LIGHTING THE WAY

BEACON for Health

The Bearded Collie Foundation for Health

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HAPPY 10TH BIRTHDAY BEACON APRIL 1999 to APRIL 2009

In This Issue

Happy Birthday

BeaCon was 10 years old on April 14, 2009. It has been a rapid and active 10 years. Accomplishments include establishing an open health registry, becoming a 501(c)(3), supporting research on Addison's disease through subject recruitment and funds, conducting several mini-surveys, and having an educational web site and this newsletter. It all began by encouragement from several BCCA board members upon my departure as health chair in 1998. You know who you are and my thanks for providing the starting point of an organization whose sole focus is health and wellbeing of Bearded Collies.

The current board of directors acknowledges those who have supported BeaCon's work, whether by participating in the open health registry (now 1426 Beardies), donations (there are at least 171 unique donors some of whom donate regularly), participation in the Addison's study, input for the newsletter, or serving as directors. As a 501(c)(3) we have benefitted from significant discounts from our ISP and several software companies.

Among BeaCon's future visions are expanding the knowledge of what sustains a breed, seeing completion of the Addison's marker research to gain a screening test for breeders. We also expect to increase open health registry participation which in turn will generate a health database that is representative of the general Bearded Collie population.

Everyone has a role to play in the future of Bearded Collies. Breeder focus on temperament and health is vital. Breeder consideration of what benefits the breed as a whole is also crucial; thinking only of one's own line doesn't cut it. Prospective buyers should do their homework regarding temperament characteristics and family health of a prospective pup with due diligence. Owners are expected to offer a safe and permanent home for the pup, rescue, or rehomed dog. They need to provide an appropriate environment to foster the social, mental and physical wellbeing of their Beardie(s). Additionally, owners can help broaden a breeder's information base about the line's health status by doing health screening tests on their dog even though the dog may not be used for breeding.

Breeders please remember that your owners need your lifelong support, not just while that pup or dog is healthy. Your withdrawal after disease occurs shouldn't be an option, but it happens. I hear about this all too often. Owners find the situation very distressing and awkward. Owners please remember that your breeder needs to know regularly how your pup or dog is doing. When both parties take responsibility for maintaining the dialogue the end result is better.

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The Beardie Temperament

The BCCA standard devotes a scant couple of sentences to the correct Beardie temperament – it doesn't even merit its own section. Under characteristics we are told "The Bearded Collie is hardy and active, with an aura of strength and agility characteristic of a real working dog. Bred for centuries as a companion and servant of man the Bearded Collie is a devoted and intelligent member of the family. He is stable and self-confident showing no signs of shyness or aggression." General Appearance adds "A bright inquiring expression is a distinctive feature of the breed." One can only hope that a bright inquiring mind lies behind it. Yet, when prospective judges for the national specialty are asked to rank in importance conformation, temperament and coat, temperament usually places first or ties for first with conformation while coat trails in third – although it has its own lengthy paragraph in the standard. So I guess we all know a correct temperament when we meet it. Virtually every Beardie owner says they love the Beardie temperament, yet the temperament some describe isn't one I would want in any dog of mine, and probably vice versa. On top of this the number one "problem" year after year listed in the Open Health Registry is a fear of sharp sounds exhibited by 12.2% of the dogs in the OHR. This beats out autoimmune and all the other health issues we worry over and seek cures for.

Not all dogs exhibit total panic every time a firecracker explodes or thunder claps; for owners whose dogs do it can be devastating. I have had patients – not necessarily Beardies – that have crashed through plate glass windows, eaten their way through solid

walls, destroyed property, and urinated and defecated through the house. I even had one that pulled down half the house when tied to the porch. When it comes to such noise phobia the herding breeds are over-represented, oddly enough along with the retrieving breeds. Why is this? Some have argued that being able to hear well is essential for locating lost sheep scattered across the mountain. I can't prove or deny this. A study being conducted by the Canine Behavioral Genetics Project based in the laboratory of Dr. Steven Hamilton in the Department of Psychiatry and Institute for Human Genetics at the University of California, San Francisco has suggested that noise phobia is more prevalent in successful working lines of border collies than it is in lines developed for conformation. The group is now looking at the phenomenon in Bearded Collies too, and I would encourage those with noise phobic and non phobic Beardies to participate http://www.k9behavioralgenetics.com/NoisePhobia.php . While many owners report that when working their noise phobic Beardies remain focused on the job at hand and ignore the otherwise terrifying noises, other dogs cannot, and are culled or at least removed from working situations. Like so many valuable traits for working dogs it could well be that high auditory acuity has advantages, but that stripped of the work paradigm it can be overly developed in some dogs which as pets are not culled – although in some dogs the fear is so bad owners finally opt for euthanasia to spare the dog its obvious torment. A little is good a lot is a liability. This is true of so many attributes which were originally favored for a real purpose in the development of a breed, and have become exaggerated to the point of being grotesque and life threatening once the original purpose is lost. Even so, a Beardie that panics when the National Anthem plays over the PA system, or flees the ring when a crate is dropped, probably shouldn't have a future in the whelping box or as a sire. Excusing these little faults only sets them still firmer in the breed, because behavior is genetically determined, even though environment can act on the expression of the behavioral genes, just as it can with most of the other genes our Beardies possess.

Is there a conflict between the smart independent thinker treasured by working shepherds and the pet Beardie? If the apocryphal story of the Beardie that took the flock to market and brought the money back in a purse around his neck is only partly true the terms "clown" and "goofball" (my own particular bêtes noires when folks describe their Beardies) would not be the first that spring to mind. Yet people who use these words to describe their Beardies seem delighted that they have these attributes. While a quixotic rogue can be very charming, a dog that can't focus on the job at hand isn't of much good when you need an honest day's work. Still, I know that the qualities I value in my dogs aren't going to work for those who just want a couch companion to cuddle up with to watch Dancing with the Stars and amuse them by running around the house bouncing off the walls having a "whack attack". My dogs have never had one of these, it would appall me. I would hope their minds and bodies had had sufficient stimulation during the day so that this wasn't a required outlet for excess energy. To me the Beardie is resourceful and a problem solver. I enjoy hearing the ways my pups develop to get out of runs and crates, to open doors, slip through cracks, and create their own versions of the locked room mystery. I feel it stimulates their owners' brains fending off Alzheimer's as they struggle to stay a step ahead of them. For most Beardies the challenge seems to come in doing the impossible, and they will happily wait on the other side of the fence for their owners, or even slip back inside the container when they anticipate their owners coming home. Any dog can take apart an Einstein toy, but a true Beardie can put it back together again. Once he understands a command the Beardie will work on his own repertoire of different ways to execute it. If ever there was a breed born for 100 Things to do with a Box, it is the Beardie.

I also don't think Beardies should indiscriminately adore every person they meet. I have come to value their input on the reliability of a person, dog, horse as well as stock. A good dog knows how hard to push. He knows when to stay back and not spook flighty stock, and when to put pressure on stubborn stock. In the absence of stock to herd, that discrimination and the accompanying observational skills can be very valuable. We may judge in different ways, and my reservations may not match theirs, but my Beardies are entitled to take their time and size folks up and not leap in like kissing fools. How often

do you hear about a Beardie's uncanny ability to tell which patient on a therapy visit wants or needs their presence? If my dogs are aloof, they generally have their reasons, if they put their bodies between me and somebody, and try and move me away, I listen. Several of the dogs I have bred have alerted their owners and others to impending medical emergency. It's a wonderful ability. Being able to pick out a sickly animal for special attention would be a very valuable trait in a herding dog. Identifying those with less than honorable intentions could be very helpful. Many of us were in awe of Glenn Short's account of his three Beardie boys protecting him from a knife-wielding mental patient. I know my Beardies have protected me or my children on occasion and usually with reason. Sometimes avoiding people or showing aggression is called for, but it has to be appropriate to the circumstances.

So what is proper Beardie temperament? Probably one size will never fit all. Most people now live in cities, parents have taken much of the fun that I had in childhood away in the interests of safety, and yes, my kids could probably accuse me of that too. So if Timmy has not fallen down the well/mineshaft or got himself in some scrape, and there aren't a thousand head of sheep scattered across acres of hills, is the original Beardie temperament still valuable? Can we maintain proper Beardie temperament and should we? As one who gets a real kick out of a thinking dog I do believe we can and should. For those who want their clowns and goofball Beardies they are out there. For the rest of us, first we need to find sires and dams with the temperament and abilities we want and value, and then we have to nurture their offspring. Be proactive. Even before ears open don't tiptoe around the puppies expose them to everyday household noises, raise them in the heart of family activity. Play recordings of thunderstorms and the Fourth of July. Take them to the mall parking lot on a Saturday; take them to big echoing stores like Home Depot; make sure they get plenty of exposure to people - different ages, sexes, ethnicities, facial hair and outfits (even clowns), places and things, different surfaces to walk on and climb on. Expose them to different breeds of dogs and species of animals. Don't forget to get them used to being alone and amusing themselves. Feed them from puzzle toys, and encourage them to explore. The first 16 weeks of a puppy's life are the most malleable behaviorally, and the better start they get the fewer temperament problems you will experience. However, you need to maintain that good start and continue to provide your companion with the mental and physical stimulation that will keep his temperament tuned and in top working order. Put him to work, give him a job you choose, or he'll pick his own, and odds are you won't like it. Temperaments are born, but without proper nurture they can be easily destroyed.

Linda Aronson, DVM

BeaCon Voluntary Open Health Registry Year 8 General Report

Welcome. This is BeaCon's 10th year and the eighth year of reporting health conditions for the breed.

New breeders in particular face limited amounts or selectively offered information from which to make informed decisions that should include known health concerns. If you are a new breeder make sure that you ask to see the original health screening certificates for proposed mates. You can also check these certifications on the OFA Web site (www.offa.org) by entering a dog's AKC registration # or registered name. If you don't find the expected certification for a dog of breeding age it is prudent to suspect that the dog failed to meet the standard for that test. If the prospective mate has a CHIC #, be aware that the tests needed to obtain a CHIC # do not have to be normal; you must ask to see the certificates (or do the online check). If you are in a country other than the USA and do not have on-line access to verify test results, then you should ask to see the certificate or letter or form with evaluation results.

BeaCon's directors thank each and every Beardie owner and breeder who has made information on their dogs available through this open health registry. You have made an important contribution to the breed by providing current and future breeders with valuable information. 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.

New Features of the Open Health Registry

Starting March 2009, the use of search and report func-

tions for the database is free. There is no longer a subscription charge for either registry participants or non-participants.

Since Fall 2008, there is a non-public section if an individual prefers that their dog's information not be in the public view or when a co-owner refuses to give the primary owner permission to put the dog in the open registry. "Non-public" entries will be collated in the yearly statistics only, and are not available through search or report. This year there are 45 dogs listed in the non-public section.

See the complete report on the web site for more details.

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 for the information to be public.

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.

Information May Be Submitted either by hard copy or, preferably on-line at www.beaconforhealth.org/sqlweb.

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 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.

COI's can be calculated by hand, but it is complex; various online sites 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 for the OHR.

Use of Data and Caveats. Viewers of data in the open health registry 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, the expression of many genetic diseases may be influenced by environmental factors, many of which are still unknown.

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.

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.

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 for 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 BeaCon's newsletter (Lighting the Way), web site (www.beaconforhealth.org), and Beardie internet lists.

Respectfully submitted, the

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

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Jana Jezkova
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March 15, 2009

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 (spring 2007).

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 most breeds have been declining in recent years; however the relative rank of the breed has dropped dramatically as well.
(2)In 2008 both the number of registered litters and number of pups in litters were below the 1977 numbers.

"Remember always that you have not only the right to be an individual; you have the obligation to be one. You cannot make any useful contribution in life unless you do this."

Eleanor Roosevelt

Year	Dogs Registered*	Litters Registered	Pups in Registered Litters
2008	393	74	403
2007	413	105	603
2006	447	103	537
2005	485	118	658
2004	562	142	842
2003	543	161	897
2002	587	186	943
2001	620	142	953
2000	682	196	1031
1999	614	178	1202
1998	752	188	1077
1997	711	196	1249
1996	720	171	1031
1995	762	189	1105
1994	640	160	1057
1993	749	166	912
1992	766	185	1092
1991	796	203	1162
1990	700	172	1062
1989	713	182	1128
1988	817	206	1175
1987	760	177	1098
1986	797	187	1175
1985	858	189	1253
1984	858	208	1330
1983	895	207	1190
1982	763	193	1257
1981	723	158	1095
1980	653	156	909
1979	588	132	782
1978	472	98	684
1977	446	89	496
1976	-	-	-

*This number includes dogs born in USA and foreign born dogs until 2008. The average number of pups has ranged from a high of 6.6 to a low of 5.2

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THE OHR This Year – A Quick Look.

There are 560 participating owners, an increase of 69 from the previous year, and 1426 Beardies, an increase of 223.
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. 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
8	560	1426	223

Cumulative Report for Year 8 Demographic Data for Complete Open Health Registry

Item	#	
Owners	560	
Australia	11	
Belgium	6	
Canada	32	
Czech Republic	18	
Denmark	2	
Finland	11	
France	1	
Germany	21	
Hungary	2	
Ireland	1	
Netherlands	29	
New Zealand	3	
Portugal	1	
Scotland	2	
Slovakia	1	
South Africa	3	
Spain	1	
Sweden	1	
United Kingdom	83	
USA	328	
Not indicated	**3**	
Dogs	1426	% of total dogs
Location		
USA		50.0%
UK, Scotland		20.9%
Netherlands	712	5.8%
Canada	298	5.3%
Australia	82	3.7%
Germany	76	3.3%
Czech Republic	53	3.1%
Finland	51	2.5%
Belgium	44	1.5%
Others	36	3.7%
	21	
	53	

Sex. There were 645 males (45.1%) and 781 females (54.8%). Of the males, 365 were intact (56.5%), 268 castrated (41.6%), and reproductive status is unknown in 12. Of the females, 390 were intact (49.9%), 380 were spayed (48.7%) and reproductive status is unknown in 11.

Health Problems.

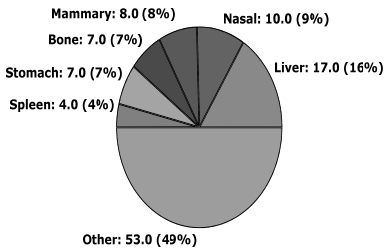
A higher percent of dogs were healthy this year, 53.2% vs. 47.7% for year 7. This reflects an increased entry of younger dogs, and some of these were put into the registry as young pups before going to their new owners. A caveat for both the healthy dog and disease frequencies is that they apply to this 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	759	53.2%
Fear, loud sharp noises	174	12.2%
Autoimmune diseases (see table below)	171	12.0%
Hypothyroidism*	103	7.2%
Cancer (all types)	89	6.2%
Umbilical hernia	60	4.2%
Hip dysplasia	49	3.4%
Fear, other	32	2.2%
Dietary allergy/ food intolerance	30	2.1%
Atopy	28	2.0%
Allergy, flea bite	25	1.8%
Depigmentation**	23	1.9%
Nail problems other than lupoid onychodystrophy	23	
Inflammatory bowel disease	20	

*The incidence of autoimmune thyroiditis in the open health registry Beardies is unknown; data from OFA labs suggest it is of relatively low incidence – 1.5% of 333 having OFA panels; 4.3% of 793 having panels done at the Michigan State University Lab. However, most of these dogs are being screened for reproductive fitness.

****** 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.

Distribution of Cancer



See the online registry for "other" cancer diagnoses. Unfortunately, with the low necropsy rate and the fact that either a primary site is unknown or the diagnosis was "suspected" cancer, we lack sufficient data to identify the most prevalent cancers in the breed.

Autoimmune Problems

(# diseases = 193; # dogs having diseases = 171, or 12.0% 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 worldwide. That will remain unknown until a much larger number of dogs are 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
15 are hypothyroid
20 have fear of loud sharp sounds (30.8%)
11 (16.9%) have at least one other A/I disease

SLO dogs
3 have pemphigus
2 are hypothyroid
1 has systemic lupus erythematosus

"The function of democratic living is not to lower standards, but to raise those that have been too low."

"Courage is more exhilarating that fear, and in the long run it is easier."

Eleanor Roosevelt

Disease	#	% of total
Addison's disease (hypoadrenocorticism)	65	4.6%
Symmetrical lupoid onychodystrophy (SLO)	38	2.7%
Inflammatory bowel disease (IBD)	20	1.4%
Autoimmune hemolytic anemia (AIHA)	18	1.3%
Systemic lupus erythematosus (SLE)	17	1.2%
Rheumatoid arthritis* (RA)	11	1.0%
Immune-mediated thrombocytopenia (ITP)	9	
Pemphigus	7	
Discoid lupus erythematosus	4	
Myositis	3	

Research on Autoimmune Disease. The two most frequently reported A/I diseases are the subject of several research projects. The investigator responsible (Dr. Anita Oberbauer, UC Davis) for past Addison's research will in the very near future have 2 small grants administered by AKC CHF and funded by the BCCA and BeaCon. To date no genetic marker(s) have been identified, although statistical analysis showed that the disorder is polygenic with a single gene of large effect on expression of the disease with a recessive mode of inheritance. The fact that this was a statistical approach makes it imperative that any dog's medical history be updated yearly in Dr. Oberbauer's database – even a single incorrect diagnosis throws the statistical analysis off.

There are an another 23 Beardies with a chronic nail problem in addition to the 38 with SLO. BeaCon has begun a survey of Beardies with either SLO or chronic nail problems to establish a baseline of clinical findings and other factors that are possibly associated with SLO expression (e.g., vaccination, allergic problems, stress, family history of similar disease). The first step has been to conduct a survey of affected dogs. Next there will be breeder interviews to learn if a similar condition exists in littermates, parents, and other close relatives. We ask all breeders for their cooperation. The third step will be to identify and obtain similar clinical information from a group of healthy controls. Finally, all data will be put into a report, along with family pedigrees for study by genetic researchers.

Health Screening Tests

The frequency of individual health screening tests and the various combinations were minimally changed from the previous year, except for an increase in the number having MDR-1 screening. Mutation of the MDR-1 gene results in an inability of the blood-brain barrier to exclude certain drugs (such as ivermectin) from the CNS resulting in neurological disease. In rough and smooth Collies one in five dogs carries this gene mutation. None of the Beardies reported in the registry had the MDR-1 mutation, and the same was true for the 97 purebred Bearded Collies tested for the mutation at the 2006 BCCA national specialty.

Screening Test Done	#	% of All Dogs
Hips	544	38.2%
Eyes	512	35.9%
Thyroid	371	26.0%
Elbows	110	7.7%
Hips and eyes	288	20.2%
Hips and elbows	106	7.4%
Hips and thyroid	165	11.6%
Hips, eyes, and thyroid	129	9.1%
MDR-1	19	
Von Willebrand Disease	11	

There are several working Beardies in the registry. One breeder has had eye exams done on breeding stock of working origin for several generations. This has been done because of concern that outcrossing KC registered Beardies to working Beardies 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 mo. Six 2 month old puppies (3 bitches and 3 dogs), the third generation of working dog breeding, are normal.

Reproductive Outcome

Dogs. There were 120 with reproductive history recorded; only 53 had semen checked and 110 were bred. The following table shows the number of bitches bred, the number of litters and puppies produced.

Not all breedings resulted in a pregnancy. For some dogs the number of puppies produced was not listed, so the number of total male and female puppies is less than the total number of puppies.

Item	#	Av
Bitches bred	405	3.5
Litters produced	365	3.2
Total puppies produced	2109	21.7
Total female puppies produced	928	10.6
Total male puppies produced	914	10.5

Problems developing in the dogs' progeny were Addison's (7 dogs with 14 progeny), SLO (8 dogs with 9 progeny), SLE (2 dogs with 2 progeny), hypothyroid (9 dogs with 10 progeny), other (12 dogs), cryptorchid (15 dogs with 30 progeny. One dog produced 5 progeny with Addison's, one produced 3 with Addison's and one produced 2 with Addison's.

Females. 239 bitches were successfully bred; they produced 427 pregnancies for 392 litters and 2586 pups. The number of pups is 425 more than last reported. Cesarean section delivery was done in 42 (11.8% of all litters), which is up from 9.3% reported last year.

Litter information was not entered for every dam that was bred. That is either an oversight by the breeder or that this information wasn't collected in the earliest years of the registry.

The methods used in breedings that resulted in live pups were natural (# 271, 69.1%), A/I fresh (# 40, 10.2%), A/I chilled (#12, 3.1%), A/I frozen and A/I operative (each #10, 2.6%), natural and A/I fresh (#8, 2%).

Male pups	#	% of total
total born	1344	-
live born	1256	93.5%
live@6wks	1162	86.5%
	% of those alive at 6 wk with problem	
cryptorchid	69	5.9
mismark	59	5.1
umb hernia	48	4.1
bad bite	15	
poor pigment	11	
cleft palate	3	

The number of progeny born and problems identified early on are given in the table.

Female pups	#	% of total
total born	1197	-
live born	1137	95.0
live@6wks	1049	87.6
	% of those alive at 6 weeks with a problem	
mismark	57	5.4
umb hernia	47	4.5
bad bite	13	
poor pigment	4	
cleft palate	2	

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

Health Problem	# dams	# total litters	# progeny
Addison's	11	37	17*
Symmetrical lupoid onychodystrophy	10	30	1
Systemic lupus erythematosus	3	12	3
Hypothyroid	9	22	9
Other	23	54	27**

One bitch produced 6 Addisonian puppies

** Among the problems were 6 puppies with heart problems (3 PDA; 1 persistent right aortic arch; 1 murmur, diagnosis unknown; 1 heart anomaly, diagnosis unknown); 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. Newly reported this year is a case of ulnar shortening.

Mortality. There were 348 (24.4%) deaths reported on the dog home page (i.e., the field "deceased" was checked yes. There were just 329 records entered in the death page; owners didn't provide any information regarding the cause of death for 19 dogs. Others may also be deceased but their owners have not responded to update requests.

Necropsies were conducted on 21(6.0%) deceased dogs. Owners should remember that necropsied will sometimes be helpful in establishing the cause of death. If more necropsies were done in those where death is not due to very old age or known, there would certainly be more identifiable causes of death.

The remaining data are derived from the table containing information about mode, cause, and date of death. Mode of death was natural in 48, euthanasia in 246, accidental in 13, and not documented in 22.

Owners sometimes gave age of death, or just month and year of death. For those, an estimated exact date of death was calculated from the information given by an owner by assigning the date as the first day of that month or using the age given. In no case did the assignment change the age group that the dog was in for purposes of evaluating causes of death.

Of note were three cases of gastric torsion (1 with stomach cancer) reported in older Beardies (ages 10.8, 14, and 15 years). Bloat/gastric torsion is very uncommon in Beardies; its occurrence in the older ones should alert owners to be aware of the signs and to seek emergency care immediately.

The leading causes of death before 9 years of age were autoimmune (n=22) and accidental (n=9). The high number dying from autoimmune disease at a young age is of concern and we should focus should be on supporting research to identify cause(s) of the problems, and hopefully elimination of these problems where feasible.

Age Group – 0 to 3 yr.
There were 11 deaths (3.3% of total with cause of death recorded).

- Accidental – 3
- Autoimmune – 3 (1 each pemphigus/SLO, IBD, Addison's)
- Aggression, directed at dogs' family – 2

1 each intussusceptions (after hemorrhagic gastroenteritis), epilepsy idiopathic, meningitis.

Age Group – 3-7 year
There were 27 deaths (8.2% of total)

- Autoimmune - 10
  - SLE – 3
  - AIHA – 2
  - 1 each: SLO with aggression due to pain, ITP, Evan's syndrome (ITP & AIHA), Addison's, and sudden onset of blindness with no cause identified in an Addisonian
- Accidental – 4
- Unknown – 3
- Cancer – 2 (7.4% of age group)
- Poisonings – 2

1 each: acute renal failure, chronic interstitial nephritis, respiratory failure, acute fulminating pancreatitis after whelping, neurologic other (had hip dysplasia and developed rear paralysis from a pinched nerve), liver failure.

Age Group 7-9 yr
There were 25 deaths (7.6% of total)

- Autoimmune – 9 (36% of age group)
  - Addison's – 5 (either primary cause or associated)
  - 1 each – muscle A/I disease, AIHA, rheumatoid arthritis, SLE
- Cancer – 5 (20% of age group)
- Unknown – 3
- Accidental - 2

1 each: family aggression, food poisoning, rear end paralysis, sepsis, sudden breathing distress, after surgical A/I

· Cancer – 5 (20% of age group)
· Unknown – 3
· Accidental - 2

1 each: family aggression, food poisoning, rear end paralysis, sepsis, sudden breathing distress, after surgical A/I

Age Group 9-14 yr
There were 171 deaths (52.0%)

- Cancer 55 (32.2% of age group)
  - Nasal – 10 (1 of those has severe nose bleeds but no confirmed dx)

- 4 each - abdominal , liver, spleen
- 3 each – bone, hemangiosarcoma, stomach
- Remainder had only 1 or 2 cases

- Autoimmune – 18 (10.5% of age group)
- Addison's – 8 (1 with kidney failure
- AIHA – 3 (1 with ITP [Evan's syndrome])
- SLE - 2
- 1 each – diabetes, IBD, pemphigus, rheumatoid arthritis, ITP
- Old age – 12
- Stroke – 7

Other, unknown, mostly single diagnoses - 79

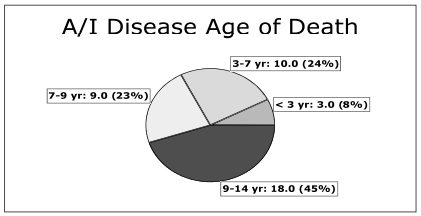
Age Group >14.0 yr

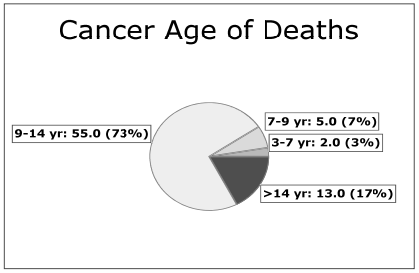
There were 92 deaths (28.0%)

- Old age or cognitive dysfunction – 51 (55.4% of age group)
- Other or unknown – 24
- Cancer – 13 (14% of age group)

Stroke - 4

As in previous years, the majority of deaths from autoimmune causes occurred prior to 9 years of age and none occurred in the oldest age group.





The vast majority of cancer deaths occurred from 9 years on.

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 one dog from each litter so as to represent unique breedings. There were 939 Bearded Collies registered as foundation stock as of October 1, 1976.

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.

	# dogs	Av COI
USA – 1977 stud book	318	18.3
Yr 8 – all dogs	1421	23.5
Yr 8 - USA	706	23.6
Yr 8– UK	297	25.0
Yr 8– Netherlands	81	21.0
Yr 8 – Canada	76	23.7
Yr 8 – Australia	53	22.8
Yr 8 – Germany	51	20.9
Yr 8 – Czech Republic	43	22.3

Please contact Elsa (beaconbb@bellsouth.net) if are willing to temporarily share your catalogue for this effort. Thank you.

Canine Ethology
The Neonatal Influence on Dog Behavior
J. de Wit

Mr. de Wit kindly consented to share work he did in 1982/83 for his Biology thesis study at Amsterdam University. The original publication was published at:

http://www.apbc.org.uk/commun.htm.

He worked as a dog psychologist at the Martin Gaus Center in Holland that provides dog resocialization and was senior editor of *In the Netherlands;* De Wit was chief editor of behavioral topics for the main dog encyclopedia. He bred Bearded Collies under the Kennel name His-N-Hers. Some of the information from this study has been published in Companion Animal Behavior by David Appleby (2004) from the Association of Pet Behavior Counselors (APBC).

While the eyes and ears of newborn puppies remain closed for some days after birth, olfaction - the ability to smell - is present from birth, something only recently appreciated. The hypothesis for the study was that offering a scent -imprint to a newborn pup would give an imprint that could be recognized later. The inference, were the hypothesis to be true, was that behavior develops from birth.

The initial plan to study this with kennel bred puppies had to be abandoned because of variability in methods of breeding and puppy rearing conditions. Instead a laboratory setting was used where all pups and dams received identical breeding and care conditions. As soon as the pups were born, some of a litter were offered a scent, the recogni-

tion of which was to be tested at a later time. The "scent" involved placing the pup for a period of 30 seconds under the armpit of the future tester. The first control group was created with the split litter method – half the litter received the scent and the other half did not. After the experimental pup received the scent it was returned to the dam and littermates. Each pup in the litter was clearly identifiable from exterior characteristics that were sketched and photographed. 102 were involved at the beginning with 47 left at testing, due to mortality or absence.

An additional blind control group was available from another population of pups in the same facility, raised with identical breeding and care conditions. The single difference was that none of these pups had neonatal exposure to scent.

Testing to assess scent imprinting was carried out at 5 and 7 weeks. The method consisted of 5 sub-tests, administered by a trained examiner; each subtest was scored and thought to uniquely measure either imprinting or socialization:

- Approaching (imprinting). Is the puppy coming towards the tester?
- Holding on the back (socialization). How does the puppy react by being held on its back?
- Following (imprinting). Is the puppy following the tester around the room?
- Stroking/nestling (imprinting). How does the puppy react to stroking/ nestling?
- Holding above the ground (socialization). What is the reaction?

Each sub-test was scored on a range from 0 to 4:
4 = well imprinted or socialized, enthusiastic & submissive.
3 = imprinted or reasonably socialized. Needs further socialization.
2 = little evidence of imprinting, indifferent. Moderately socialized. Needs training.
1 = a potentially dominant puppy; makes its own rules. Poorly socialized and independent.
0 = frightened. Probably not imprinted on humans and thus poorly socialized.
The sub-tests were grouped into either imprinting or socialization categories, with the rationale that imprinting caused a physiological change in the limbic system of the brain, whereas socialization was learned within the environment of the litter.

Results. There were no significant differences in results between the scent imprinted and the related litter control groups. In retrospect it was

realized that the scent exposed pups were returned to the litter box still bearing the human scent and so the control littermates still had some exposure, although not by direct contact with the human.

However when the control group with no exposure to human scent was compared to the scent exposed group, significant differences were found. The scent exposed pups had significantly better performance on 2 imprinting sub-tests (approach and following) at 5 weeks and in all 3 imprinting sub-tests (stroking + other 2) at 7 weeks.

Implications. Observable behavior arises from three sources; namely, genetic, physical, and environmental. The ethological study just described has implications for environmental influences on behavior. A scheme for behavioral development was designed that drew on others' work in addition to the study's findings.

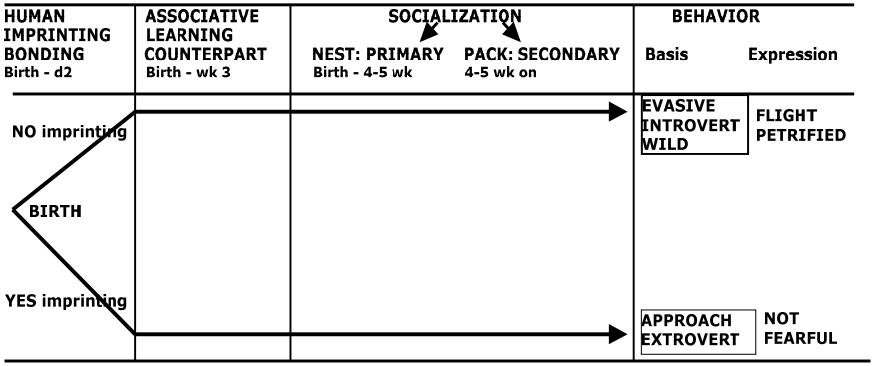
Key is the concept that imprinting switches on a genetically preprogrammed trigger (scent for a pup) which recognizes a subject (human) as a foster to bond with and aims future social behavior towards the bonding subject. In addition he proposed the three major developmental periods (imprint, associative learning, socialization) are continuous progression from one to the next – rather than being discontinuous or independent.

Every species has its own specific sense on which the imprinting switch is triggered. These 'trigger-senses' determine an animal's behaviour and therefore they are sometimes called the determination senses. Some birds are triggered by sound / auditory stimuli (gulls); others, by movement / visual stimuli (goslings). Some mammals (deer, goats, rabbits, cats, **dogs**) are triggered by scent / olfactory stimuli**.** (Note: added by E Sell - imprinting to touch has also been shown for dogs and other species.)

In this study, the experimental imprinting in pups was done by giving just a 30 second exposure to human scent very soon after birth. The imprinting period is believed to be very brief (no more than several days) – once it is past, imprinting will not occur. Imprinting is not a learning process, as are the other developmental periods which follow.

A puppy *without* imprinting and no or very little aggression-inhibition during the other developmental periods, develops an evasive, wild behavior that displays as flight (see the top of the diagram below).

A puppy *with* imprinting and no or very little aggression-inhibition during the later developmental periods, develops a 'wild' behavior, which is expressed by approaching or attacking (see the bottom of the diagram below). These dogs have no fears against humans, so it approaches (the original meaning of Latin aggredior= approach) and it might also be aggressive in the modern sense.



After the imprinting period there is an associative learning period in which being warm, fed, and protected help to consolidate the imprinting experience primarily to the dam in the absence of human involvement. This period continues from birth to about week 3. Thereafter comes the socialization periods (within the nest from birth to 4-5 wks, and within the pack, from 4-5 wks and on), which is what we hear about more often.

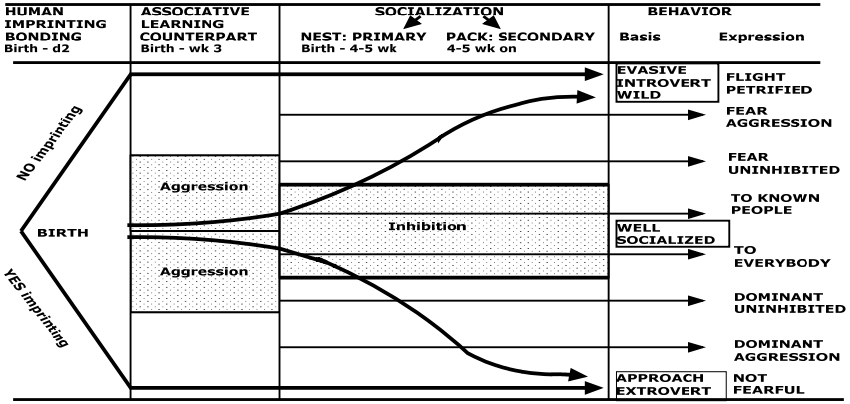
The associative learning period declines coincidently with decreasing nursing, at about 3 weeks. After this there is a dramatic rise in learning during the socialization period which coincides with myelination of nerves (eyes and ears become functional and more motor activity is possible). The early (primary) socialization period involves learning from littermates and dam – examples include bite inhibition, physical limits, and boundaries (i.e., play rules are established). The later (secondary) socialization period involves extended surroundings beyond the nest and it includes other pack members (dogs or humans). In this period social rules are learned by interaction – how to react to a social dominant pack member, how to respond to noises or strange objects, how to play. Thus, the genetically predestined dominant or submissive behavior is modified by the influences of the social development period.

Education or training establishes limits (i.e., inhibition). In nature, deviant behavior happens infrequently because there are the boundaries

of the tolerance of the pack leader and pack members. In the case of domesticated dogs, the conscientiousness of the breeder influences whether the pup grows up maladjusted or not. The breeder chooses the parents which lay the genetic base for behavior. In those crucial 8 weeks after birth, the breeder has the responsibility of providing the necessary stimuli for extending this base and helping the puppy become a fully socially accepted dog. Without proper socialization to humans, dogs and the world in which they will be expected to live and function, puppies will be ill-adapted to the life they are destined to live.

Puppies that did not undergo positive imprinting towards humans may learn how to deal with humans in the socialization period, although they may be afraid at first. The process will certainly not be as easy as if imprinting had occurred. On the other hand, puppies that had good imprinting have a positive base on which to build trust in humans and to learn well through proper socialization. The greater their exposure to situations, surfaces, people of different ages, races, sex and appearance, dogs, and other animals – the more stable and better companions they will be.

Center areas of associative learning period ("aggression") and



socialization period ("inhibition") reflect positive influence of humans (= leading to desirable behaviour)

In the context of this paper, the term aggression in the associative period is not meant in terms of violence – but the opposite of flight.

<u>Summary.</u> The main conclusion from de Wit's work is that behavior in pups develops *<u>from birth</u>*. Although the research methodology was to provide the future tester's scent by placing the newborn pup in the

armpit that is not a necessity for the breeder. Assuring the presence of human scent within the critical first day will do. The imprinting period is very brief and it appears from this study to play an essential role in a pup's future socialization.

The later developmental periods must offer puppies the chance to learn inhibition of uncontrolled behavior (we call it education or socialization). If inhibition is successful we call the puppy "well socialized" as expressed in the middle of the diagram.

This basis has proven to be the best for any kind of work that will be executed later: agility, police work, guide dog or 'just' a pet.
The human purpose of domestication is a life together - a symbiosis - with dog; a basic trust by imprinting and socialization is a lifetime guarantee.

Footnote. The inferences of Mr. de Wit's original work have been retained, but it should be acknowledged that while his central premise of the importance of early human imprinting on the neonatal pup is as valid today as it was 26 years ago, there has been a major shift in categorization of certain behaviors, and the term dominance would probably now be termed confidence and submission would now be termed shyness.

Donations

Contributions to BeaCon and the open health registry should be mailed to:
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North Reading, MA 01864 .
First time Donors
For up to $15-$99 you receive a logo pin
For $100-$750 you receive a sterling silver angel pin
For $751 and up you receive a 14K gold angel pin
The pins can be viewed on the BeaCon Web Site.
Http://www.beaconforhealth.org/

BOOK REVIEW

Speaking For Spot: Be The Advocate Your Dog Needs to Live a Happy, Longer, Happier Life. By Dr. Nancy Kay. Trafalgar Square Books, Vermont. This book guides the reader in becoming an advocate for their dog's veterinary care. Integral to being an advocate are how to ask important questions, find suitable doctors and make informed choices. Education underlies the skill and is essential for differentiating the anecdotal from science based knowledge. There are chapters on preparing for an office visit, current procedures, planning for a new pup, vaccination, cancer and decision making, second opinions, cost, and euthanasia; two extensive appendices cover common symptoms and questions your vet will ask and common diseases and the questions you should ask your vet about them. This book is a very valuable guide for becoming a more effective advocate in your dog's health care; you'll want it in your library. E. Sell

MacLean and Company .....

"He said it's a crate. It might have a bedroom and a bath upstairs. "