LIGHTING THE WAY

BEACON for Health

The Bearded Collie Foundation for Health

The Official Newsletter of the Bearded Collie Foundation for Health

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In This Issue

President's Musings

A milestone is coming. BeaCon's survey on the painful chronic nail problem, symmetrical lupoid onychodystrophy (SLO) is nearing completion after two years. SLO afflicts Bearded Collies and some other breeds including Gordon Setters, Giant Schnauzers, and racing Greyhounds. See the articles on BeaCon's SLO survey, claw biopsy, and on genetic diversity in this issue.

I want to thank those breeders who have taken the time and shared family informa-tion on SLO Bearded Collies. We know that it is not easy for a breeder to talk about a health problem. With your coope-ration in providing family

information that will go to researchers is so much more complete. For those yet unable to help in the effort (like one whose arthritis was so great that she was unable to look up the pedigrees in boxes in the closet) I sincerely hope you will reconsider. Sweeping information under the carpet or putting head into sand only hinders the effort at solving a problem. Nobody intends to breed a dog with a problem. However, when a problem happens, failure to assist in the solution is rather a negative approach.

What is Known About SLO

1. There is underlying autoim-mune cause
2. There is no significant sex prevalence in Beardies.
3. It is found in multiple families – with close relatives and progeny being affected in some families.
4. The gold standard for diagnosis is claw biopsy.
5. There are few associated health problems

What is Not Known About SLO

1. How long the disease has been known in the breed.
2. Whether vaccinations, preven-tives use, and/or environ-mental factors contribute to the development of SLO
3. Whether there are interact-tions between autoimmune function, genetics, and environmental factors that contribute to the development of SLO.

What Is Needed

1. Information from the earlier years – pre 1990. See the SLO article for clinical findings in SLO. Long time breeders – what do you know about this condition?
2. Biopsy diagnosis in more dogs, especially those just now being diagnosed.
3. Family history of SLO and other autoimmune disease in close relatives and littermates.

Funding for SLO Research. The BCCA Charitable Trust has donated $1000 to Dr. Anita Oberbauer for the preparation and storage of DNA samples for SLO research. This is a very timely donation and

the move forward on research will have been supported by the collection of these samples.

There are other topics for you to ponder over in this issue; these include: kidney failure and value of necropsy, sniffing out diabetes, and genetic diversity in a non-canine mammalian species.

Kidney (Renal) Failure

The most common lab blood tests used to diagnose kidney failure are creatinine and BUN (blood urea nitrogen). Creatinine is the more specific test, though it does not distinguish acute from chronic kidney failure, indicate the cause, or whether recovery is possible. It should be noted that BUN and creatinine elevation may be caused by problems other than actual kidney failure.

A creatinine level of 1.6-2.0 mg/dl = mild kidney disease; 2.0-5.0 mg/dl = moderate kidney disease; > 5 mg/dl = more severe disease. BUN levels up to 30 mg/dl is not of concern if the dog wasn't fasted and if other labs are normal, unless it persists or increases. Dehydration and stress can contribute to such mild elevations, as can a high protein diet. BUN levels above 80 mg/dl are usually accompanied by clinical signs (dehydration, poor appetite) and require intervention. Phosphorus levels above 4.5 mg/dl are dangerous and need to be controlled by diet and/or binding agents. Other lab tests include sodium/potassium ratio, albumin level, and hematocrit/hemoglobin.

Urine tests for diagnosis include urine specific gravity, culture for bacteria, protein, and urine protein:creatinine ratio. Causes can be classified as prerenal, renal (see below), or postrenal such as complete blockage of the urinary tract by stones. Among the causes for prerenal failure are dehydration and high protein diets. If causes for prerenal disease are not corrected, it usually progress on to renal failure. Among the causes for acute renal failure are toxins (various therapeutic drugs and non-therapeutics (most common is antifreeze; pesticides or herbicides are considerations for those

living on a farm), ischemic events (such as shock); congestive heart failure), immune mediated disease (glomerulonephritis/ amyloidosis, systemic lupus erythematosus), hypercalcemia (malignancy or vit D overdose), and infections (e.g., leptospirosis or some tick borne diseases).

There are 16 cases reported in BeaCon's open health registry and there was one case of amyloidosis reported years ago in the Beardie Bulletin. Of the cases from the open registry, 14 died of "kidney failure". One had necropsy and one had a kidney biopsy. The cause was not listed for 8 and 5 of these were 11 years or older. Some had other diseases known to affect the kidneys (2 Addison's, 1 systemic lupus erythematosus). One had rheumatoid arthritis. In one the renal failure was temporary and thought related to the protein content of the diet. In another it may have been related to dehydration.

One dog died at 4 ¾ yr with diagnosis shortly before death. A biopsy showed chronic insterstitial nephris of unknown cause; the report gave possible causes as chronic antigenic exposure, bacterial infection, or renal dysplasia with secondary inflammation. Another dog died at 8 years. Necropsy revealed glomerulonephritis and chronic interstitial nephritis bilaterally with immunohistochemistry suggesting an autoimmune component.

Summary: If a younger Beardie is diagnosed with renal failure, doing a biopsy may well be helpful. If death is imminent, then necropsy may give an answer. Remember to mention the possibility of underlying Addison's disease to your vet because Addison's is well known in the breed and the initial lab findings often suggest kidney failure. See the article by Jo Tucker about kidney failure in Addison's disease in BeaCon's fall 2007 newsletter (available on the web site).

Elsa Sell

References/Links:

http://www.dogaware.com/health/kidney.html

A Diabetic's Best Friend - Lisa Horween-
Kelly Trains Dogs to Sniff Out Dangerous Glucose Levels.
By Christina Barber-Just

For people living with diabetes, monitoring blood sugar levels can be a matter of life and death, though the accuracy of glucose meters has been questionable. But, Lisa Horween-Kelly has a solution—thanks in part to some "furry continuous glucose monitors." She is co-founder of Dogabetics, a Tacoma, Washington -based business that trains service dogs to detect fluctuations in their owners' blood sugar levels.

Ensuring that a diabetic's blood sugar stays within a safe range is a constant balancing act; a service dog maintains 24/7 vigilance with a nose more accurate than a glucose meter. Using their sense of smell, diabetic service dogs can detect if their companions' blood sugar levels are too low or too high, and alert them to the danger. Low blood sugar has a "rusty-bucket smell," Horween-Kelly says, and can cause unconsciousness, seizure, coma, even death. High blood sugar is evidenced by a sweet, fruity smell; long term, it can lead to blindness, kidney failure, nerve damage, and more. Horween-Kelly can personally attest to this. Dogabetics' first graduate, a black Lab named Max, belongs to her 15-year-old son, Liam, who was diagnosed with type 1 diabetes in 2008. As a physical therapist, Horween-Kelly has treated patients with complications from diabetes, and she "didn't want that future for Liam at all." So when she saw her first diabetic-alert dog at a Seattle diabetes conference just days after Liam's diagnosis, she vowed to get one for her son. Liam's experience with the dog has been so successful—Max is "the ultimate wingman"—that Horween-Kelly teamed up with the pooch's trainer to start Dogabetics. Their goal is to train a dozen dogs a year, and thirty people are already on a waiting list.

"I'm so motivated to try and make this work," Horween-Kelly says. "I want to give other people the opportunity to have a dog that might save and improve their life while they're coping with this

disease." *Originally printed in the Fall 2010 issue of the* Smith Alumnae Quarterly.
For more information go to: www.dogabetics.com

BeaCon SLO Survey Results

Elsa Sell

This information is from 71 Bearded Collies with com-pleted surveys as of Ocbober 2010. There were 62 owners (41 USA, 9 UK, 4 Netherlands, 3 Canada, and 5 others). Some dogs from the open registry or with information coming directly from breeders or owners, but no survey, are included in the family pedigrees.

Diagnosis. Age of Onset was before 8 years in 88%. The average age was 4.1 years (min 0.5; max 8.7) in the 57 dogs for whom exact age of onset was known. Twelve dogs had nail biopsy. Others were diagnosed by clinical response to treatment regimens for SLO when owner and/or veterinarian were reluctant to do a biopsy. This is not ideal from a research perspective, yet it is the practicality of everyday life.

Environment. All dogs lived in homes rather than kennels; 45 were either born at home or placed in their home by 10 weeks of age. There were no differences in house flooring nor in outdoor surface exposure before or after onset of SLO.

General Health. The table shows other health conditions experienced.

Condition	Number (% of total)
Ear infections	17 (24%)
Hypothyroid	10 (14.1%)
Weepy eyes	8 (11.3%)
Skin infections	7 (9.9%)
Eye infections	6 (8.5%)
Atopy	3 (4.2%)
Crusty nose	2 (2.8%)

Ear infection was infrequent in 10/17
Eye infection was infrequent in 5/6
Skin infection was frequent in 5/7
Thyroid testing was done in 29 (41%). One hypothyroid dog had atypical Addison's.

A/I problems in relatives, miscellaneous. There were 37 dogs who relatives reported to have an A/I problem. Six dogs with SLO produced progeny with SLO and seven dogs with SLO produced other A/I problems (4 with Addison's in pups or grandpups; 1 kidney disease at 5 mo; 1 AIHA; 1 not specified). Thus, 13/71 (18.3%) produced at least one offspring with an A/I problem.

A/I Problem in Relative	Number (% of total)
SLO*	9 (12.7%)
Addison's**	7 (9.9%)
AIHA***	5 (7%)

*5 of these had more than 1 relative with SLO
**2 of these had more than 1 relative with Addison's
***2 of these had more than 1 relative with AIHA

Seven owners reported having had more than one Beardie with SLO; in each case the dogs were related to each other one more generations back.

Vaccination and Preventive Use. Interestingly, 26 (37%) of the dogs never received rabies vaccination; 32 received rabies boosters after the initial puppy vaccination every 3 years. The vaccination schedules for other diseases were quite varied and with different (or unknown) products. Twenty-four dogs were vaccinated in the 6 months prior to onset of SLO. In 10 the vaccination included or was only rabies. For the others, the product(s) either weren't specified or were for a single or multiple infectious agents.

Heartworm preventives were used in 39 (55%) (Interceptor 17

Heartgard 9; remainder were other or not specified); and flea/tick preventives were used in 49 (69%) (Frontline or Frontline + in 34).

Preceding Stress was noted in 45 dogs and 25 owners thought the stressor(s) might have contributed to development of SLO. Stressor included showing/trialing in 16, vaccination in 13, in season or pregnancy 8, weather related 5, rehome/move/family separation or illness 10.

Thus, no particular preventive practice or preceding stress event(s) were always associated with onset of SLO.

Clinical Nail Findings (either initially and/or during course of disease unless specified otherwise).

Clinical Sign	# dogs	%
Pain	62	87%
Nails fall off	57	80%
Abnormal nail growth	54	76%
Split	52	73%
Bleeding	52	73%
Persistent licking	45	62.5%
Lameness	39	55%
Infection	36	50.7%
Initial loose nails	30	42%
Offensive odor	16	22.5%

The clinical findings are similar to those reported in other papers on SLO in multiple breeds. Most dogs had more than one clinical finding. Sixty-one dogs (85.9%) had all paws involved and some of those included dew claws; of the others, 6 were front paws only and 4 rear paws only. Twelve had dew claws involved.

Family History. This aspect of the survey work is incomplete because family information remains to be gathered for some dogs. Even so, the following table confirms the concern of a few

participating breeders that genetics has a contributing role in expression of the disease. Families are "named" by an alphabet letter for convenience. There are some ancestors common across several families.

Although nail biopsy (regular or dew claw) hasn't been done as often as researchers would like to see, still the record is pretty good for a retrospective study (meaning it was not planned ahead of time). Most of the biopsies were of a regular or dew claw; several were punch biopsies. Eight of the 11 families have at least one biopsy proven SLO case; in the larger families there are more. Family B has 4 biopsy proven, C has 3 biopsy proven, and H has 4 biopsy proven.

With the biopsies confirming a diagnosis in these families, it makes the case stronger for the contribution of genetics to development of SLO.

The number of SLO cases and of biopsies are shown in the next table by family.

Family	# SLO	Biopsy
A	6	0
B	14	4
C	11	3
D	2	1
E	7	1
F	3	0
G	3	1
H	12	4
I	2	0
J	2	1
K	3	2

There are still surveys pending – please submit those ASAP.

Genetic Diversity and SLO

Elsa Sell

SLO is the second most common autoimmune disease in Bearded Collies (3.3%) as documented in BeaCon's open health registry (2009 report).

Genes in the Major Histocompatibility Complex (MHC) region are responsible for recognition of an individual's own tissue as well as foreign components such as bacteria and viruses. Loss of genetic diversity has been associated with many diseases, such as autoimmune diseases.

The Finnish Bearded Collie Club funded a study of genetic variability of Bearded Collies living in Finland (ref 1). Major Histocompability Complex (MHC) genes were studied. The MHC region is located on chromosome 12 and consists of more than 100 genes which can be categorized into class I, II, or III according to function and location.

MHC diversity is typically measured by studying certain MHC class II genes. The dog MHC region is known as DLA, Dog Leukocyte Antigen. One goal of the study was to find out how many dogs were homozygous for each haplotype – meaning a group of alleles of different genes on a single chromosome that are closely enough linked to be inherited together. Most Bearded Collies are heterozygous, that is, they have different haplotypes in the two corresponding chromosomes. However, 30 individuals (39%) were homozygous, so about one third of the dogs had identical haplotypes in their chromosomes.

The distribution of haplotypes among homozygous dogs is as follows: Parta1 60%, Parta2 36.7%, and Parta3 3.3%. The sixteen

SLO blood samples.
Please see BeaCon's home page for the history form and instructions for blood collection.

SLO dogs in the study had only the two most common haplotypes, Parta1 and Parta2. Moreover, eleven out of sixteen SLO dogs were homozygous for type Parta1 Parta1 or type Parta2 Parta2. The other five SLO dogs were heterozygous and haplotype Parta1 Parta2. A possible preliminary interpretation is that homozygosity in the MHC II locus increases the risk for SLO in Bearded Collies.

A study of Gordon Setters (98 SLO and 98 healthy controls) found the same haplotype as Parta2 as in the Finnish study in 53% of SLO cases and 34% of controls giving an elevated risk of developing SLO (ref 2). This study also demonstrated a protective haplotype in 16.8% of controls but only 1 SLO case (0.5%). The effect of the protective haplotype was stronger than the risk haplotype.
This study included Bearded Collies (5 SLO cases and 5 controls) who shared the same or similar risk haplotype as the Gordon Setters. All the major risk haplotypes in Gordon Setters, Bearded Collies, and the Giant Schnauzer contained the same DQA1 allele. It is known that one amino acid in that allele is different. It remains to be determined if this amino acid substitution contributes to deregulation of immunity or exactly which kind of immune-mediated mecha-nism is involved in SLO. No pedigree analysis has been done on the dogs in this study.

References: Lohi, Hannes, RyynXälä, N and Genescoper Ltd.
(English translation by Pertti Kellomäki Studies of MHC Class II Genes of Bearded Collies Reveals Narrow Diversity. Published in the Finnish Bearded Collie Club's magazine Part 1, 2010.
Wilbe, M, Ziener, ML, Aronsson, A, et. Al. DLA Class II Alleles Are Associated with Risk for Canine Symmetrical Lupoid Onychodystrophy (SLO). http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0012332

"We must become the change we want to see in the world." Mahatma Gandhi

Brooks' story: Our experience with
SLO (symmetrical lupoid onychodystrophy)

Judy Howard, with writing help from Elizabeth Coolidge-Stolz

When Brooks was close to two years old and staying with me temporarily, I noticed he had pulled a nail and the nail bed was bleeding. Because I had had a previous Beardie with SLO, I was almost completely sure that Brooks had SLO. With his owner/ breeder's permission, I began giving him fish oil and made an appointment with the vet.

The vet agreed with me that the most likely problem was SLO. By this time Brooks had become a permanent member of our family. We talked about three options: starting treatment for SLO with niacinamide, tetracycline, and fish oil, a punch biopsy (an instrument is inserted into and along the side of an affected nail to obtain tissue), and definitive testing through full removal of the nail and nail bed by amputating the first digit of an affected toe.

While I got Brooks's breeder/co-owner's thoughts on what to do, the vet looked into the different testing options. Until we made a decision, we started Brooks on an antibiotic and soaked his feet twice a day. By that time he had lost two nails, one on each front foot, and one of the affected toes looked infected.

I felt a definitive diagnosis was important and his breeder agreed. I had read that punch biopsies, which randomly obtain a part of the tissue surrounding the nail to test, can miss an affected area and produce a false normal result (note: this is correct. E Sell). The vet said that amputation probably would not cause extreme discomfort, certainly not compared with the pain he already felt, and that recovery would be quick. The decision was made to do the amputation and to cut the rest of the nails very short while

"An investment in knowledge pays the best interest."
Benjamin Franklin

Brooks was sedated. We were almost positive he would eventually lose every nail and be in pain with each loss.

The amputation was done about six weeks after I saw the first broken nail. The vet chose to remove the nail and far digit of the second toe of the right rear foot. Brooks came home with a bandage on the foot and one stitch that needed to be removed 7-10 days after the procedure. His paws were bandaged to ease the pain of the other nails that had been cut VERY short. Because he was in pain and walked with some difficulty even before the procedure was done, he came home on pain meds and an antibiotic.

The after-biopsy care was simple; all I had to do was keep the area dry, which meant putting a plastic bag over the foot when Brooks went out to potty. For the first few days he was pretty uncomfortable. I felt that most of the discomfort, especially while standing or walking, was due to the fact all of Brooks's nails were cut very short while he was under sedation. Otherwise, he was just Brooks. About a week after the procedure, we received the results. Definitely SLO. Treatment was a combination of niacinamide, tetracycline, and fish oil.

The amputation and diagnosis was almost eight years ago, and Brooks is in good health, although his SLO occasionally flares up. Brooks went on to get his CH, 2 herding titles, and an RN in Rally obedience after the diagnosis. I keep his nails short so he doesn't jam one into the quick. This helps, although he jammed a nail just the other day; he is uncomfortable right now but not limping. He isn't on niacinamide or tetracycline anymore, just the fish oil and a Chinese herb called Blood Heat. He is doing well on this combination and I don't see any side effects.

If I had it to do over again, or saw similar nail problems in another Beardie of mine, I would go for the diagnostic procedure of digit amputation. It was a minimal experience for Brooks with no after-effects and we got a definitive diagnosis. I hope that his biopsy

material may help find a cause and cure for SLO sometime in the future. The firm diagnosis really helped me proceed with Brooks' care. Because I had no doubts about the diagnosis, so I knew exactly what we were dealing with. I would encourage anyone with an SLO dog to have the biopsy. Your dog's biopsy should give you a definite diagnosis and may be the one that helps to find the cure for this disease. Readers may contact Judy (beardiebunch@gmail.com) if they want to talk about the amputation biopsy.

Is there a Leptospirosis Epidemic?

I often hear from Beardie owners that their veterinarian is pushing the leptospirosis vaccination because there is a local epidemic. Some will say they just treated a case of leptospirosis and think all their patients should be vaccinated. Leptospirosis is indeed a nasty disease. It can cause damage to the kidneys and/or liver, and may cause inflammation of the uveal layer of the eye (uveitis). If it is not treated aggressively and quickly it may well be fatal. If your dog shows any symptoms suggesting liver or kidney involvement insist on drawing blood for a leptospirosis titer and immediately initiating treatment with intravenous fluids and antibiotics as appropriate for the severity of the case. At the same time, unfortunately, the vaccine is more likely to initiate a vaccinosis reaction than many others - I have just been advising a Toller breeder whose veterinarian vaccinated her 9 week old puppies against the disease despite the owner requesting only distemper and parvovirus vaccines. One puppy was very sick and near death. Leptospirosis vaccine should not be given to puppies under 12 weeks and should preferably not be given within 3 weeks of other vaccines. If given with viral vaccines it is recommended the vaccine should be given in the opposite side of

"The quality of a person's life is in direct proportion to their commitment to excellence, regardless of their chosen field of endeavor."
Vince Lombardi

the body. Newer leptospirosis vaccines do protect against more serovars (types) than those given a few years ago, but not all serovars the dog may encounter are covered, and duration of immunity is variable, usually in the 6 to 12 month range. Both factors may engender a false sense of security in both owners and veterinarians, and delay looking at leptospirosis as a potential cause of illness.

Leptospirosis vaccine should not be given to puppies under 12 weeks and should preferably not be given within 3 weeks of other vaccines. If given with viral vaccines it is recommended the vaccine should be given in the opposite side of the body. Newer leptospirosis vaccines do protect against more serovars (types) than those given a few years ago, but not all serovars the dog may encounter are covered, and duration of immunity is variable, usually in the 6 to 12 month range. Both factors may engender a false sense of security in both owners and veterinarians, and delay looking at leptospirosis as a potential cause of illness.

Recently, a group at Purdue's School of Veterinary Medicine did a retrospective study of 33,000 samples sent for *Leptospira* antibody testing to a single commercial laboratory between 2000 and 2007. The test used - microscopic agglutination tests (MAT) - is less accurate than culture of blood, urine or organs, but results are obtained far more quickly, so that treatment can begin more promptly. Another problem can occur when evaluating the MAT results in dogs which have potentially been vaccinated against the disease. A cutoff titer of 1;1,600 was used. Five common *Leptospira* species serovars were tested for in each case—Canicola, Icterohaemorrhagiae, Pomona, Bratislava, and Grippotyphosa. Once tests became available samples were also tested for Autumnalis and Hardjo. The age, sex and breed of each dog were recorded, along with the zip code of the submitting hospitals to examine geographic distribution. While there were samples from each of the continental states, the majority were from the Northeast and Pacific coastal states.

Submissions gradually increased from 2000 (1,528) to 2007 (8,189), and overall were positive for one or more serovars in 8.1% of the submissions. While the percentage of positive submissions was highest in 2007, the second highest level was 2004 - so there was not a linear increase in the incidence of disease. In most years incidence was highest in the fall - November and December, but in others there was no such seasonal increase. It has been speculated that hunting season, increased rainfall and also times when raccoons - the primary host - are most active, may increase the risk of disease.

Of the positive results, 78.7% were highest against a single serovar, most often Grip-potyphosa and Autum-nalis. The former but not the latter is included in the newer vaccines. However, *Lepto-spira* serovars can mimic each other and cause cross reactivity. This means that antibodies induced by vaccination may offer some cross protection to other serovars not included in the vaccine. Definitive diagnosis of the infective serovar requires bacterial culture.

While working and hunting breeds would be expected to have higher exposure to infection, the study found mixed breeds, small and large breeds equally represented.

Leptospirosis has accompanied raccoons into both the cities and the suburbs. Dogs over 10 years of age were least likely to be infected while young adults (2 to 6 years) showed the highest incidence, but basically any dog, of any age or sex can be affected. The study failed to address whether vaccination provided a reduced incidence of infection.

Reference: **Gautam R, Wu CC, Guptill LF, et al. Detection of antibodies against *Leptospira* serovars via microscopic agglutination tests in dogs in the United States, 2000-2007. *J Am Vet Med Assoc* 2010;237(3):293-298.**

A Case History on Genetic Diversity in Florida Panthers

Biologists have long been concerned about the negative genetic consequences of inbreeding in small populations of large carnivores restricted to small areas. This restriction to parks and wildlife preserves has come about due to human population pressure and encroachment on and loss of wildlife habitat.

The Florida panthers have been extensively studied since the 1970's. By the early 90's the 20-25 adult panthers showed lower genetic variation than other populations. A range of problems were observed – from heart defects, poor sperm quality, poor fertility, and many males with one or no descended testes. The scientists predicted that the population would go extinct within decades.

An approach to avoid the loss was introduction of eight female panthers from Texas in 1995. Comparison of genetic data collected from 519 Florida panthers between 1978 and 2009 showed that the Texas-Florida hydrid has replaced the original inbred stock. There was more genetic diversity and hybrid offspring had more viability and fewer genetic abnormalities. Adult hydrids were superior competitors in fights and were better able to climb trees.

Although the size of the population has increased since 1995 it is not clear if that is due along to greater genetic diversity or more available land from recent conservation efforts.

REF: Science, 329:1606-07, 2010.

Note: Why have an article about panthers and genetic diversity

"There are two ways of exerting one's strength; one is pushing down, the other is pulling up."
Booker T. Washington

"The best thing about the future is that it comes only one day at a time."
Abraham Lincoln

in a dog health newsletter? Because there is considerable evidence of limited genetic diversity in Bearded Collies from studies of the major histocom-patibility complex type II in relationship to symmetrical lupoid onycho-dystrophy (SLO). Those studies were either referen-ced in the 2009 BeaCon open registry report or elsewhere in this newsletter. It would be prudent for those involved in breeding Bearded Collies to develop a forum for discussing and learning more about genetic diversity issues for long term preservation of the breed.

BeaCon Open Health Registry.

Yearly update notices will go out in January. Please attend promptly to the request because the data are collated at the end of February for the report.

Donations

Contributions to BeaCon and the open health registry should be mailed to:

Elizabeth Coolige-Stoltz
2 Gillis Drive
North Reading, MA 01864 .

First time Donors

For up to $15-$99 you receive a logo pin
For $100-$199 you receive a sterling silver angel pin
For $200 and up you receive a 14K gold angel pin
The pins can be viewed on the BeaCon Web Site.
Http://www.beaconforhealth.org/

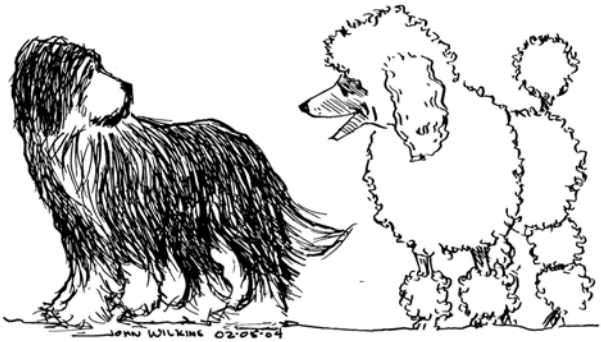
Support BeaCon

If you are inclined to have another bank card, here's an approach that also supports your favorite charity. SunTrust Bank has a charitable giving campaign that runs through August 15, 2008. You open an account and make a purchase with your SunTrust Visa Check Card and fill in a redemption form. You donate $100 to the charity of your choice.
Go to:

www.suntrust.com/mycause

and select "Toolkits for Nonprofit Organizations." BeaCon's name is Bearded Collie Foundation for Health.

MacLean and Company…



"They did my nails too. They're violet. What colors are yours?"

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