

BeaCon Voluntary Open Health Registry
Year 7 General Report
March, 2008

Welcome to BeaCon's Open Health Registry Report for year 7. It is amazing how many years have passed since the concept of an open registry was mulled over by the BCCA health committee in fall 1998. After BeaCon incorporated in April 1999, the open health registry was initiated and this is our seventh year of recording wellness and potentially genetic health conditions for the breed.

Resistance to entering dogs persists due to fears that a breeder and his/her kennel will be maligned. That is a very real fear and it demonstrates how far the Beardie community has yet to travel before the breed's health becomes the highest priority for everyone.

This dilemma needs to be addressed because breed numbers have declined in recent years (at least in the USA; see a later section for the figures). Consider the factors listed below and you should grasp the concern:

- Lack of widespread participation in the open registry by breeders and the related restriction of openly available information,
- A 5.4 point higher average coefficient of inbreeding (10 generations) of USA registry dogs compared with original USA foundation stock
- The phenomenon of the popular sire use which lowers genetic diversity over generations (http://www.beaconforhealth.org/Popular_Sire.html)

Particularly new breeders face limited amounts of information when trying to make the most informed decisions that should include known health concerns.

Thus, the directors of BeaCon want to thank each and every Beardie owner and breeder who has made their information publicly available through this open health registry. You are a treasure for current and future breeders as you create an important legacy. For those who only put in their healthy dogs and don't report those with health problems, please reconsider for the sake of future generations.

Who May Participate?

- **ALL BEARDED COLLIES** of known parentage
- Deceased or living
- Healthy or with a health problem
- From any country
- The primary owner, a co-owner, or a breeder (as of spring 07) may submit information, but written consent is always required from all the owners.

Why Are Healthy as Well as Those with Health Problems Important?

- The largest number possible is needed to give a complete picture of the extent of wellness or health problems.
- To allow calculation of disease incidence. There need to be enough dogs to calculate disease frequencies that are applicable to the general population of Beardies, not just those in the open registry.
 - For example, if there are 57 dogs with Addison's in 916 dogs, the frequency of Addison's is 5.9%. If the total number of dogs is 1800 dogs, the frequency is significantly lower, 3.1%.
- To provide whole family information which breeders can use for relative-risk pedigree analysis in diseases that are autosomal recessive.
- To provide data for researchers.
- To allow prospective puppy buyers data on health of Bearded Collies which may enable them to make more informed choices, or at least know what questions to ask breeders.

Who May Submit Information

- Owners with whom the dog lives.

- A co-owner. The primary owner (defined as the person with whom the dog lives) must send in a signed consent.
- A breeder. Starting in the spring of 07, a breeder may also submit information. The primary owner must send in a signed consent. In the case of a breeder entering pups in a litter prior to sale, if their contract notes the pup is in BeaCon's open registry that suffices as consent.
- Breeders who enter a sire or dam into the registry can indicate if the dog has produced a disease in offspring. This policy was started in year 3 because breeders are not always able to convince their puppy buyers to participate in the open registry. It is vital to know about certain health conditions in offspring. Specific diseases of interest are Addison's, symmetrical lupoid onychodystrophy, systemic lupus erythematosus, and hypothyroidism. Any disease can be noted in the "other" category; e.g., autoimmune hemolytic anemia or immune-mediated thrombocytopenia, or polyarthritis, or a heart condition. Dams producing a disease can have the number of cases and the litter (s) indicated. Sires producing a disease may have the number of cases indicated. The name of a dog with the specific disease produced cannot be listed.
- A dog's information is not publicly available if entered by a co-owner or a breeder until the primary owner's consent is received.

How To Submit Information. This may be done either by hard copy form or on-line at www.beaconforhealth.org/sqlweb.

Documentation. No changes have been made from previous years. Copies of health screening test results are requested. This is especially important for dogs from countries other than the USA. We attempt to validate the information for USA dogs through the on-line registry databases (OFA or CERF). When that is not possible, it is so noted in the dog's report.

Health screening tests that have not been submitted to another registry can be included in the registry. Preferably, a copy of the documentation form is sent to BeaCon; e.g., a copy of the CERF ophthalmologists' exam for an eye exam.

Updating. Reminders are sent late each calendar year to owners of all living dogs in the registry as of the most recent data entry. Updating should be done yearly, even if the dog has had no changes. You can also update whenever there has been a change in your dog's health or new health screens done – at any time.

If you have entered a diagnosis which is later changed, contact beaconbb@bellsouth.net with the new information, or log in to your account and make the change yourself.

Pedigrees and Coefficient of Inbreeding (COI). Every effort is made to be accurate in the pedigrees. As new dogs are entered into the database, a five generation pedigree is generated offline and posted. Owners are notified and asked to confirm accuracy of the pedigree. Data for pedigrees come from many sources including pedigrees submitted by owners, the Kennel Club Breed System Bearded Collie database updates, and online databases. With the advent of the on-line registry system, fewer hard copy pedigrees were submitted; thus the dependence on other sources. Pedigrees are generated with Breeder's Assistant, starting in January 2006. If an error is found in a pedigree, please notify E. Sell (beaconbb@bellsouth.net) with the correct information.

A COI is the mathematical definition that elucidates closeness of relationship in a pedigree. It is usually expressed as a percentage and it was developed by Sewall Wright (Coefficients of inbreeding and relationship. Am Nat. 56:330-8, 1922). Basic principles are that inbreeding only exists if the ancestor appears on both sire's and dam's side of the pedigree.

COI's can be calculated, but it is complex, and various online sources describe how to do this. It isn't complex if one uses a pedigree software program with the built in calculation. The Breeder's Assistant software was used to calculate 10 generation COI's as reported further on.

Use of Data and Caveats. Viewers of the open health registry data are responsible for interpretation and use of the information. The purpose of this registry is to give objective data on disease and wellness, not to draw conclusions about any particular line, sire, or dam.

We caution the reader that a sire or dam cannot be assumed to be a carrier of an undesirable genetic trait simply because that health problem is reported in a single progeny. Furthermore, some genetic diseases may be influenced by environmental factors, not yet defined.

Geneticists believe the following circumstances are indicative of heritability:

- Relatively frequent occurrence of the disease
- When mating a sire and dam several times results in the same health problem in more than one litter.
- When a dog or bitch mated with different mates results in the same health problem in several litters.

If several dogs from the same kennel are reported with the same problem, you cannot assume that the problem occurs with high frequency. You have to know the status of the other dogs from that kennel before making any assessment regarding prevalence. This means that full participation by a breeder is important, rather than selectively entering just healthy dogs in the registry.

Many hereditary problems, other than those transmitted by an autosomal dominant mode of inheritance, involve healthy parents, one or both of whom are carriers of the genes responsible.

Information that a particular dog or bitch has produced a problem is vital to any breeder. This is especially critical for novice breeders just establishing their programs because they are least likely to have a good network for finding and verifying such information.

BeaCon encourages breeders to enroll pups in BeaCon's Open Health Registry before they go to their new homes. Having a large number of healthy young dogs to follow over the long term is an optimal resource to determining frequency of diseases in any breed.

The inclusion of dogs in this registry is by the free choice of the owner/co-owner. Absence of dogs from this registry is also by the free choice of the owner/co-owner. Notice of the registry's availability is made through resources available to BeaCon: BeaCon's newsletter (Lighting the Way) and web site (www.beaconforhealth.org), and Beardie internet lists.

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Respectfully submitted, the Board of Directors for the Bearded Collie Foundation for Health (BeaCon)

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April 15, 2008

How Many Beardie Collies are Born in the USA?

This year for the first time we include a table showing several sets of figures about the numbers of Beardies in the USA. The data start with 1977 when the breed was recognized by the AKC. All data come from AKC reports; some are standard reports and some are special reports. The decline in number of litters and number of pups in registered litters from 2002-2006 was statistically significant, as reported in *Lighting The Way*.

Since the number of dogs registered with AKC in a given year may include imported dogs, as well as USA dogs born late in the prior year, we also have the number of foreign born, AKC registered dogs. The registration system in the USA leaves it up to a puppy buyer to register their dog. Unless AKC adopts a procedure similar to the UK (where breeders register individual pups – that is not left to the puppy buyer), the AKC dog registration figures won't be an indicator of the number of dogs born here.

In 2007 the number of USA born and registered Beardies (405) was very near that in 1977 (397) – 30 years previous. There is some relief to be found in this seemingly distressing decline from two sources:

- (1) AKC dog registrations for a number of breeds have been declining in recent years
- (2) The number of USA born pups increased in 2007, compared with 2006.

Year	# Dogs Registered*	# Foreign Born Registered	# USA Born Dogs Registered	# USA Litters Registered	# Pups in USA Registered Litters	Av # pups Per registered USA Litter
2007	413	8	405	107	591	5.5
2006	447	30	417	103	537	5.2
2005	485	29	456	118	658	6.0
2004	562	28	534	142	842	5.6
2003	543	15	528	161	897	5.8
2002	587	20	567	186	943	5.9
2001	620	27	593	142	953	5.8
2000	682	29	653	196	1031	5.6
1999	614	29	585	178	1202	6.1
1998	752	30	722	188	1077	6.2
1997	711	30	681	196	1249	6.3
1996	720	58	662	171	1031	5.8
1995	762	49	713	189	1105	5.9
1994	640	37	603	160	1057	6.0
1993	749	26	723	166	912	5.8
1992	766	26	740	185	1092	6.0
1991	796	47	749	203	1162	6.0
1990	700	32	668	172	1062	5.9
1989	713	34	679	182	1128	6.1
1988	817	32	785	206	1175	6.2
1987	760	28	732	177	1098	6.0
1986	797	23	774	187	1175	6.4
1985	858	23	835	189	1253	6.6
1984	858	23	835	208	1330	6.4
1983	895	22	873	207	1190	5.9
1982	763	20	743	193	1257	6.4
1981	723	28	695	158	1095	6.4
1980	653	35	618	156	909	5.9
1979	588	31	557	132	782	6.2
1978	472	29	443	98	684	6.2
1977	446	49	397	89	496	5.8
1976	-	135	-	-	-	-

*This number includes dogs born in USA and foreign born dogs.

This Year – A Quick Look.

The Netherlands has participants for the first time (27 owners and 74 dogs), due to efforts of several people. Also Hungary and Slovakia are represented for the first time.

There are 491 participating owners, an increase of 81 from the previous year, and 1203 Beardies, an increase of 242.

There is little change in the frequency of the most common health problems; fear issues and autoimmune problems continue to lead the list. The frequency of health screens is little changed.

Puppy mortality is about 5% stillborn and an additional 7-8% dying by 6 weeks of age.

Participation. The following table shows the cumulative participation over the years.

Year	# Owners	# Dogs	Dogs added
1	169	303	-
2	205	410	107
3	278	593	183
4	315	678	85
5	357	808	130
6	410	961	153
7	491	1203	242

Definition of Registry “Years”

- Year 1. July 2000 – Aug 2001
- Year 2. Sept 2001 – Nov 2002
- Year 3. Dec 2002 – Nov 2003
- Year 4. Dec 2004 – Nov 2004
- Year 5. Dec 2005 – Jan 2006
- Year 6. Feb 2006 – Feb 2007
- Year 7. Mar 2007-Mar 15, 2007

Cumulative Report for Year 7

Contents

- Demographic data
- Health problems
- Autoimmune health problems
- Health screening tests
- Reproductive outcome
- Mortality
- Coefficient of inbreeding

Demographic Data for Complete Open Health Registry

Item	#	
Owners	491	
Australia	10	
Belgium	3	
Canada	29	
Czech Republic	11	
Denmark	2	
Finland	9	
France	1	
Germany	20	
Hungary	2	
Ireland	1	
Netherlands	27	
New Zealand	3	
Portugal	1	
Scotland	2	
Slovakia	1	
South Africa	3	
Spain	1	
Sweden	1	
United Kingdom	56	
USA	306	
Not indicated	2	
Dogs		
	1203	
Location		% of total dogs
USA	653	54.3%
UK, Scotland	205	17.0%
Netherlands	74	6.2%
Canada	64	5.3%
Germany	46	3.8%
Australia	38	3.2%
Czech Republic	33	2.7%
Sex - male	542	45.1% of all dogs
intact	299	55.2% of male dogs
neutered	231	42.6% of male dogs
unknown	12	
Sex - female	659	54.8% of all dogs
intact	320	48.6% of female dogs
spayed	328	59.8% of female dogs
unknown	11	
Sex – unknown	2	

Owners from one new country participated this year, the Netherlands; they provide 74 new dogs to the registry. This happened because of enthusiasm for the registry and engagement of owners by several leaders.

Health Problems. A higher percent of dogs were healthy this year, 55.8% vs. 47.7%. This reflects entry of younger dogs, and some of these were put into the registry as young pups before going to their new owners. Frequency of specific health problems is reported if there are more than 20 cases. Some owners entered health problems only into update notes; all effort has been made to also create a health problem record from the update notes for a more accurate accounting.

A caveat of both the healthy dog and disease frequencies is that they apply to this specific population of Bearded Collies. It won't be possible to speculate if the findings are applicable to the broad population of Beardies until several thousand more dogs are in the registry.

Health Problem	# of Dogs	% of All Dogs
None	671	55.8%
Fear, loud sharp noises	164	13.6%
Autoimmune diseases (see table below)	135	11.2%
Hypothyroidism*	90	7.5%
Cancer (all types)**	76	6.3%
Umbilical hernia	60	5.0%
Hip dysplasia	44	3.7%
Fear, other	31	2.6%
Dietary allergy/food intolerance	28	2.3%
Atopy	27	2.2%
Allergy, flea bite	23	1.9%
Depigmentation***	23	1.9%
Inflammatory bowel disease	19	
Nail problems other than lupoid onychodystrophy	18	
Teeth, overshot	17	
Arthritis	17	
Vaccination reaction	16	
Hot spots	14	
Cognitive dysfunction	14	
Cryptorchid	13	
Hyperactivity	12	
Cushing's disease	10	
Urinary infection	10	
Kidney failure	9	
Stroke	9	
Monorchid	9	
Epilepsy, idiopathic	8	
Exercise induced collapse or hyperthermia	6	
Exocrine pancreatic insufficiency	5	
Demodectic mange	4	
Keratoconjunctivitis	3	
Diabetes mellitus	2	

* The incidence of autoimmune thyroiditis in the open health registry Beardies is unknown; data from OFA labs suggest it is of low incidence – 1.7% of 298 having OFA panels; 4.3% of 793 having panels done at the Michigan State University Lab.

** Cancer diagnoses were:
 nasal in 8
 liver in 10
 mammary 5
 bone 5
 spleen 4 (plus 1 of liver and spleen)
 hemangiosarcoma 3
 testicular, stomach, abdominal – 2 each

The reader is referred to the online OHR search facility for a look at the less common cancers (“other”).

*** Note: some cases of depigmentation can be autoimmune in nature (e.g., vitiligo, or associated with lupus or pemphigus). Since there are other causes of depigmentation, it was not placed into the table with autoimmune diseases.

Autoimmune Problems (# diseases = 167; # dogs having diseases = 135, or 11.2% of all dogs). Although the frequencies appear to be unduly high in this population of Bearded Collies (i.e., in the open health registry), it is not known if the figures are applicable to the general population of Bearded Collies world wide. That will remain unknown until a much larger number of dogs are in the open registry.

Disease	#	% of All Dogs	#(%) with > one A/I disease**
Addison’s disease (hypoadrenocorticism)	59	4.9%	10 (17.0%)
Symmetrical lupoid onychodystrophy (SLO)	28	2.3%	6 (21.4%)
Inflammatory bowel disease (IBD)	19	1.6%	5 (26.3%)
Systemic lupus erythematosus (SLE)	15	1.3%	4 (26.7%)
Autoimmune hemolytic anemia (AIHA)	12	1.0%	2 (16.7%)
Rheumatoid arthritis*	11	1.0%	9 (81.8%)
Pemphigus	7		6 (85.7%)
Immune-mediated thrombocytopenia (ITP)	7		5 (71.4%)
Discoid lupus erythematosus	3		2 (66.7%)
Myositis	1		1 (100%)

* These include cases of suspected immune polyarthritis

**This does not include hypothyroidism because thyroid panels were not commonly in use earlier in the registry

22 dogs had more than one disease:

17 dogs had 2 A/I diseases
 3 dogs had 3 A/I diseases
 2 dogs had 4 A/I diseases

Addisonian dogs

13 are hypothyroid
 20 have fear of loud sharp sounds (33.9%)
 2 each have SLO, IBD, or AIHA
 3 have pemphigus
 1 each has discoid lupus erythematosus, systemic lupus erythematosus, or immune-mediated thrombocytopenia

SLO dogs

3 have pemphigus
 2 are hypothyroid
 1 has systemic lupus erythematosus

Health Screening Tests

Screening Test Done	#	% of All Dogs
Hips	485	40%
Eyes	453	37.7%
Thyroid	347	28.9%
Elbows	98	8.2%
Hips and eyes	257	21.4%
Hips and elbows	95	7.9%
Hips and thyroid	151	12.6%
Hips, eyes, and thyroid	117	9.7%
Hips, eyes, elbows, and thyroid	30	2.5%
Von Willebrand Disease	10	
MDR-1	5	

The frequency of individual health screening tests and the various combinations were minimally changed from the previous year. MDR-1 stands for multiple drug resistant disease gene; that gene is mutated in some dogs of some breeds who have inability to readily clear certain drugs across the blood brain barrier. The result can be neurological effects, such as seizures in certain Collies after taking excessive doses of ivermectin. All five Beardies reported in the registry had a normal MDR-1 test.

Of interest, there are several working Beardies in the registry. One breeder has had eye exams done on breeding stock of working origin and for several generations. This has been done because of concern that breeding standard registry Beardies to a working Beardedie would introduce eye problems in the progeny. To date, all eye exams have been normal. For a current litter of third generation working Beardies, the great great granddam (KC registered) was normal 9 years of age. The granddam (first generation working dog) has had four normal exams, the most recent at 6 years 4 months (a sister not being bred was normal at a younger age). The dam (second generation working dog) and four littermate sisters are normal at 4 years 1 month. Six 2 month old puppies (3 bitches and 3 dogs) are normal; they are the third generation working dog breeding.

Reproductive Outcome

Dogs. There were 102 with reproductive history recorded; only 38 had semen checked and 93 were bred. The following table shows the number of bitches bred, the number of litters and puppies produced.

Item	#	Av	SD
Bitches bred	342	3.7	3.9
Litters produced	310	3.4	3.7
Total puppies produced	1786	22	24.6
Total female puppies produced	847	11	12.2
Total male puppies produced	848	11	13.4

A large SD (standard deviation) means that there was a large variation in the number of puppies that each dog produced.

Not all breedings resulted in litters.

Problems developing in the dogs' progeny were:

Health Problem	# dogs producing problem	# progeny with problem
Addison's	6	13*
Symmetrical lupoid onychodystrophy	6	7
Systemic lupus erythematosus	1	1
Hypothyroid	7	8
Other	8	1 – nail problem 4 – heart problems
Cryptorchid	28	13

* one dog produced 5 progeny with Addison's, one produced 3 with Addison's and one produced 2 with Addison's

Females. 180 of the 207 females were successfully bred and they produced 376 litters for a total of 2161 pups. The total number of pups is 379 more than in the last report. Forty addition litters were reported since the last report. Cesarean section delivery was done in 35 (9.3% of all litters), which is up from 6.5% in year 5.

The breeding methods were:

Natural	249 (66.2%)
A/I fresh	35 (9.3%)
A/I chilled	18 (4.8%)
A/I frozen	10 (2.7%)
A/I operative	10 (2.7%)
Not recorded	54

The number of progeny born and congenital problems are given in the table.

Male pups		
	#	% of total
total born	1199	-
live born	1120	93.4
live @ 6 wks	1043	87.0
		% of those alive at 6 weeks with a problem
cryptorchid	62	5.9
mismark	53	5.1
umbilical hernia	38	3.6
bad bite	12	
poor pigment	11	
cleft palate	3	
Female pups		
	#	% of total
total born	1097	-
live born	1041	94.9
live @ 6 wks	971	88.5
		% of those alive at 6 weeks with a problem
mismark	54	5.6
umbilical hernia	44	4.5
bad bite	12	
poor pigment	4	
cleft palate	2	

Specific later health problems in the progeny of bitches are shown in the next table.

Health Problem	# bitches producing problem	# progeny with problem
Addison's	10	16*
Symmetrical lupoid onychodystrophy	6	8
Systemic lupus erythematosus	2	2
Hypothyroid	8	8
Other	17	22**

* One bitch produced 6 Addisonian puppies

** Among the problems were 5 puppies with heart problems (3 PDA; 1 persistent right aortic arch); 1 each produced hyperthyroid, discoid lupus, autoimmune hemolytic anemia, pyelonephritis (early death at 3 wks), kidney failure (several died as young dogs), exocrine pancreatic insufficiency.

Mortality. There are 271 (22.7%) deceased dogs. There may be others also deceased but their owners have not responded to update requests. Autopsies were conducted on 20 (7.4%) deceased dogs. Owners should remember that autopsies will sometimes be helpful in establishing the cause of death. If more autopsies were done in those where death is not due to very old age and related maladies, there would certainly be more identifiable causes of death.

Mode of death was natural in 35, euthanasia in 207, accidental in 10, and not documented in 19.

Causes of death in different age groups are given below.

The leading causes of death before 9 years of age were autoimmune (n=14, 26.9%) and accidental (n=10, 19%) for a cumulative total of 45.9%. The final report of the BCCA 96-98 health survey found 30% of deaths before age 9 were due to autoimmune causes. This is of concern and focus should be on supporting research to identify cause(s) of the problems, and hopefully elimination of these problems where feasible.

Cancer was the leading cause of death for 9-14 year olds and old age takes over thereafter.

Age Group	# (%) Deaths	Causes of Death
0 – 2 yr 11 mo	10 (3.7%)	3 accidental
		3 autoimmune: 1 each pemphigus (and SLO), IBD, Addison's
		2 aggression, family
		1 each intussusception (after hemorrhagic gastroenteritis), epilepsy idiopathic
3 yr – 6 yr 11 mo	23 (8.9%)	7 autoimmune: 2 SLE, 1 each SLO with aggression due to pain, ITP, AIHA, Evan's syndrome, Addison's
		5 accidental
		3 unknown
		2 cancer, small intestine
		1 each, acute renal failure, chronic interstitial nephritis, respiratory failure, acute fulminating pancreatitis after whelping, suspected warfarin poisoning, neurological (no description)
7 yr – 8 yr 11 mo	19 (7.1%)	4 autoimmune caused or associated: 1 each AIHA, SLE, Addison's (kidney failure), infection as a result of immune mediated polyarthritis
		3 unknown
		3 cancer: 1 each spleen, small intestine, liver
		2 accidental
		1 each per food poisoning, vascular invasive abdominal mass, sudden onset of complete hind leg paralysis, kidney failure cause unknown, sudden breathing problems, aggression toward family member, after surgical A/I
9 yr – 13 yr 11 mo	140 (52.0%)	40 cancer (28.6% of age group)
		10 unknown

		8 old age (12 ½ - 14 yr)
		7 each stroke and kidney failure
		9 A/I (6 Addison's)
		5 cardiac (1 was heart attack; others heart failure)
		2 accidental
		52 single or unclear diagnoses
14 yr and older	77 (28.6%)	37 old age (some with severe arthritis, or kidney or heart failure or cognitive dysfunction) (48% of age group)
		11 cancer
		5 stroke
		remainder individual causes or unknown

Cancer causes in 9-14 yr group were: nasal 6; bone and spleen 4 each; hemangiosarcoma 3; kidney, liver, abdomen, liver 2 each; others 17. Hemangiosarcoma commonly affects the liver and spleen and may also be responsible for the cancers listed as affecting those organs.

Coefficient of Inbreeding (COI). The COI values were calculated using the Breeder's Assistant (BA) Pedigree Software for ten generations of ancestors.

Further information about COI's and their meaning can be found on the internet and also on BeaCon's web site in the section on open health registry data.

The data for the USA 1997 AKC stud book were calculated using a just one dog from a litter so as to represent unique breedings. There were 939 Bearded Collies registered as foundation stock as of October 1, 1976.

Year of Report/Other	Coefficient of Inbreeding				
	# dogs	Av	SD	min	max
USA – 1977 stud book	318	18.3	5.9	3.8	40.1
Yr 7 – all dogs	1198	23.6	5.8	0	43
Yr 7 - USA	650	23.7	5.3	11.2	42.8
Yr 7 – UK	189	24.7	6.7	0	40.5
Yr 7 – Netherlands	73	21.3	5.5	10.3	36.0
Yr 7 – Canada	64	24.1	4.8	13.1	35.2
Yr 7 – Germany	47	20.8	6.2	10.8	38.4
Yr 7 – Australia	38	22.9	6.0	12.4	42.1
Yr 7 – Czech Republic	32	23.2	5.4	13.4	38.6

When time permits, the COI's for USA Beardies shown at the national specialty over the years will be calculated and reported. Show catalogues from the specialties are needed to complete this work. Please contact Elsa (beaconbb@bellsouth.net) if are willing to temporarily share your catalogue for this effort. Thank you.