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*The Official
Newsletter of the
Bearded Collie
Foundation for
Health*

*VOLUME VIII
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Reflections
Elsa Sell

Be Aware. Did you realize that the number of Bearded Collies being registered as pups in litters with AKC (USA), and dogs registered with the KC (UK) is in significant decline? Everyone should read the article on this topic. Breeders please participate in the anonymous survey which is inserted into this newsletter. It is very important to attempt to understand why this is happening. Your input and candid answers will help educate everyone.

Healthy Beardies Needed. Do you know that BeaCon's open health registry needs healthy Bearded Collies? Do you wonder why? The wellness of these dogs can be tracked over time – hopefully for all the many years until they depart to the Rainbow Bridge. They are essential for calculation of disease incidence.

Join the open registry – entry of dogs is free. Go to:
www.beaconforhealth.org/sqlweb

Year 6 Report of the Open Health Registry (OHR). The report is completed and posted in its entirety on BeaCon's web site. Portions of the report are included in this newsletter.

Auctions. BeaCon's educational missions (web site and newsletter) and research mission (to support research) are dependent on your support. We have periodic auctions and will appreciate your donation of a special Beardedie or doggie item. Contact CJ del Valle (mhari@mhari.cnc.net) about your donation.

The 1000th Beardedie in the OHR. We're getting closer. As of February 27 there were 971 Beardedies entered in the open health registry. Only 29 more to go. The 1000th Beardedie's owner will receive a nice gift in honor of this milestone.

Sponsor Contest. This contest is of negligible interest apparently. Since the contest was announced in the fall 2006 newsletter, we have just 10 dogs "sponsored". We offer a fine Beardedie print to the sponsor who brings into the OHR at least 30 new Beardedies owned by other persons. The contest ends June 30. Photos of the prints are on BeaCon's web site.

OHR Submissions. Breeders and co-owners are able to submit information on Beardedies they have bred or that they co-own. Permission must be obtained from the primary owner. Read more elsewhere in the newsletter.

**Breeder's Survey
BCCA, April 2007
Linda Aronson, DVM
BCCA Health Chair and
BeaCon Director
Elsa Sell, MD, BeaCon President
and Director**

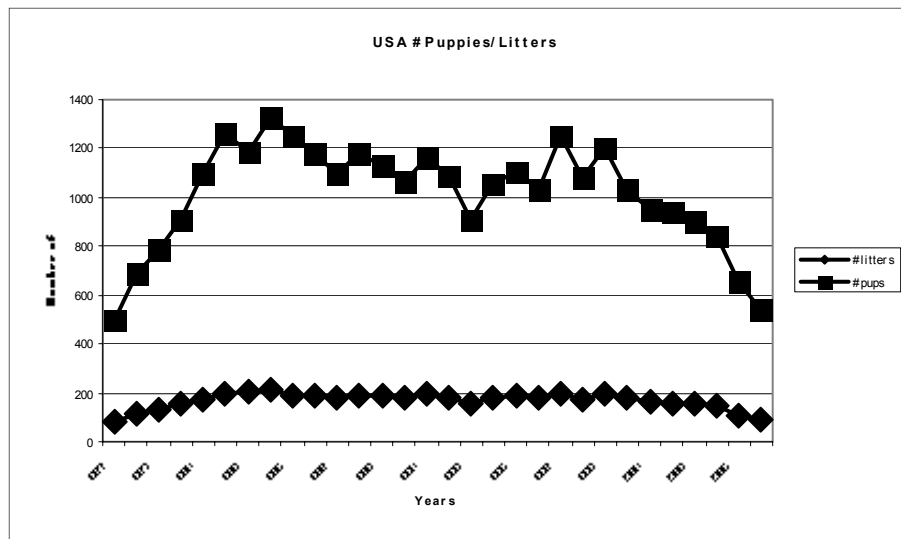
A declining number of AKC registered Beardedies in recent years was documented in the Fall 2006 issue of *Lighting The Way*. AKC reports the number of dogs and litters registered yearly in the AKC Gazette and those figures were used for the newsletter article. The number of registered dogs is influenced by different factors such as imports, dual registration by Canadian owners, registration of older dogs, and whether owners make an effort to register their dogs. The litters registered are those whelped in the USA.

Another AKC report of the # of litters and # pups in the litters was obtained (shown in table below) to better understand the apparent decline. **These new data are from litter registration forms that breeders submit.** They were used for the table and graphs that follow. It is possible that the 2006 figures will increase slightly if there are still pending registrations for those whelped late in the year. The average # of pups per litter was 6.0 with minor variations that were not significant.

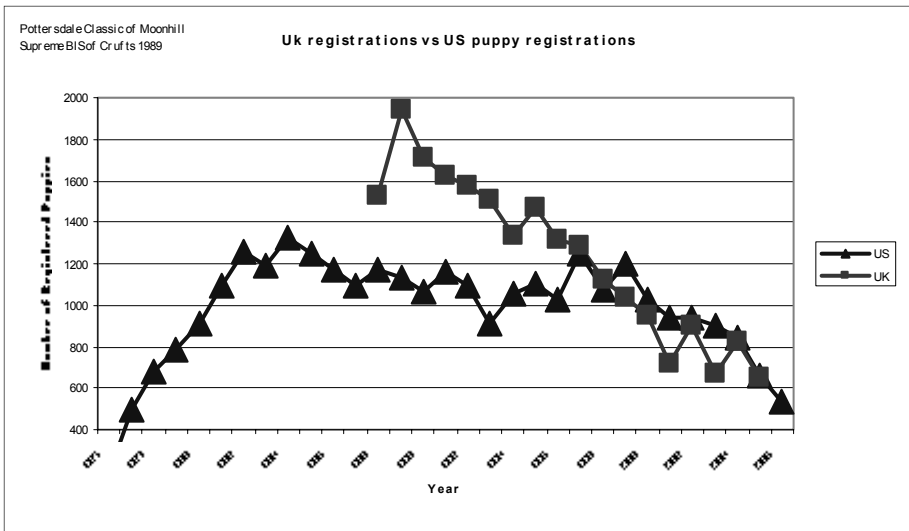
The BeaCon Liaison Newsletter

BeaCon started a quarterly newsletter for health liaisons of regional Beardedie clubs to share with their members. Questions from members about any aspect of health are welcome and will be addressed in the next issue.

Year	# Litters	# Pups	Av # Pups/Litter	Year	# Litters	# Pups	Av # Pups/Litter
2006	90	537	6.0	1991	194	1162	6.0
2005	109	658	3.0	1990	181	1062	5.9
2004	150	842	5.6	1989	185	1128	6.1
2003	154	897	5.8	1988	190	1175	6.2
2002	159	943	5.9	1987	184	1098	6.0
2001	165	953	5.8	1986	185	1175	6.4
2000	183	1031	5.6	1985	191	1253	6.6
1999	196	1202	6.1	1984	209	1330	6.4
1998	175	1077	6.2	1983	201	1190	5.9
1997	197	1249	6.3	1982	196	1257	6.4
1996	178	1031	5.8	1981	172	1095	6.4
1995	186	1105	5.9	1980	155	909	5.9
1994	177	1057	6.0	1979	127	782	6.2
1993	157	912	5.8	1978	111	684	6.2
1992	182	1092	6.0	1977	85	496	5.8

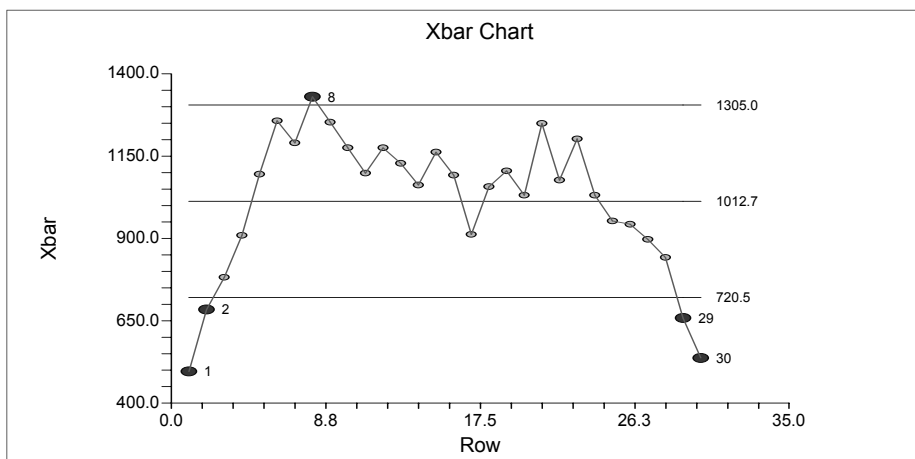


A similar decline exists in recent data from the UK. The number of UK Beardedie registrations and the number of US puppies (derived from the litter data) are shown below.

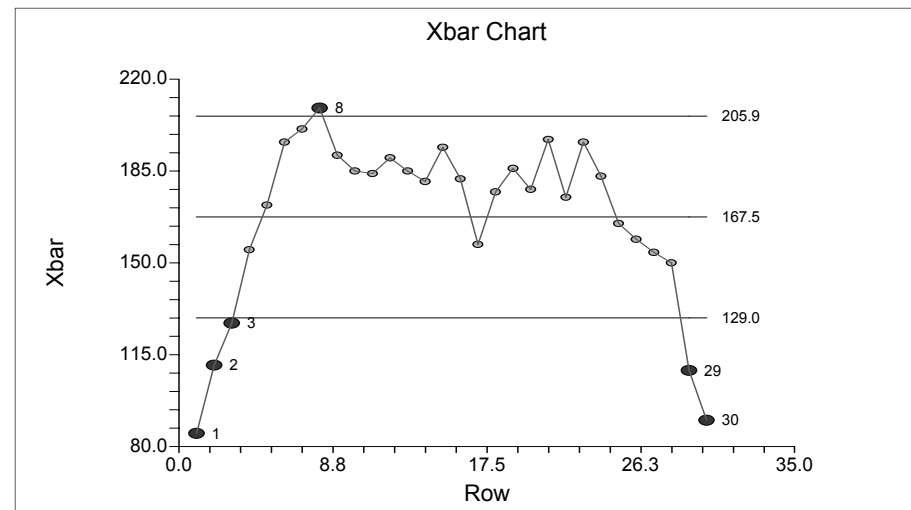


Eileen Beachell, a reader of the newsletter, applied a statistical approach to evaluate the changes in the data. The control chart is a statistical method used to determine if any attributable change has occurred in time ordered data. A significant change has occurred if there are points above the upper line or below the lower line or there is non-randomness in the plotted data. This could be a cycle or a trend. A significant trend is defined as six or more points in a row increasing or decreasing.

The following graph is the individual control chart (labeled X-bar chart) for the number of US puppies. The first data point on the left is the year 1977 and the last data point on the right is the year 2006. It is quite clear that a significant downward trend began in 2000. In addition, the years 2005 and 2006 are well below the lower control limit of 720.5 puppies. The number of registered puppies in 2006 was almost as low as the year 1977.



The following graph is the individual control chart for the number of litters. Again, it is quite clear that a significant downward trend began in 2000. Also, the years 2005 and 2006 are well below the lower control limit of 129 litters



What can we learn from this information?

1. A decline in both the number of litters and the number of puppies in litters has been ongoing since 2000. The decline is significant for the period 2000 – 2006.
2. The decline is not because of fewer pups whelped per litter.
3. The decline is not unique to the USA. We would therefore welcome input from non-U.S. breeders, and if you can supply registration figures for your country we would be very pleased to see them.

It is important to know what factors contribute to the decline, and whether there should be concern for the future of the breed. Thus, we are asking anyone who has ever bred a litter of Bearded Collies to complete the preliminary survey which is included in the newsletter as a pull out. The results will be made available through the BCCA and BeaCon. With the facts at hand, the directors for both organizations will be in a position to recommend whatever future direction is deemed wise.

If there are no dogs in Heaven, then when I die I want to go where they went.

-Wil l Rogers

There is no psychiatrist in the world like a puppy licking your face.

-Ben Williams

Care of the pregnant bitch and her litter through the first 8 weeks of life:

Part 2

Linda Aronson, DVM

Hopefully, your bitch delivers her puppies easily and without any complications. I do not intend to go into a long detailed description of problem deliveries, but we will consider briefly some things that can happen and which will require veterinary assistance.

Dystocia means difficult birth. It may be due to problems with the bitch or the puppies. Maternal problems include uterine inertia – the inability of the muscle walls to contract in a coordinated fashion; inadequate size of the birth canal or uterine torsion – twisting which blocks off one or both horns. Of these inertia is the most common by far in Beardies. In primary inertia there are no coordinated contractions at any time; secondary inertia is when they cease at some point during labor as a result of muscle fatigue. There is some evidence that inertia can be inherited in some lines. It is also seen in bitches with very large or small litters, or those with low calcium levels. Other possible causes are anxiety and obesity. A single puppy may not be able to produce enough ACTH to initiate labor. Unfortunately dead puppies don't make ACTH and the bitch does not go into labor.

Puppies may simply not fit through the birth canal especially if they are from small litters and have grown bigger than normal puppies. Puppies of bitches with gestational diabetes also tend to be abnormally large. In other puppies it may be a single body part – the domed head of a hydrocephalic

puppy or a misshapen fetal monster. Puppies can also present abnormally, so that they can't get through the canal. Normally they glide through either with forefeet extended alongside the head or hind feet and tail extended. If the legs flex up or point towards the middle of the body, or the spine of the puppy lies athwart the cervix or the head is turned to the side, the puppy may not fit through. In Beardies most dystocias are a result of maternal uterine inertia.

How can you tell if a bitch has primary dystocia? Gestation continues more than 65 days from ovulation or 72 days past breeding. However, if you wait this long you may lose your puppies so do watch your bitch, and if she has gone past her expected due date it is a good idea to have her checked out by your vet. Some bitches at this point will be found to have undergone a false pregnancy, which is a big let down for everyone. It is probably a good idea to have your bitch checked if stage 1 labor continues for more than 12 hours, especially if this is your first whelping. If stage 2 labor starts but contractions are intermittent and nothing happens after 4 hours, or the bitch is in hard stage 2 labor for 30 minutes without producing a puppy, or if it is more than 2 hours between puppies you will likely be wishing you'd got a fetal monitor. For some bitches this may be normal, and deciding when to pack up and head for the ER there are no hard and fast rules in these scenarios. If the bitch seems upset, panicky, has severe abdominal pain, can't stop vomiting and/or shaking or if she ever becomes disoriented or unable to stand, then it is definitely time to go and all rules of thumb fly out the window. Heavy discharge from the eyes is another sign of distress. Hem-

orrhaging, pus, an obviously abnormally presenting puppy or signs of one or more puppies being in distress (if you have a fetal monitor) are also emergency situations. There will be blood though, and for some gauging how much is too much is hard. An experienced whelper can also do a digital exam to find out what is happening in the birth canal.

At the vets a thorough history and physical exam will likely be performed unless things have advanced to the point that need for a C-section is obvious. (For the sake of dam and puppies it is always better to head for the ER sooner rather than to wait until it may be too late. Done before bitch and/or puppies are in extreme distress C-sections are successful and often produce 100% live puppies. They do, however, weaken the uterine wall and many bearded breeders spay a bitch that needs a C-section, as they will usually need one with subsequent deliveries too. I won't discuss the ethics of breeding dogs that need C-sections in order to whelp, but Beardies should whelp freely with little assistance.) X rays can locate the position as well as the number and size of the puppies, and the presence of gas around a puppy or collapse of skull or spine indicate a dead puppy. Ultrasound – especially Doppler ultrasound – can also tell you if puppies are dead, or if they are stressed. Blood calcium and glucose measurement is useful in bitches that seem sick. Given how little room there is to work in the dog's birth canal and the ease with which limbs can be dislocated or skin torn off, physical manipulation of the puppies is not recommended in most cases. Sometimes standing a bitch on her hind legs or

walking her around may get things going again though. Lubricating pup and birth canal liberally with K-Y jelly or similar product may also help things along. A shot of oxytocin is usually the first thing done, unless there is an obvious malpresenting puppy stopping up the works. The strong coordinated contractions this usually produces may be all that is needed. We now use smaller doses of oxytocin than in times past and as little as 0.25 mL is usually enough. Oxytocin causes the placentas to separate, and once given you are committed to delivering the puppies. If there is no response within an hour, the next step is C-section. If blood tests reveal that your bitch's calcium levels are low, administering calcium may increase uterine contractions. This should be done under the supervision of a vet (although trying a little vanilla ice cream at home before things become dire just may do the trick). If a C-section is necessary the more people available to help the better as some of the puppies may need to be resuscitated. If however, you know you will pass out at the sight stay away! Puppies that are not breathing or vocalizing and do not have a heart beat should be given oxygen by mask. Stimulation of Jen Chung (see part 1) may be very helpful. Puppies can survive 20 minutes or more prior to resuscitation and grow up to be healthy, normal adults, so don't give up too quickly.

If umbilical cords are bitten or break off too close to the body there may be excessive bleeding as well as the risk of herniation. Clamp the cord until bleeding stops and then tie it off with your dental floss.

Bitches normally pass an odorless (or

at least not ripe and unpleasant smelling) vulvar discharge for up to 3 weeks after whelping. In color it can be blood tinged, green or brown, and it will diminish over time. Provided the puppies are nursing well, the once standard oxytocin “clean out” shot is no longer considered necessary. Suckling releases oxytocin and this helps the uterus involute – return to its pre-pregnancy shape and size and empty out any placentas or other debris, and prevent infection. The bitch’s temperature may be elevated for several days, but if it is consistently over 103°F she may have an infection and you should seek veterinary assistance. Check her teats to make sure they are not excessively warm or hard and distended – all signs of infection (mastitis). Make sure milk is flowing freely, and that hair is not getting wrapped around the nipple. Bitches may refuse food initially after the birth of the puppies, especially if they ate all the placentas, but by day 2 they should have a healthy appetite again. Some bitches need to be tempted to start eating again, however. Make sure she is getting plenty of fluids, and watch her appetite, urination and stools. If she appears listless or her behavior is otherwise abnormal have her checked by your veterinarian.

Puppies should be weighed at birth and identifying marks, coloration and sex noted. They should be weighed daily for the first week, and then every few days after that. Puppies may lose weight over the first 24 hours, but after that they should gain steadily, doubling their birth weight by 7-10 days of age. It is essential that puppies be kept warm as they cannot regulate their own body temperature for the first few weeks of life. A cold puppy cannot

nurse. (At this stage puppy rectal temperature should be between 96 and 98°F and increases to between 98.6 and 100°F in the second and third weeks of life. It will have reached the normal adult temperature by 7 weeks of age.) During the first 24 hours of life whole proteins can pass across the puppy’s intestinal wall. The first milk – colostrum – is rich in antibodies to diseases the dam has been exposed to or vaccinated against. These pass into the pup’s body intact and provide “maternal immunity” to keep the young puppy safe. If the puppy is not vigorously nursing or if the bitch has lost her colostrum prior to the puppies’ birth – some bitches leak milk before the pups are born – they will miss out on this essential protection. If this is the case or puppies start to fade you either need to tube feed them with colostrum collected from another bitch and frozen (warm it before feeding to the puppies) or hyperimmune plasma collected from a dog with good antibody levels. After 24 hours the large gaps in the intestinal walls close and whole proteins can no longer enter the blood stream.

It has been estimated that 40% of puppies will be born dead or die in the first 4 weeks. I find this figure to be way too high, and in my experience having survived the first 24-48 hours of life most puppies will continue to do well provided that their needs are met. Most bearded bitches will be panting and uncomfortable if the room temperature is too high, but if it’s more moderate they will snuggle up with their puppies and maintain their temperature. If the bitch is away from the puppies be sure to supply an external heat source – heat lamp or heating pad - but be careful not to burn the puppies.

Look, listen and pick up the puppies every day. Healthy puppies twitch and wiggle and seem to be in constant motion even when they are sleeping, which is what they will be doing if they aren’t nursing for the first couple of weeks. They will feel full and plump, sickly puppies are limp and wrinkled lacking the firmness of a healthy pup. Stools will be loosely formed (after the initial black meconium has been passed from the bowel), light brownish/yellow and have a “seedy” appearance. Urine should be pale yellow, although you will likely see little of either as a good bitch will consume both when she stimulates the puppy to urinate or defecate. If the bitch is derelict and neglectful you must stimulate the puppy using a warm, damp cotton ball or rag on vulva/penis and rectum. Check the anus for caked on poop, pups cannot poop past this until they are 6 or 7 weeks old, so it has to be cleaned off.

Normal newborns suckle vigorously on your fingers; they crawl, vocalize and respond to smells, touch and pain. Poor muscle tone, puppies that lie separate from their dam or littermates, puppies that cry excessively, are extremely restless or still and unresponsive are in trouble. Normal puppies have deep pink muzzles and the rear of the belly has the same color. If a puppy is dehydrated the color becomes a deeper shade of red.

The umbilical cord falls off or is licked off by the bitch by day 2 or 3. Dewclaws are usually removed during the first week, although there is increasing evidence that working dogs do use their dewclaws especially to make tight turns, many people worry about them catching in vegetation or fences and

tearing off. Some owners may also forget to cut these claws and they can grow back into the leg if left untended. Puppies can lift their heads at birth, and crawl for the first week or two. By 10 days they should be able to support their weight on their forelegs. By three weeks they should be up and walking. Eyes open by about 14 days, sometimes the surface of the eye appears cloudy, but this will clear in a couple of weeks. Ear canals usually open between days 6 and 14. Baby teeth erupt by week 6 and the adult teeth start to replace them at 4 to 6 months of age. Puppies may suck on each others legs, ears and penises. Occasionally this can actually result in minor skin trauma.

Sick puppies go down hill very rapidly, they become dehydrated and their blood sugar drops. Bitches stop caring for puppies that have lost body temperature. Their guts shut down as they cool and they can no longer absorb nutrients even if they attempt to suckle or you tube feed them. Warm cold puppies over 30 minutes to two hours using radiant heat or a hot water bottle or heating pad, but move it often so it doesn’t burn, and check the rectal temperature frequently – this should not exceed 101°F. During the warming process you can tube feed the puppy with corn syrup dissolved in water or, if under 48 hours old, hyperimmune plasma, warmed to about 98°. To tube feed, hold the puppy with its neck extended and place the tip of the feeding tube even with the puppy’s last rib. Place the feeding tube beside the puppy and mark the tube where it is even with the tip of the puppy’s nose. Fill a syringe with about 1 cc of fluid per ounce body weight. Attach the tube to the syringe and fill with fluid from the sy-

ringe. With the puppy lying chest down, insert the feeding tube in the mouth passing it over the middle of the tongue. The pup should swallow and you should be able to advance the tube with little resistance to the mark you have made. If you do meet resistance you are likely in the trachea, withdraw the tube and try again. Pinch a foot or the tail and if the pup can vocalize the tube is correctly placed, if it struggles and there is no sound you are in the trachea, try again. Depress the plunger slowly, and stop if fluid refluxes out of the mouth or nose. Kink the tube to withdraw it so there is no fluid leakage into the lungs. Once the pup is warmed you can use milk replacer to tube the puppy if it is still unable to nurse from the bitch. Tube fed puppies should be fed at least every 6 hours, preferably more. Hand rearing a litter is very time consuming.

If puppies die you may attempt resuscitation (CPR – see reference in part 1). If puppies do die it is useful to know why and if the cause presents a risk to the rest of the litter. Dead puppies should be refrigerated not frozen, and presented to the vet or laboratory performing the necropsy within 24 hours of death. Necropsy can only identify the cause of death in about one-third of presentations. Puppies do not respond to most drugs consistently. Oral antibiotics are generally ineffective due to poor absorption, and if bacterial infections must be treated the antibiotics should be given intravenously or into the bone marrow (intraosseous). If the bitch is receiving fat soluble drugs they will get into the milk. Antibiotics considered safe for the puppies when administered to the bitch are penicillins and cephalosporins, which are only

found in low concentration in the milk. Other antibiotics should only be given if essential and if the bitch is receiving them, chemotherapy or immune suppressing drugs the puppies should probably be tube fed.

Puppies cannot respond to dehydration by increasing their heart rate as adult dogs do, but rapid fluid replacement is also a bad idea. Fluids can only safely and effectively be given intravenously or intraosseously.

The most common problems with newborn puppies are diarrhea, constipation and Fading puppy syndrome. The latter is a catch-all description covering puppies that are born weak as well as those that start out well but weaken and tend to die in the first week of life. In most cases the puppies fail to receive sufficient colostrum, they develop hypothermia and this predisposes them to septicemia – infection usually enters the body through the umbilical cord and is caused by a bacteria in the bitch's vaginal secretions – and usually results in diarrhea and dehydration; other infectious diseases; maternal neglect or aggression. Other predisposing factors are low birth weight, congenital abnormalities and trauma – often the result of the bitch lying on and crushing the puppy. Hypocalcemia has been reported to cause bitches to attack their puppies; oxytocin and prolactin – hormones released at birth and during suckling – are both associated with appropriate maternal behavior and bonding.

Herpes virus is commonly found in dogs and most adults resist infection and never show clinical signs. If a bitch is first infected with the virus during the last 3 weeks of gestation, the

placentas become inflamed; puppies are aborted or born dead. Some puppies may appear normal at birth, but then sicken. Other puppies can be infected as they pass through the birth canal or in the first three weeks of life. Puppies with herpes show signs of abdominal pain, and cry constantly usually dying within 24 to 48 hours of the first signs. Treatment with acyclovir has been tried, but not scientifically evaluated.

Infectious canine hepatitis is caused by an adenovirus. Puppies get this during birth or by 3 weeks of age, it is usually fatal, but the disease has pretty much been eradicated in North America. Distemper is rarely encountered any more. Puppies are usually older – around 12 weeks of age. Occasionally signs of distemper are induced by vaccination.

Some puppies develop infection and conjunctivitis behind their closed eyelids before the eyes open. In these cases the eyelids are gently separated and the eyes treated with topical ointment. In puppies fed milk replacers cataracts may develop, these usually resolve at weaning.

Toxic milk syndrome is a term commonly used to describe 3 to 14 day old puppies which have increased vocalization and abdominal distension and diarrhea. It is far more likely the result of hypothermia and resulting poor intestinal motility and nutrient absorption or over feeding – especially in puppies from small litters – either way diarrhea results. Parasites can also cause diarrhea. Roundworms are passed across the placenta late in pregnancy and can also enter the lungs and liver causing coughing or poor weight gain. Hook-

worms are passed in the dam's milk, and can cause life threatening blood loss in significant numbers in newborns. Both coccidia and giardia infections are usually asymptomatic in puppies, but can cause diarrhea.

Swimmer puppies are rarely encountered in Bearded litters. They have compression and flattening of the chest, and cannot get their legs under them. The cause is unknown, although heredity and environmental factors have been suggested. Taping the limbs to get them under the puppy, physical therapy and the use of uneven surfaces like egg-carton foam have all been used to treat this.

Taking the puppy from the nest for three minutes each day for the first 5 to 10 days of life stresses the puppy mildly, but this stress has been shown to benefit the puppy stimulating the hormonal system especially the pituitary and adrenal glands. Between day 3 and 16 of life neurological stimulation has been shown to have important and lasting effects on performance later in life. Carmen Battaglia describes five exercises, each lasting 3 to 5 seconds, performed daily on each puppy over this time (Early Neurological Stimulation <http://www.breedingbetterdogs.com/achiever.html>). These exercises improve cardiovascular performance, adrenal gland function (increased stress tolerance) and resistance to disease.

The bitch's need for nourishment increases as the puppies grow and reaches a peak at around 2 to 3 weeks of age. Feed her multiple small meals throughout the day rather than one or two large meals. Some bitches still

may need tempting to eat as much as they need to avoid losing too much condition. As it is, it may take 8 months for a bitch to replenish her previous nutrient and energy stores after producing a good sized litter. Most Beardie bitches are great mothers, and for the first week they just want to be with the puppies, having to be physically removed from the whelping box on a leash to relieve themselves and then making a beeline back to their litter as soon as they get back inside. Gradually, as the puppies grow and become more demanding and are better able to maintain their own body temperature, the bitch generally spends less time with them, returning to clean and feed them, but content to spend more time with you. Be sure to keep the puppies' razor sharp nails clipped so that they don't scratch and slash the bitch's abdomen.

Once eyes and ears open, start to stimulate the puppies more with daily handling, and introducing small toys into their world. Weaning usually begins between 3 and 4 weeks of age. I usually use a mixture of goats' milk, raw egg (with the shell), spirulina and raw meat mix, but various gruels and commercial feeds are available, or you can grind up puppy food with milk or water and feed that as a slurry. The first meal is usually a mess, with puppies drooling food on their siblings and sucking it off. Generally by the second or third meal they have the hang of it. You can put the puppy food in a pie plate, a flying saucer pan or feed the puppies with individual dishes. Weaning will be complete by the time the puppies are 5 or 6 weeks old. It is usually better to let this happen naturally, reducing the bitch's food and water to reduce her

milk production. She will be spending less and less time with her puppies. Some bitches will regurgitate food for their puppies. Some then growl at the puppies and gobble the food themselves; others leave it for the puppies. The pups should be fed four meals a day at weaning, and three meals a day by the time they leave for their new homes.

Usually by 3 or 4 weeks one of the puppies will find his or her way out of the whelping box, and it's time to move to larger and more spacious accommodations. Do provide the puppies with as many different surfaces and structures as you can, tunnels, open crates with the doors off, miniature climbing frames, planks, ramps, and wobble boards are all good. Sand is fun to dig in. My puppies are always pretty good at using pee pads and they certainly make clean up easier when the pups have to be inside. If you can do so safely though, pups love to spend as much time as possible outside. Do remember that birds of prey can carry off small puppies though, so covering an ex-pen is advisable while they are small, and be aware that wild creatures or stray dogs may approach them, so do not leave them unattended. Give them plenty of tug toys, toys they can carry in their mouths, bones to gnaw on, etc. Toys don't have to be expensive. Empty plastic bottles and jugs are popular, as are yogurt containers, cans of pebbles, etc. Mirrors are fun and it's interesting to watch the reactions to them. Be sure to expose your puppies to all the normal household noises, people talking and yelling, kids screaming and playing, radio and TV, vacuum, dishwasher, pans banging and cooking noises. Weekly baths and

early grooming sessions will set the puppy up for later life, and get him used to the dryer. The puppy learns at this stage to have every part of his/her body touched and examined, including the inside of the mouth and genital region. Invite people (don't forget children) to come and meet the puppies, and take them to different places. Get them used to driving in the car. Take each pup off for some alone time away from the pack.

Get the puppies used to wearing soft collars and trailing leashes, but be careful they can't get tangled up when doing so. Around the 7th week I start crate training, and the puppies sleep 3 or 4 to a crate at night. By the time they leave for their new homes they are sleeping through the night in their own crate.

Maternal antibodies (or those from hyperimmune plasma) obtained during the first 24 hours of life will prevent vaccination from being effective until the puppies are somewhere between 8 and 20 weeks of age. Most puppies' maternal antibodies have declined by 12 weeks. In order to avoid stressing a puppy with vaccination **and** the move to a new home, I usually don't recommend vaccination until the puppy is in its new home for about a week. There was a time when almost all bitches had worms, and these revived from their dormant state when the bitch was pregnant. Well cared for dogs are less likely to be heavily burdened with worms, but it may be prudent to worm the puppies once around 7 weeks of age with pyrantel pamoate. If dead worms are seen in the stool repeat in 2 weeks.

Although many people speak about fear

periods as being cast in stone, I do think it is important to assess each puppy as to when it is socially and mentally ready to make the transition to its new home. Puppies develop at different rates and some may need a little more time until they are ready to leave home. For most beardie puppies though, 8 weeks is a good age. They are ready for individual attention and their own people who can open new horizons and hopefully keep those very busy minds occupied in a useful and productive fashion.

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BeaCon Voluntary Open Health Registry Year 6 General Report

This Year (Feb 06-Feb 07). The data are presented in more tables, with less writing so that it is easier to take in. Two new countries are represented – the Czech Republic and Finland. There were 410 owners, an increase of 53 from year 5, and 961 Beardies, an increase of 153 from year 5. 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. The number of pups produced was in error last year (low); this report contains the correct number. Puppy mortality is about 5% stillborn and an additional 9-10% before 6 weeks of age. Dog mortality is similar to last year.

The complete report is available on Beacon's website. Some explanations are not included here in the interest of space.

Dogs Who May Participate in the Registry. 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 may submit information, but written consent is always required of the primary owner.

Submission of Information. This may be done with a written form or on-line at www.beaconforhealth.org/sqlweb

Updating Information. Reminders are sent each fall to owners of all living dogs in the registry as of the most recent data entry. If you have entered a diagnosis which is later changed, contact the database administrator at beaconbb@bellsouth.net with the new information.

Pedigrees and Coefficient of Inbreeding (COI). Every effort is made to be accurate. Data for pedigrees come from many sources including pedigrees submitted by owners, the Kennel Club Breed System Bearded Collie database updates, and various online databases. With the advent of the on-line registry system, fewer pedigrees were submitted; thus, the dependence on other sources. Pedigrees and COIs are generated with Breeder's Assistant, starting in Year 5. If an error is found notify 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. If inbreeding is calculated to a certain dog then that to his sire and dam is ignored unless they also appear through other lines. Lines already counted once must not be counted twice.

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 can not 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.

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 Beardedie internet lists.

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Respectfully Submitted, Board of Directors, The Bearded Collie Foundation for Health (BeaCon)

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Karen Drummond
Richard Masley
Cheryl Poliak

Elsa Sell
Jo Tucker
Chris Walkowicz
Judy Howard
Rosanna Masley

"What lies behind us and what lies before us are small matters compared to what lies within us."

"Finish each day and be done with it. You hve done what you could; some blunders and absurdities have crept in; forget them as soon as youcan. Tomorrow is a new day; you shall begin it serenely and with too high a spirit to be encumbered with your old nonsense."

Ralph Waldo Emerson

Cumulative Report for Year 6

Contents

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

Demographic Data for Complete Open Health Registry

Item	#	
Owners	410	
Australia	11	
Belgium	1	
Brazil	1	
Canada	28	
Czech Republic	2	
Denmark	1	
Finland	6	
England	52	
France	1	
Germany	19	
New Zealand	3	
Northern Ireland	1	
Portugal	1	
Scotland	2	
South Africa	3	
Spain	1	
Sweden	1	
USA	275	
Not Indicated	1	
Dogs	961	
Location		% of total dogs
USA	559	58%
SK, Scotland	192	20%
Canada	56	5.9%
Germany	45	4.7%
Australia	37	3.4%
Sex—male	418	43.5% of all dogs
intact	211	50.5% of male dogs
neutered	194	46.4% of male dogs
unknown	13	3.1% of male dogs
Sex—female	543	56.6% of all dogs
intact	252	46% of female dogs
spayed	280	51.9% of female dogs
unknown	11	2.6% of female dogs
Dogs with no health problems	458	47.7% of all dogs

Owners from two new countries participated this year, the Czech Republic (2 owners; 8 dogs) and Finland (6 owners; 22). How is it that so many came in from just two locations? The answer is interest in and enthusiastic leadership for the registry program.

Health Problems. As last year, fewer than 50% of the dogs are reported as healthy. We report frequency of specific health problems if there are more than 20 cases of the problem. A caveat of both the healthy dog and disease frequency figure is that they apply to this specific population of Bearded Collies. It is unknown if the findings are applicable to the broad population of Beardies.

Health Problem	# of Dogs	% of all Dogs
Fear, loud sharp noises	147	15/3%
Autoimmune diseases (see table below)	123	12.8%
Hypothyroidism*	79	8.2%
Umbilical hernia	57	5.9%
Cancer (all types)**	57	5.9%
Hip dysplasia	39	4.1%
Fear, other	26	2.7%
Atopy	25	2.6%
Allergy, flea bite	24	2.5%
Dietary allergy/food intolerance	24	2.5%
Depigmentation***	22	2.3%
Nail problems other than lupoid onychodystrophy	19	
Inflammatory bowel disease	18	
Vaccination reaction	13	
Hot spots	10	
Hyperactivity	9	
Kidney failure	8	
Exercise induced collapse or hyperthermia	5	
Demodetic mange	4	
Exocrine pancreatic insufficiency	4	
Keratoconjunctivitis	3	
Diabetes mellitus	2	

* The incidence of autoimmune thyroiditis in Bearded Collies appears to be low based on information from OFA labs - 2.0% of 244 tested.

** Cancer diagnoses were:

- nasal in 8
- liver in 7
- mammary 4
- bone 4
- spleen 3 (plus 1 of liver and spleen)
- hemangiosarcoma 3

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 = 146; # dogs having diseases = 123, or 12.8% 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 > 1 A/I disease
Addison’s disease (hypoadrenocorticism)	57	5.9%	6 (10.5%)
Symmetrical lupoid onchodystrophy (SLO)	20	2.2%	4 (20%)
Inflammatory bowel Disease (IBD)	18	1.9%	3 (16.7%)
Systemic Lupus erythematosus (SLE)	13	1.4%	4 (30.8%)
Autoimmune hemolytic Anemia (AIHA)	12	1.3%	3 (25%)
Rheumatoid arthritis	11	1.1%	5 (45.5%)
Pemphigus	6		3 (50%)
Idiopathic Thrombocytopenia (ITP)	5		3 (60%)
Discoid lupus erythematosus	3		1 (33%)
Myositis	1		1 (100%)

* These include cases of suspected immune polyarthritis

Health Screening Tests

Screening Test Done	#	% of All Dogs
Hips	394	41%
Eyes	265	28%
Thyroid	209	22%
Elbows	82	8.5%
Hips and Eyes	222	23%
Hips and elbows	80	8.3%
Hips and thyroid	139	14.5%
Hips, eyes and thyroid	131	13.6%
Hips, eyes el-bows and thyroid	27	2.8%

The frequency of individual health screening tests and the various combinations were essentially unchanged from the previous year.

Reproductive Outcome

Dogs. There were 84 with reproductive history recorded; only 38 had semen checked and 78 were bred. The following table shows the number of bitches bred and the number of litters produced.

Item	#	Av	Ranges
Bitches bred	78	3.7	1-19
Litters produced	76	3.4	0-18

Problems developing in the progeny were:

Health Problem	# Dogs producing problem	# Progeny with problem
Addison’s	6	13*
Symmetrical lupoid onchodystrophy	4	5
Systemic lupus erythematosus	1	1
Hypothyroid	5	6
Other	8	1 — nail problem 4 — heart problems

- one dog produced 5 progeny with Addison’s

Females. 153 of the 169 females were successfully bred and they produced 336 litters. Cesarean section delivery was done in 28 (8.3% of all litters), which is up from 6.5% last year. The average number of litters was 2.1.

The breeding methods were:

Natural	221 (66%)
A/I fresh	31 (9%)
A/I chilled	18 (5.4%; no change from last year)
A/I frozen	7 (2.1%)
A/I operative	10 (3.0%)
Not recorded	49

“If your dog is fat, you aren't getting enough exercise.” –Unknown

“If you think dogs can't count, try putting three dog biscuits in your pocket and then give him only two of them.” Phil Pastoret

“We give dogs time we can spare, space we can spare and love we can spare. And in return, dogs give us their all. It's the best deal man has ever made.” M. Acklam

The number of progeny born and congenital problems are given in the table below (note: the figures for last year were calculated incorrectly and were low).

Male Pups		
	#	% of Total
Total born	929	
Live born	879	94.6
Live @ 6 weeks	795	85.6
		% of live at 6 weeks
Cryptorchid	44	5.5
Mismark	38	4.8
Umbilical hernia	22	2.8
Bad bite	9	
Poor pigment	9	
Cleft palate	3	
Female Pups		
	#	% of Total
Total born	851	
Live born	808	95
Live @ 6 weeks	737	86.6
		% of live at 6 weeks
Mismark	41	5.6
Umbilical hernia	34	4.6
Bad bite	5	
Poor pigment	4	
Cleft palate	2	

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

Health Problem	# dogs producing problem	# progeny with problem
Addison's	10	16*
Symmetrical lupoid onychodystrophy	6	8
Systemic lupus erythematosus	2	2
Hypothyroid	7	8
Other	16	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).

Mortality. There are 211 (22%) dogs deceased. There may be others also deceased but their owners have not responded to update requests. Autopsies were conducted on 16 (7.6%) 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.

Causes of death in different age groups are given below. The number with cause of death is fewer than the number of deceased because age of death couldn't be calculated in all dogs.

The leading causes of death before 9 years

of age were autoimmune (n=8, 22.9%) and accidental (n=6, 17%). The final report of the BCCA 96-98 health survey found 30% of deaths before age 9 were due to autoimmune causes. Such a high frequency of autoimmune problems causing premature death is of concern. The question is whether causes of these autoimmune diseases can be identified and then addressed effectively.

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

Age Group	# Deaths	Causes of Deaths
0-2 yr 11 mo	6	2 accidental
		1 each intussusception, aggression, pemphigus & SLO and IBD
3 yr - 6 yr 11 mo	18	4 unknowns
		2 accidental
		1 each SLE, Cancer other, cancer small intestine, acute renal failure, chronic interstitial nephritis, respiratory failure, ITP, acute fulminating pancreatitis to SLO episodes, liver failure, difficulty managing visual problem, suspected warfarin poisoning
7 yr - 8 yr 11 mo	11	2 unknown
		2 accidental
		1 each AIHA, vascular invasive abdominal mass, infection secondary to immune mediated polyarthritis, sudden onset of complete hind leg paralysis, small intestinal cancer, kidney failure secondary to Addison's, aggression toward family member
9 yr - 13 yr 11 mo	77	25 cancer
		9 cardiac (1 was heart attack; others heart failure)
		6 old age
		5 unknown
		3 each stroke & kidney failure
		2 accidental
14 yr and older	43	24 single diagnoses
		21 old age (some with severe arthritis, or kidney or heart failure or cognitive dysfunction)
		6 cancer
		Remainder assorted individual causes or unknown

COI information continued on page 22

Please contact the Board if you have any ideas, questions, problems or wish to participate in any of BeaCon's on-going projects.

Visit BeaCon on the web at www.beaconforhealth.org

Special thanks go out to our Past Directors:

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Melinda Cummings
Sharon Dunsmore
Gordon Fitzgerald
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Kathy Pavlich
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E-Mail Contest

Don't forget, if you elect to receive your copy of the BeaCon Newsletter by e-mail, you will be entered into the drawing for some great Beardie "stuff". Just contact the editor at;

grfitz@bellsouth.net

to get your name on the list. Not only can you win a nice prize, but the postage saved can be used for health issues. Thanks!

Donations

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

**Chris Walkowicz
1396 265th Street
Sherrard, IL 61281-8553.**

**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.**

Coefficient of Inbreeding (COI).

The COI values were calculated using the Breeder's Assistant (BA) Pedigree Software for eight 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.

Year of Report	Coefficient of Inbreeding				
	Av	SD	Min	Max	# Dogs
6	24.0	5.7	0	42.8	800
7—all dogs	23.9	5.8	0	42.8	951
7—USA	23.9	5.8	11.2	42.8	557
7—UK, Scotland	25	6.9	0	40.5	185
7—Canada	23.7	4.7	13.1	33	56
7—Germany	20.4	6.0	10.8	38.4	45

MacLean and Company...



**"I found Max! He's on page 37!
See? There's his nose print!"**

Breeder and Co-owner Entry of Beardies in the OHR

In the past a co-owner could enter a dog into the OHR with consent from the co-owners required if they were not members of the reporting person's immediate family. Email or written consent sufficed. This spring, breeders can begin entering dogs which they have bred, and written consent is required before information is publicly available. These changes were made to facilitate registry input when a co-owner or breeder could not get a primary owner to do so.

New procedures will be in effect to assure that written consent is submitted. These procedures apply equally to healthy Beardies or those with a health problem.

* There is a new required field with options for the person reporting: primary owner (where dog lives), co-owner (not in the primary household), or breeder. If person is both a co-owner and breeder, select the breeder option.

* When co-owner or breeder is selected:

- o The dog's information will not be publicly available until the primary owner's consent is received.
- o On-line, there is a pop-up message with a link to the consent form which needs to be completed by the primary owner.
- o The hard copy form contains a consent which may be copied for the primary owner.

While BeaCon's board of directors realizes that these steps will take time, we believe that the communication required is healthy for all parties.

While a consent is pending, a dog's information cannot be viewed by anyone other than the entering person. However, a dog's health information will be included in the general yearly OHR summary where no dog, owner, or breeder is identified.

Bearded Collie AKC Dog Registrations Part II. Elsa Sell

This follow up to the fall 06 newsletter article is done to provide a clearer picture of what percentage of Beardies registered with AKC are from the USA. Two reports from AKC in addition to the yearly AKC Gazette registration reports were used.

Two numbers were determined.

- 1) Number of USA born Beardies. This was obtained by subtracting the foreign born Beardies from the total number registered, which is the figure published yearly in the AKC Gazette.
- 2) Percent of Beardedie pups born in the USA who are registered. This was calculated by dividing #1 above by the number of pups born in the USA, which comes from the litter registration data that are submitted by breeders.

The table to the right shows the percent registered for 1977-2006; the average was 65.4%. The % was 60 or higher for all but 4 of the 30 years. There is a trend toward increasing % registered starting in 2003 and continuing through 2006. The 2006 % was very near that of the first year in AKC.

Year	% USA born Beardies registered with AKC
2006	77.5
2005	69
2004	63
2003	89
2002	60
2001	62
2000	63
1999	49
1998	67
1997	55
1996	64
1995	65
1994	57
1993	85
1992	68
1991	65
1990	63
1989	60
1988	67
1987	67
1986	66
1985	67
1984	63
1983	73
1982	59
1981	63
1980	68
1979	72
1978	65
1977	80

**Bearded Collie Breeder Survey on Declining Number of Litters/Pups
April-May 2007**

You may respond to the survey in one of two ways:

- 1) On-line: www.beaconforhealth.org/Breeder_Survey.asp (that is Breeder_Survey.asp) Your email address and your IP address are not collected by the database, and you are asked for no identifying information.
- 2) Mail the form to: Eileen Beachell, 4971 Countryside Drive, West Bloomfield, MI 48323. If you want to assure complete anonymity, place the survey in an unmarked envelope and mail that.

Country in which breeder resides _____

How many litters have you bred? _____

Over how many years were those litters born? _____

Frequency of breeding now compared with the past.

- More
 Less
 No change
 No longer breeding

Why has this changed? _____

Have you experienced a decline in fertility (i.e., breedings that result in no puppies or fewer puppies than you used to have)?

- Yes No No change

If yes, note the nature of the decline _____

What is your experience regarding demand for Beardie puppies compared with the past?

- Greater
 Less
 Same

(U.S. residents only) What percentage of the puppies you breed is registered with AKC? _____

(U.S. residents only) Do you encourage pet owners to register their puppies with AKC? _____

(U.S. residents only) Have you considered sending in AKC registrations yourself at the time owners pick up their puppy?

- Yes No

Do you consider the drop in registrations and probably declining numbers of Beardies a cause for concern?

- Yes No Don't know

Please offer any views on the subject you wish in the space below (and on the back) and thank you for participating in the survey.