underline{19}$ | $\underline{19}$ | $\underline{21}$ | $\underline{24}$ | $\underline{24}$ | $\underline{23}$ | $\underline{23}$ | $\underline{17}$ | $\underline{16}$ | $\underline{19}$ | $\underline{17}$ |
| Males | $\underline{17}$ | $\underline{20}$ | $\underline{13}$ | $\underline{17}$ | $\underline{17}$ | $\underline{22}$ | $\underline{18}$ | $\underline{21}$ | $\underline{22}$ | $\underline{14}$ | $\underline{11}$ | $\underline{18}$ | $\underline{13}$ |

During the years more females than males have been used in breeding. The years 2005, 2007 and 2008 we reach the goal of keeping at least 20 males in breeding.
This is an important goal to reach and it is really something we have to be aware of in the future.

## Increase of genetic variation

It is necessary to increase genetic variation in the breed. The effect of keeping genetic variation wide is to keep the risk for serious diseases to be spread in the whole population low. If a hereditary disease should show up it is important to use individuals which is low related to each other and hopefully lacks the defect gene.

For that purpose we need to use as many dogs as possible in breeding and at least have as many males as females in breeding at the same time. To lower the risk from lost of genes should at least twenty males and 3-5 females per male be used in breeding at the same time.

Appendix

## Litters

|  | 1997 | 1998 | 1999 | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ | $\mathbf{2 0 0 6}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 2}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Litters | 21 | 18 | 17 | 18 | 24 | 19 | 20 | 22 | 25 | 24 | 23 | 23 | 17 | 24 | 19 | 17 |
| Puppies | 86 | 57 | 69 | 70 | 97 | 104 | 77 | $94(3)$ | $91(5)$ | $119(4)$ | $113(5)$ | $120(7)$ | $69(6)$ | $123(7)$ | $87(5)$ | $53(2)$ |
| Average size <br> of litters | 3,6 | 3,6 | 3,9 | 3,8 | 4 | 4,3 | 4 | 4,1 | 4,3 | 3,9 | 5 | 4,5 | 4 | 4,8 | 4,3 | 3,2 |
| Average <br> inbreeding <br> $\%$ | 4,9 | 5,6 | 5,1 | 2,7 | 3,2 | 3,7 | 4,3 | 5,4 | 2,7 | 1,2 | 1,7 | 2,3 | 1,6 | 2,1 | 1,5 | 1,3 |

## Imports

|  | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Iceland |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 |
| Norway |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Appendix

## Hip Dysplasia (HD)

| Total number of $x$-rayed dogs | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A |  |  |  | 20 | 13 | 13 | 18 | 31 | 20 | 11 | 23 | 15 | 31 | 15 | 15 | 10 |
| B |  |  |  | 6 | 8 | 7 | 15 | 16 | 5 | 11 | 19 | 7 | 16 | 7 | 7 | 10 |
| A+B | 17 | 25 | 33 | 26 | 21 | 20 | 33 | 47 | 25 | 22 | 42 | 22 | 47 | 22 | 22 | 20 |
| C | 3 | 6 | 5 | 5 | 5 | 8 | 9 | 4 | 6 | 12 | 13 | 7 | 13 | 2 | 7 | 7 |
| D | 1 | 1 |  | 3 |  | 4 | 3 | 2 | 4 | 3 | 5 | 1 | 2 | 6 | 3 | 2 |
| E |  | 1 |  | 2 |  | 2 |  | 1 |  |  |  |  | 1 |  | 3 | 1 |
| C+D+E | 4 | 8 | 5 | 10 | 5 | 14 | 12 | 7 | 10 | 15 | 18 | 8 | 16 | 8 | 13 | 10 |
| In total | 21 | 33 | 38 | 36 | 26 | 34 | 45 | 54 | 35 | 37 | 60 | 30 | 63 | 30 | 35 | 30 |

## Elbow dysplasia (ED)

| Total number of x-rayed dogs | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Level 0 | 2 | 1 | 4 | 4 | 2 | 4 | 10 | 17 | 5 | 8 | 11 | 6 | 15 | 8 | 8 | 3 |
| Level 1 |  | 1 |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |
| Level 2 |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |
| Level 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| In total | 2 | 2 | 4 | 4 | 2 | 4 | 10 | 17 | 5 | 8 | 11 | 6 | 17 | 8 | 8 | 3 |

## Appendix

## Patella luxation:

| Total number <br> of x-rayed <br> dogs | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Level 0 |  |  |  |  |  | 1 |  |  | 1 | 1 |  |  |  |  |  |
| Level 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Level 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Level 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| In total | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |

## Eye examinations

| Total number of $x$-rayed dogs | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unaffected signifies (free) | 20 | 22 | 19 | 11 | 10 | 26 | 34 | 28 | 20 | 24 | 41 | 21 | 47 | 34 | 29 | 29 |
| Hereditary Cataract |  |  |  |  | 1 |  |  |  |  |  | 1 |  |  |  |  | 1 |
| Cornea Distrophe |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |
| Distichiatis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Others | 1 | 1 |  |  |  | 1 | 2 | 1 | 2 | 1 | 1 |  | 1 | 1 | 2 |  |
| In total | 21 | 23 | 19 | 11 | 11 | 27 | 36 | 29 | 22 | 25 | 43 | 21 | 48 | 35 | 32 | 30 |


[^0]:    - Medelvärde (ras, 120 st, 12-24 månader)

