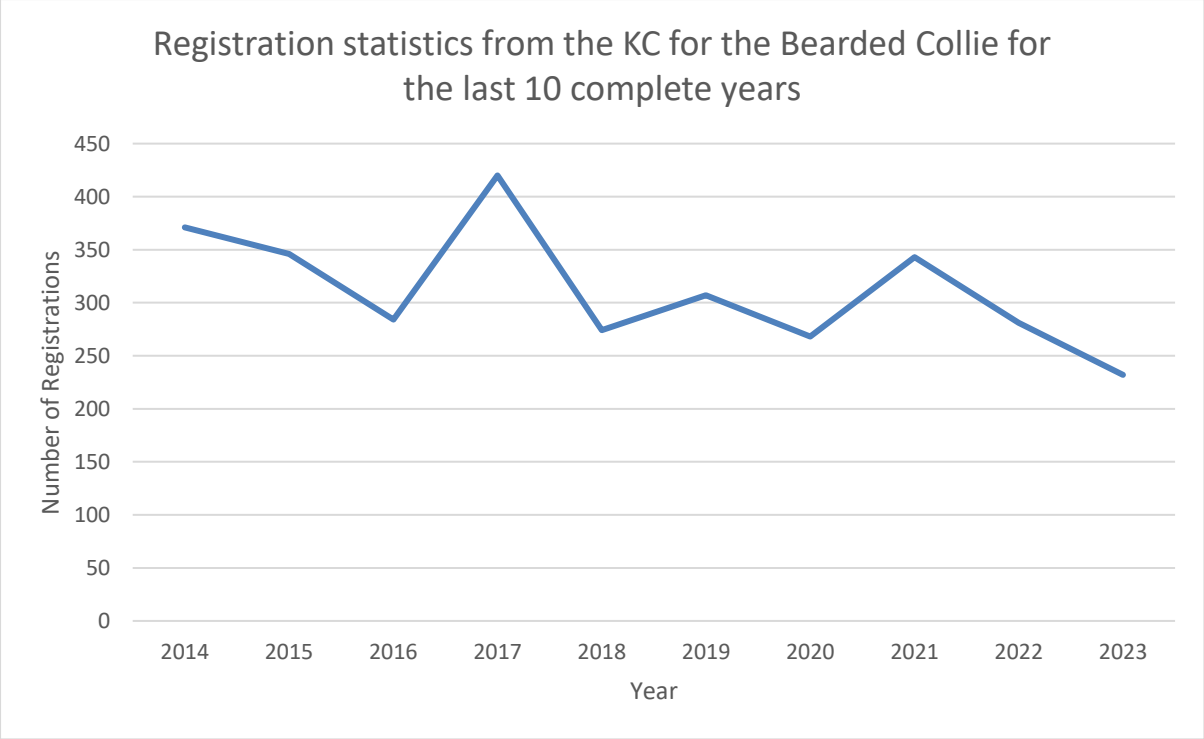
Bearded Collie Health Survey 2024

This is the seventh year in which we have carried out a yearly health survey. In recent years although showing fluctuations there has been an overall downward trend in registration numbers and sadly this trend is continuing - data from the Royal Kennel Club (Royal Kennel Club, 2023).

Year	Registration numbers
2014	371
2015	346
2016	284
2017	420
2018	274
2019	307
2020	268
2021	343
2022	281
2023	232

In 2016 the numbers fell below the 300 mark which meant we were classified as a vulnerable breed by the Royal Kennel Club (RKC) and although the numbers recovered slightly in 2017, in 2018, 2020, 2022 and 2023 we again fell into the vulnerable breeds category. 2023 saw the lowest figure in registrations in recent times.

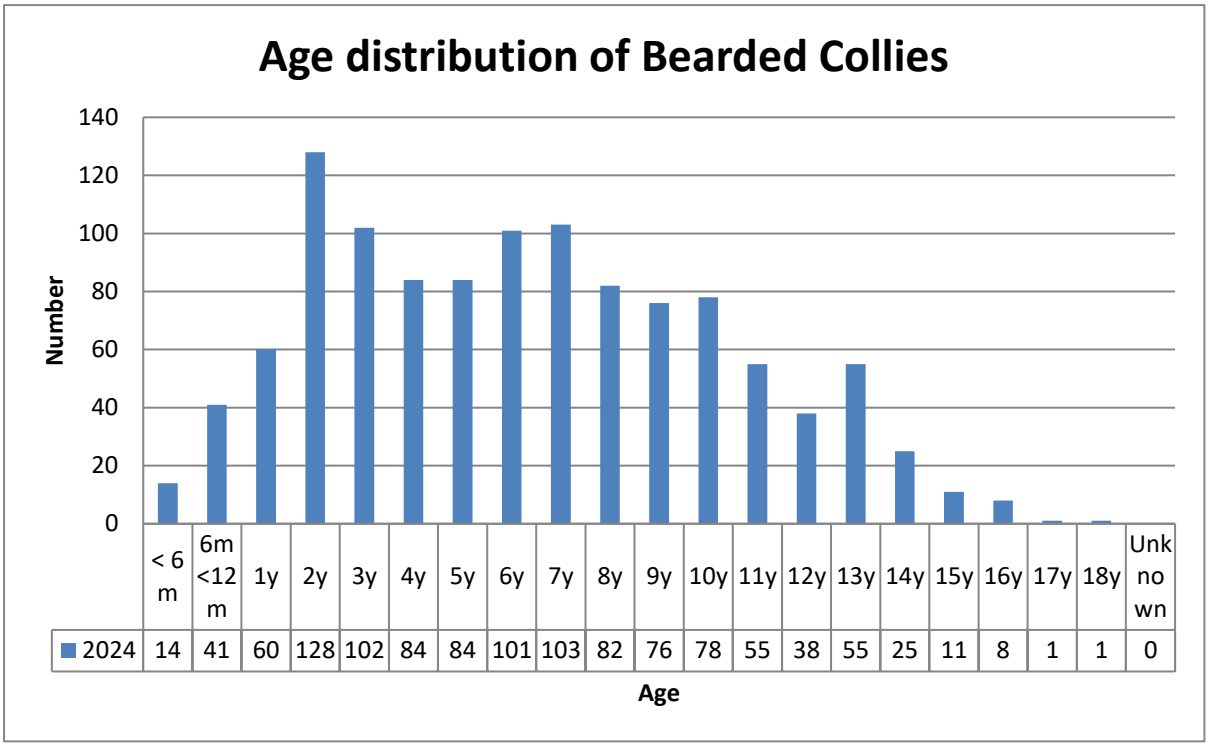


This survey is a follow up to the surveys taken in February 2018 through to February 2023 and is designed to be repeated on an annual basis so that we can observe trends in health within the breed rather than looking at a single snapshot. To this end a survey was designed that was not too detailed in order to encourage maximum participation and obtain data on as many dogs as possible to get an accurate picture on the health of the breed. The survey was postponed until April this year due to my workload. A few questions were added in 2019 in response to drawing up the Breed Health and Conservation Plan (BHCP) in conjunction with the Royal Kennel Club and a further question related to dogs with retained testicles was added in 2022. This year a question was also asked in relation to splenic tumours as it was felt amongst some owners that this was possibly overrepresented in Bearded Collies. The final survey consisted of eighteen questions with either Yes/No or short answers and was designed to be user-friendly.

Data was received on 1147 dogs of which thirty-six had died in the year leading up to April 2024. This was a slight decrease on numbers in 2023 but was not unexpected given the fall in registrations in recent years.

Ages

The age range of Bearded Collies shows a distribution from less than 6 months up to 18 years confirming previous studies which have shown that the Bearded Collie can be a very long-lived breed. (O'Neill et al., 2013)



The dogs that had died were distributed in age from a few months to 17 years and died from a variety of different causes which is tabulated below.

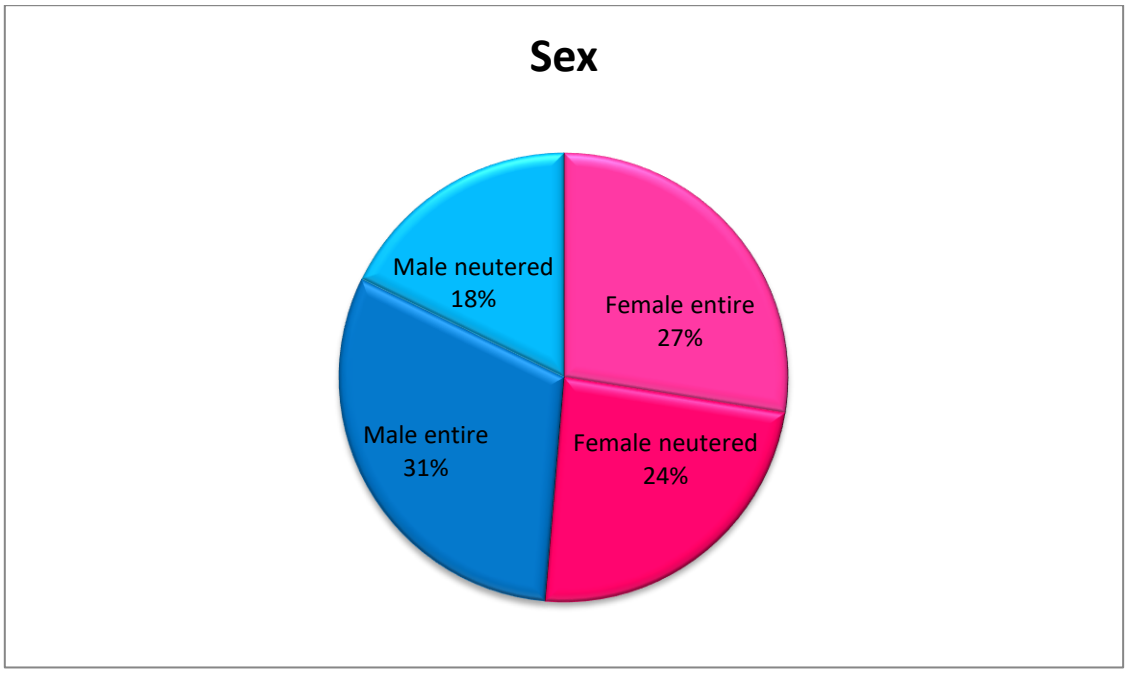
Age	Sex	Cause of death (as stated by owner)
10 years	ME	Spleen issues
9 years	FE	Discoid Lupus erythematosus (DLE)
13 years	ME	Heart issues
10 years	FN	Autoimmune haemolytic anaemia
13 years	MN	Tumours
11 years	MN	Bone cancer
12 years	ME	Fast growing tumour
15 years	ME	Kidney disease/cancer
11 years	MN	Septic arthritis
12 years	FE	Liver cancer
11 years	FN	Not stated
< 1 year	FE	Tetralogy of Fallot
10 years	FN	Brain cancer
15 years	ME	Liver failure
9 years	FN	Rare form of cancer
13 years	MN	Congestive heart failure
1 year	MN	Osteosarcoma

9 years	ME	Sepsis from a prostatic cyst
12 years	ME	Lymphoma
16 years	MN	Organ failure due to old age
4 years	FN	Haemangiosarcoma
10 years	FN	Severe arthritis and tendon degradation
11 years	MN	No cause of death given
10 years	FE	Tumour in abdomen (spleen)
9 years	FN	Liver tumour
7 years	FN	Leukaemia
14 years	FN	Bile duct problems
6 years	MN	Thrombocytopaenia
11 years	MN	Kidney failure
13 years	MN	Vet suspected splenic tumour
10 years	FE	Dropped dead ? heart attack
15 years	ME	No cause of death
11 years	ME	Chronic Kidney disease
13 years	FN	Liver tumour
14 years	ME	Neurological condition
17 years	ME	Died of old age

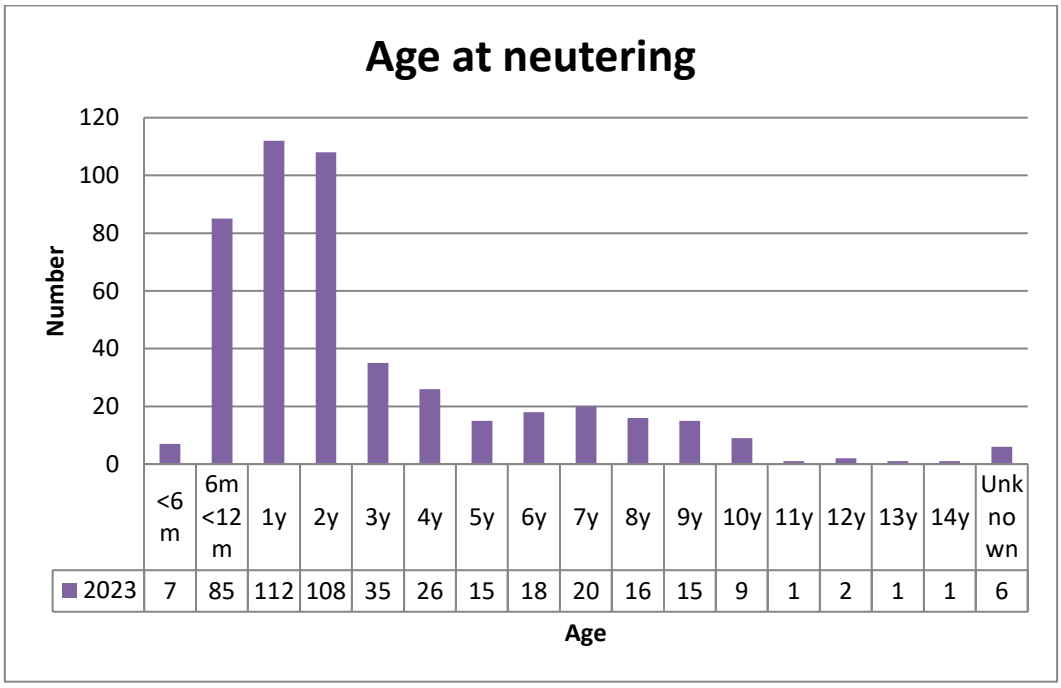
FE = female entire
FN = female neutered
ME = male entire
MN = male neutered

75% of the dogs that died were 10 years and above.

Distribution of sexes and number of dogs neutered



Female dogs represented 51.4% of the population and male dogs represented 48.6%. A total of 477 Bearded Collies were neutered representing 41.6% of the total population. This is much lower than the average neutering rate for pet dogs of 68% (PAW report, 2023) which probably reflects the fact that this survey was distributed widely among many people who breed as well as pet owners and therefore includes some of the breeding population. Other factors include the increased knowledge of the fact that not all effects of neutering are positive especially if done when the dog is skeletally immature and the fact that neutering can cause coat changes, which is more evident in a long-coated breed.



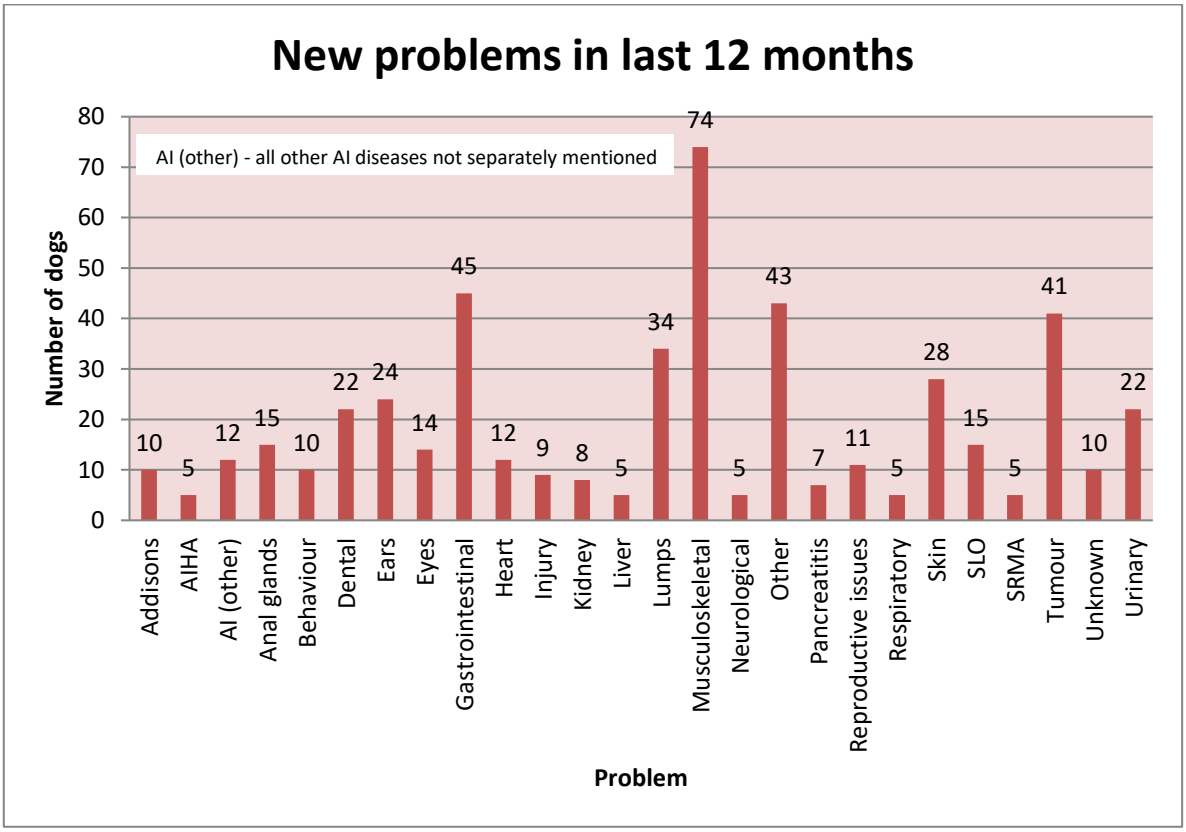
As would be expected in line with most pets neutered, the age of neutering was positively skewed with the vast majority of dogs neutered young, there were a small number (6 dogs) where age of neutering was not known. Ninety-two dogs were neutered under 12 months of age. Recent research published which appears to be very breed specific is showing in some breeds that there is an increase in orthopaedic problems such as hip dysplasia, elbow dysplasia and cruciate disease in dogs neutered earlier and also certain types of cancer and some behavioural problems. (Hart et al. 2014, Hart et al, 2016 and Zink et al. 2014) Of the dogs neutered under 12 months two dogs (0.17%) were diagnosed with hip dysplasia compared to a prevalence of 1.1% for hip dysplasia in the overall population. One dog (0.09%) neutered under 12 months of age were later diagnosed with cruciate disease. Nine dogs (0.8%) neutered under 12 months went on to develop autoimmune disease whilst the prevalence of autoimmune disease in the overall population was 7.3%.

There were 558 male dogs in the survey but 3 owners did not answer the question about retained testicles. Of the 558 male dog owners which answered this question 111 (19.9%) reported their dog had a retained testicle. Spangenberg (2021) reports a range of 0.8 to 10% incidence of retained testicles in dogs with a higher prevalence in smaller breeds and some purebred dogs. The incidence of cryptorchidism in Bearded Collies would therefore appear higher. Cryptorchidism is an autosomal recessive trait in dogs and therefore, to be affected a dog must

inherit a gene from both parents but obviously the trait will only be seen in male dogs. This means that female siblings to cryptorchid dogs may be carriers and therefore in an ideal world would not be bred from but obviously this would further reduce an already small gene pool. It is therefore important that breeders are aware of this so they can consider it as a factor when making breeding decisions.

1. Episodes of new disease requiring veterinary attention in the last 12 months.

405 dogs (35.3%) were reported to have received veterinary attention for one or more new problems in the last 12 months. A total of 491 problems were reported.



The group of new problems most commonly reported were musculoskeletal conditions as in the 2018-2023 surveys with 74 instances reported. These were broken down as follows:

Condition	Number of dogs
Arthritis	37
Cruciate disease	3
Elbow dysplasia	5
Hip dysplasia	1
Lameness none specific	11
Other conditions	17

Other conditions included slipped disc, hip replacement, lumbosacral transitional vertebra, toe ligament strain, hip and shoulder pain, stiffness, leg sprain, sciatica, injury and unspecified mobility issues. Given that 272 dogs are aged 10 years and older (23.7% of the total sample) it is hardly surprising that arthritis is the most common condition reported in this section.

Nearly all the cases of arthritis were in older dogs (>8 years of age) There was a handful of cases in younger dogs which may follow injury or inherited diseases such as elbow and hip dysplasia. Numbers of dogs with elbow dysplasia and hip dysplasia will be monitored in the breed health survey on an ongoing basis as there is a hereditary component to both these diseases. At the moment there is a requirement to hip score before breeding but not to elbow score but we have asked to clubs to take this back to their members in order to ask the Royal Kennel Club (RKC) to make this a requirement. It is positive to see that even though the RKC do not require it many breeders are starting to elbow score at the same time as they hip score and this should be encouraged.

Immune mediated disease

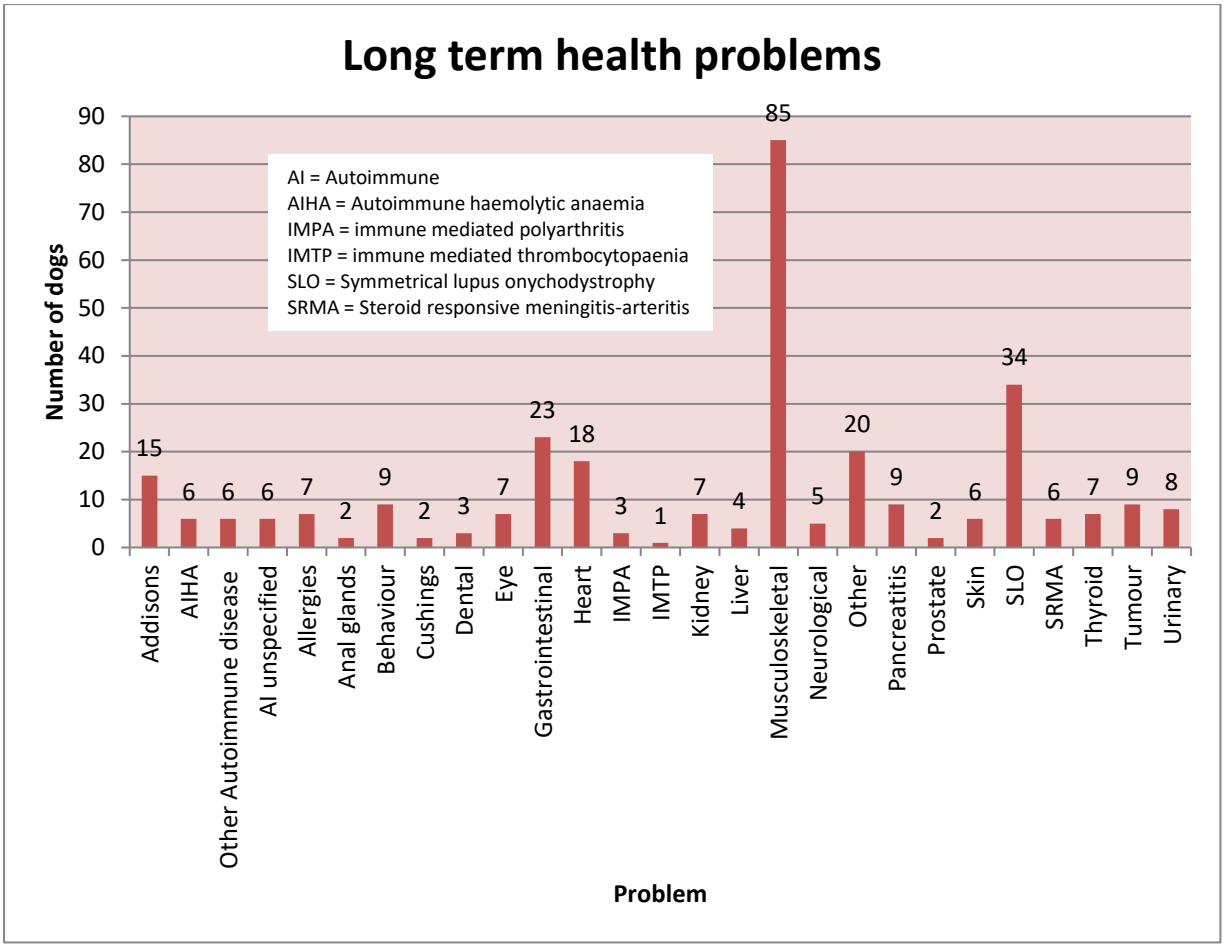
A breakdown of the incidence of immune mediated disease diagnosed in the preceding 12 months is given below.

Autoimmune disease	Number of cases
Addison's	10
AIHA	5
AI unspecified	3
IMPA	1
DLE	1
IMTP	2
Masticatory Myositis	2
Sebacious Adenitis	1
SLO	15
SRMA	5
Thyroid disease	2
Total	47

Autoimmune disease represents 9.6% of the new problems with which dogs were taken to visit their veterinary surgeons in the preceding 12 months compared with 6.8% in the 2018 survey, 5.9% in the 2019 survey, 8% in the 2020 survey and 6.5% in the 2021 survey, 10.1% in 2022 and 9.5% in 2023.

2. Bearded Collies with long term health problems

263 dogs (22.9%) were reported to be suffering from one or more long term health problems representing 310 long term problems.



As with new problems the largest category was musculoskeletal disease with 85 reported problems which represents 27.4% of all the long-term health problems. Of the musculoskeletal problems 56 of the 85 dogs (65.9%) were suffering from arthritis, this represents 4.9% of the total number of dogs in the survey.

Condition	**Number of dogs**
Arthritis	56
Cruciate disease	1
Elbow dysplasia	7
Hip dysplasia	3
Other	18

It would be expected to have a reasonable incidence of arthritis in a sample where 23.7% of the dogs are over 10 years of age due to simple wear and tear. More worrying are the diseases that have a multifactorial aetiology including hereditary factors as these often affect young dogs and can lead to a lifetime of problems for both the dog and the owner. These include hip dysplasia and elbow dysplasia. In the present survey, hip dysplasia was given as a chronic disease in 3 dogs. Assured Breeders in the UK have a mandatory requirement to hip score their dogs before breeding. It is recommended that hip scores should be looked at along with other

criteria and ideally the dogs chosen for breeding should have a hip score around or ideally below the breed median score which for the Bearded Collie is currently 9 (Royal Kennel Club, 2023). The Royal Kennel Club also now publish estimated breeding values (EBV) for hips in the Bearded Collie and the more complete this data becomes the more useful it will be as an additional tool to aid breeders in choosing dogs from which to breed. There is less data on elbow disease as elbow scoring is not mandatory in the breed although elbow scoring is being done by many breeders for their own information and there are dogs that are showing evidence of the disease. The recommendation is that ideally dogs with a score of 0 should be bred from and certainly not dogs with a score of 2 or 3 (BVA/Royal Kennel Club, 2022) In the current survey there were 7 dogs which mentioned elbow disease as a chronic condition.

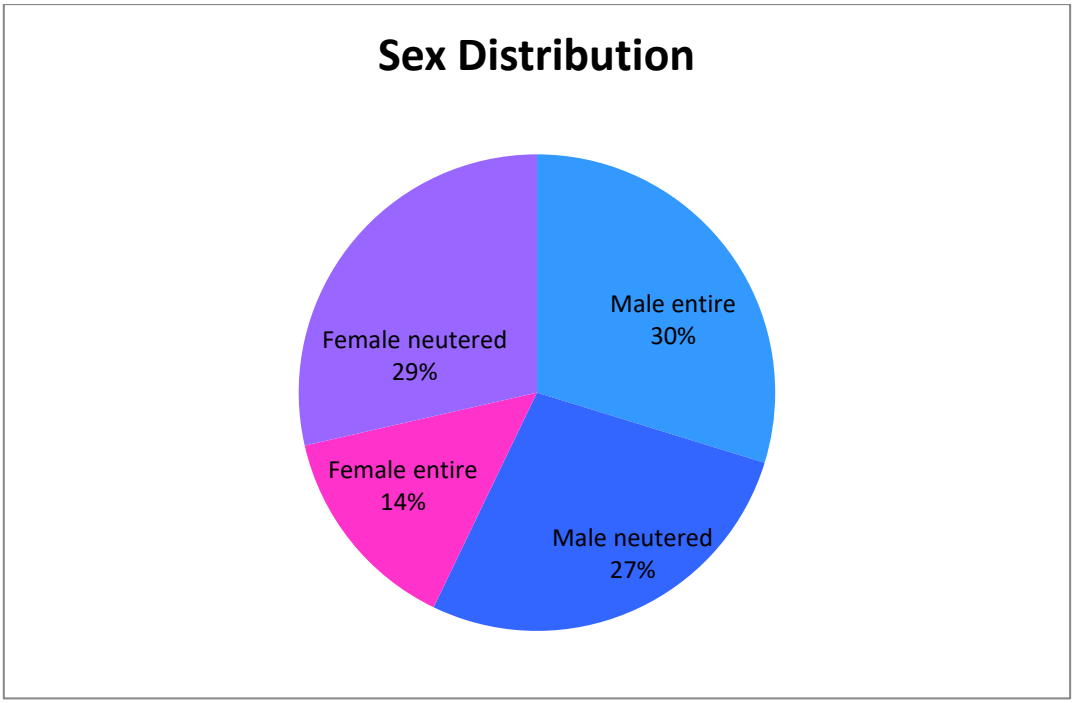
Immune mediated disease

As mentioned previously immune mediated diseases have always been of concern in the breed and in the current survey Symmetrical lupus onychodystrophy (SLO) is the second most common chronic condition. The total number of instances of immune mediated disease in the long-term health problems was 84 which represents 27.1% of all long-term health problems mentioned. Breakdown of immune mediated disease is as follows:

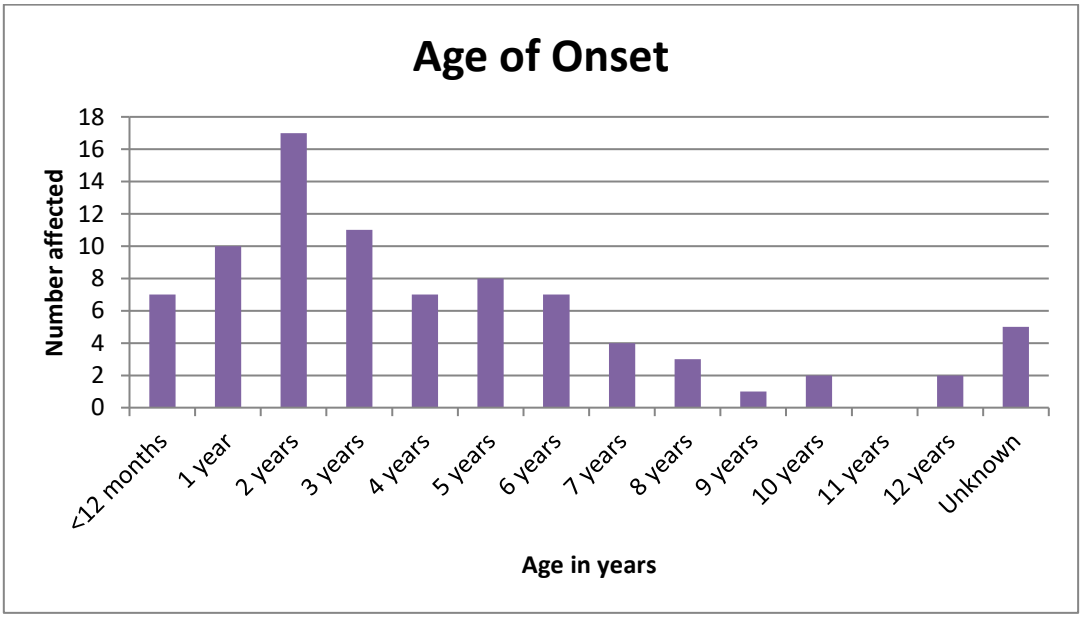
Disease	Number of cases
Addison's	15
Autoimmune haemolytic anaemia (AIHA)	6
AI unspecified	6
Anal furunculosis	1
Discoid lupus erythematosus (DLE)	2
Immune mediated polyarthritis (IMPA)	3
Immune mediated thrombocytopaenia (IMTP)	1
Masticatory Myositis	2
Sebacious Adenitis	1
SLO	34
Steroid responsive meningitis-arteritis (SRMA)	6
Thyroid disease	7
Total	84

Within the survey the total number of dogs affected with immune mediated diseases was 84 which represents 7.3% of the total dogs in the survey, this compares with a total of 71 (5.9%) in 2023, 65 (6.8%) in 2022, 67 (5.6%) in 2021, 68 (5.3%) in 2020, 57 (4.9%) in 2019 and 61 (5.4%) in 2018. This number is generally less than has been reported in other surveys (Kershaw, Wilkins and Mc Bride, 2015, and Kennel Club, 2014) but may reflect that we had a large sample number and owners of healthy dogs were encouraged to enter data. The sex distribution of these dogs was 57.1% male and 42.9% female with a breakdown as follows:

Sex of dog	Number affected
Male entire	25
Male neutered	23
Female entire	12
Female neutered	24



Age of onset of immune mediated disease for these dogs was as follows:



Age of onset is positively skewed showing more young dogs diagnosed which is the reason for concern with these diseases, along with their life-threatening nature of some diseases, the need for ongoing treatment in most cases and the unclear mode of inheritance and their likely multifactorial aetiology. This time male entire dogs are the category most likely to be affected,

previously it has been female neutered dogs. There have been advances in the understanding of autoimmune disease in 2019 with research into SLO and Addison's disease from Liza Gershony at the University of California and research funded by the JBLC into Addison's disease by Brian Catchpole at the Royal Veterinary College. Both have advanced our knowledge of these diseases but they are multifactorial diseases and we do not at present have any commercial tests available to identify genetically susceptible animals.

Dogs on long term medication

163 dogs (14.2%) were reported to be on long term medication with one or more drug, this figure has remained fairly constant across all the surveys. Data was not collected in this survey on the drugs used.

Jaw problems

As part of the BHCP information was collected on dogs which had jaw problems, 37 dogs (3.2%) were reported as having one or more problems with their jaw compared with 3.3% in 2019, 4% in 2020, 3.9% in 2021, 2.5% in 2022 and 2.6% in 2023. The breakdown of these problems was as follows:

Problem	Number of dogs affected
Level bite	1
Narrow jaw	7
Other	1
Overshot	13
Undershot	12
Unknown	4

There is often a genetic component to malocclusions but trauma can be another occasional cause. The only ways of dealing with this at present are not to breed from parents with jaw problems and not to repeat matings which have produced jaw problems. Of the 37 affected dogs, 13 (35.1% required veterinary attention to resolve the situation, the rest either resolved without intervention or the dogs were able to live with the condition.

Splenic tumours

I was asked about the incidence of splenic tumours by an owner who had tragically lost a healthy dog very suddenly with a splenic tumour and it was her perception that having talked to other owners that the incidence of the disease was high in the Bearded Collie population. So, an additional question that required an answer was added to the health survey this year.

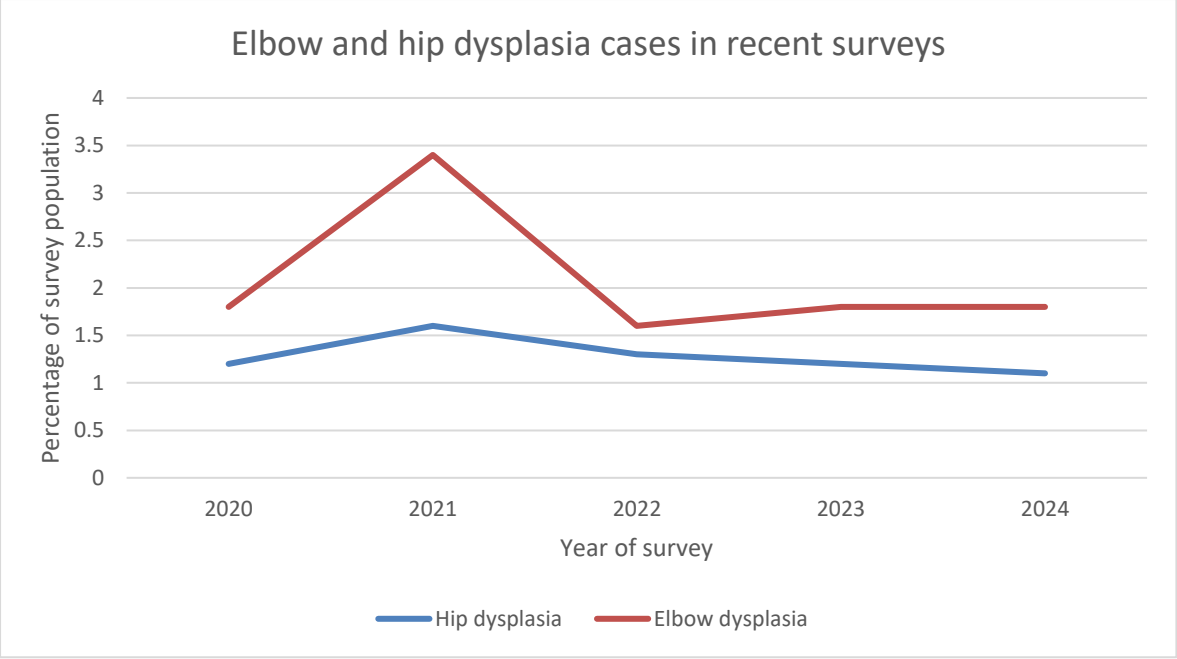
Of the 1147 dogs in the survey including the dogs that died this year, 16 (1.4%) had suffered with a splenic tumour. I found no reported data of the prevalence of splenic tumours in the general dog population to compare it to but in many cases splenic tumours are not discovered

until it is too late and so it is a condition that can have a catastrophic outcome and unless owners enter data on their dogs that have died, we may not pick up on the true prevalence of the disease.

Inherited diseases

There are potentially many diseases which have a genetic component but Bearded Collie breeders are strongly advised to test for Hip dysplasia (HD), indeed it is mandatory for the Assured breeder Scheme (ABS) and breeders are also strongly advised to test for Collie eye anomaly (CEA) and have an eye examination to check for other potential hereditary eye diseases before breeding. As part of the BHCP we also agreed to monitor the breed for elbow dysplasia (ED). The prevalence of these diseases was as follows when owners were asked the direct question of whether their dog suffered from them:

Disease					
	2024	**2023**	**2022**	**2021**	**2020**
Hip dysplasia	13 (1.1%)	14 (1.2%)	13 (1.4%)	20 (1.7%)	16 (1%)
Elbow dysplasia	21 (1.8%)	22 (1.8%	15 (1.6%)	41 (3.4%)	24 (2%)
CEA	7 (0.6%)	3 (0.25%)	3 (0.3%)	3 (0.3%)	4 (0.3%)

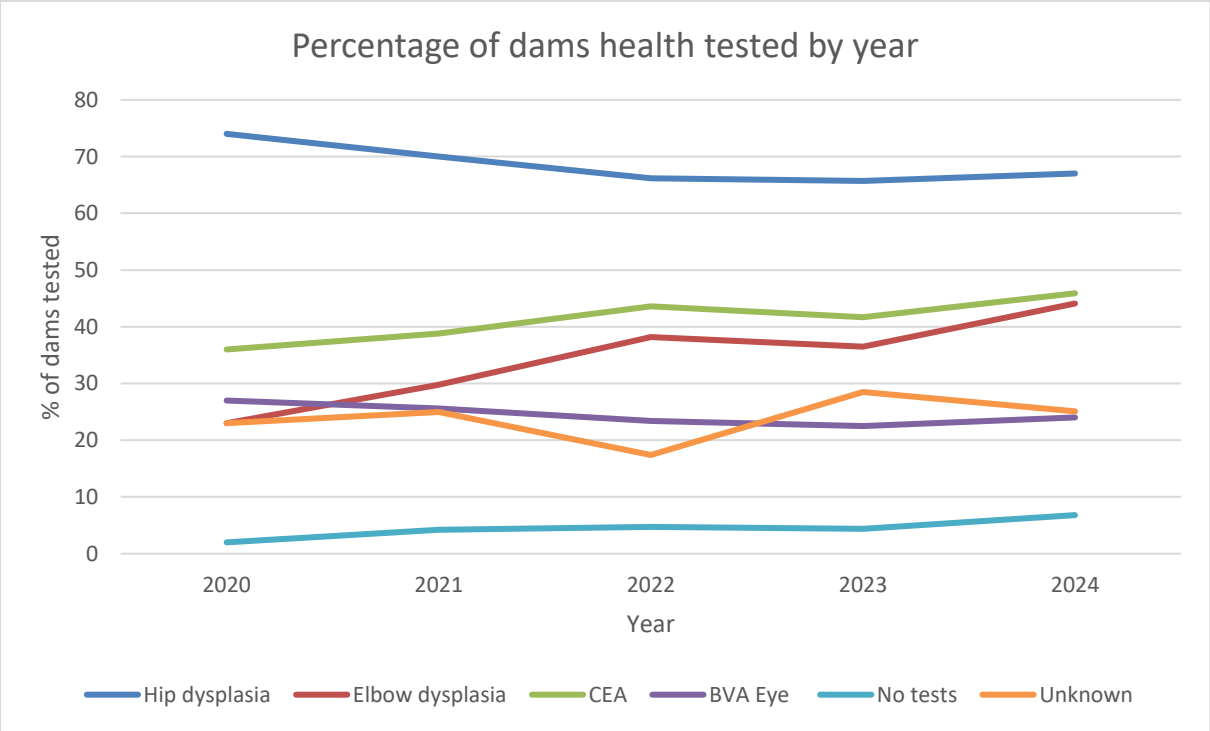


HD and ED are multifactorial diseases which although they have a genetic component can be affected by other factors. The Bearded Collie was one of the early breeds to embrace the British Veterinary Association (BVA) / Royal Kennel Club (RKC) Hip Dysplasia Scheme. In the fifteen-year summary published in 2019, 1397 Bearded Collies had been screened (RKC). The

BVA/RKC scheme for elbow dysplasia was introduced later and is not a requirement for the breed at present but some breeders have started screening dogs when their hips are done and this, and clinical disease found have indicated presence of the disease in the breed. This is being monitored and this is the sixth survey where we have asked owners directly if dogs were affected – for the last 5 years the numbers of dogs with elbow dysplasia are greater than the number of dogs with hip dysplasia and I therefore think we need to reconsider whether we ask for elbow screening to become an advised test. The 7 dogs with CEA are puzzling as there was only ever one reported case of CEA in the breed in the UK but could indicate carriers of CEA or possibly non-RKC registered Bearded Collies or foreign dogs although we asked only UK KC registered dogs to complete the survey.

Numbers of dams of dogs screened in recent years as stated by owner are as follows:

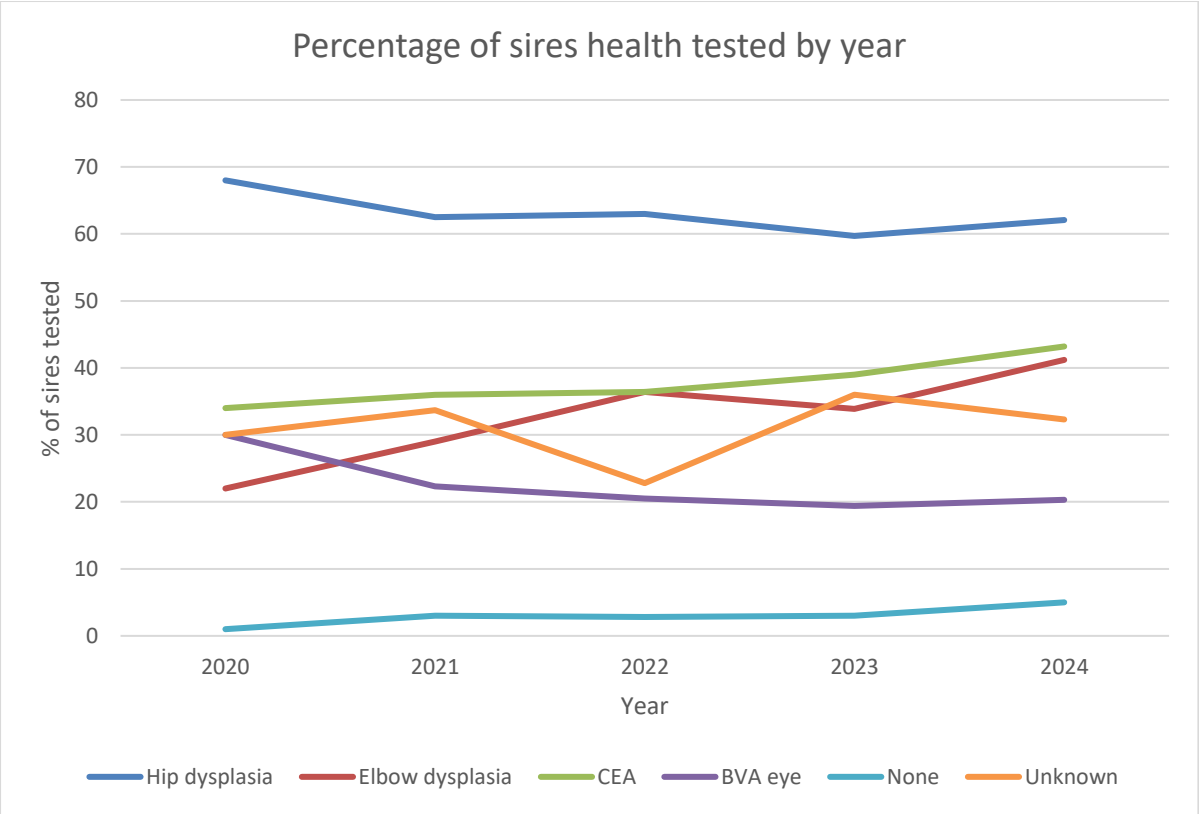
Screening test carried out	2024	2023	2022	2021	2020
Hip dysplasia	769 (67%)	795 (65.7%)	636 (66.2%)	833 (70%)	935 (74%)
Elbow dysplasia	506 (44.1%)	442 (36.5%)	367 (38.2%)	355 (29.8%)	291 (23%)
CEA	526 (45.9%)	504 (41.7%)	419 (43.6%)	461 (38.8%)	458 (36%)
BVA eye examination	275 (24%)	272 (22.5%)	225 (23.4%)	304 (25.6%)	343 (27%)
No tests	78 (6.8%)	53 (4.4%)	45 (4.7%)	50 (4.2%)	26 (2%)
Unknown	288 (25.1%)	345 (28.5%)	167 (17.4%)	298 (25%)	298 (23%)



Over the last few years there has been a decrease in dogs with dams tested for hip dysplasia and a slight decrease in those having BVA eye examinations whereas those tested for elbow dysplasia and CEA have increased. The numbers of dams having no tests has increased from 2% to 6.8%. This is a retrograde step and there is no excuse for it if we care about the health of our breed.

Numbers of sires of dogs screened in recent years as stated by owner are as follows:

Screening test carried out	**2024**	**2023**	**2022**	**2021**	**2020**
Hip dysplasia	713 (62.2%)	722 (59.7%)	605 (63%)	743 (62.5%)	860 (68%)
Elbow dysplasia	473 (41.2%)	410 (33.9%)	349 (36.4%)	345 (29%)	282 (22%)
CEA	495 (43.2%)	472 (39%)	396 (41.2%)	428 (36%)	426 (34%)
BVA eye examination	233 (20.3%)	235 (19.4%)	197 (20.5%)	265 (22.3%)	386 (30%)
No tests	57 (5%)	36 (3%)	27 (2.8%)	36 (3%)	17 (1%)
Unknown	370 (32.3%)	436 (36%)	219 (22.8%)	401 (33.7%)	386 (30%)



Over the last few years there has been a decrease in dogs with sires tested for hip dysplasia and a slight decrease in those having BVA eye examinations whereas those tested for elbow dysplasia and CEA have increased. The numbers of sires having no tests has increased from

1% to 5%. It should be remembered that potentially a sire will have many more progeny than a dam and therefore not health testing a sire who is to be used is inexcusable.

Unknown health tests may be because the dog is a rescue and they are unknown or could be because the dog is older and the owner is unaware of the tests done or could simply be because they cannot find this information. There is now no excuse for dogs being born without parents having hip scores given the Royal Kennel Club's recommendation. CEA tests have only been required in recent years so the older dogs in the survey will not have parents CEA tested. This figure should gradually increase in ongoing surveys. It should be noted that the Royal Kennel Club has delayed the announcement restricting the hereditary clear status for genetic tests to two generations, Eye examinations in veteran dogs are useful to monitor the breed for any emerging diseases such as reports of dogs abroad with progressive retinal atrophy (PRA). Many breeders have carried out eye tests from the early days of the BVA/RKC scheme and I have had sight of documentation of dogs tested from the 1970s. Elbow testing although not required shows the dedication of some breeders to be proactive in ensuring they breed healthy puppies.

Summary

This is the seventh attempt to collect data on an ongoing basis by yearly health surveys in the breed. The general feedback was the survey was easy and quick to complete. The ease with which the survey could be completed did mean there was a compromise in the amount of data collected. However, there was a good response with data on 1147 dogs. This showed that although the breed has some health problems in line with many other pure-bred dogs, Bearded Collies were in general a long-lived breed and many of the diseases seen were associated with age. This should not lead to complacency though as dwindling registration numbers leads to a reduction in the number of dogs available for breeding and the danger of loss of genetic diversity especially if many dogs are bred to popular sires. We also still have the problem that we do not know how to prevent the breeding of dogs with immune mediated disease and all we can do at present is not to breed from any dogs exhibiting these diseases or repeat matings that have produced offspring with these diseases. The Joint Breed Liaison Committee and the Breed Clubs are also committed to looking for opportunities to help further research in these areas and but all research was been severely restricted over the Covid–19 pandemic. There is ongoing research both into Addison's disease and SLO at the University of California and anyone who wishes to partake can do so by looking at the information on the website related to the Bearded Collie project. (Bearded Collie Project: Addison's and SLO – CGAP Canine Genetic Analysis Project (ucdavis.edu))

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