

January 18, 2007

From: Co-chairs, Health and Genetics Committee
To: Board of Directors, Rhodesian Ridgeback Club of the United States
Re: 2007 Health and Genetics Report

The 2007 Health and Genetics report is attached. The following motions are presented to the Board of Directors for consideration and vote at the January 2007 meeting.

1. 2007 Health and Genetics Committee Membership. By direction of the committee we move RRCUS approve the Health and Genetics Committee membership for 2007 as outlined on page 18 of this report.

2. 2007 Health and Genetics Budget. By direction of the committee, we move RRCUS allocate \$5,750 as the working budget for 2007 for the Health and Genetics Committee as detailed on page 19 of this report.

3. 2007 AKC/CHF Grants Funding. By direction of the committee and with the recommendations of the Veterinary Review and Advisory Committee, we request RRCUS approve the following funding recommendations. (Summaries for these grants can be found on pages 13 and 14.)

Grant 821: Phenotypic Characterization and Mapping Genes Associated with Canine Degenerative Myelopathy in the Boxer Dog. Dr. Joan Coates; University of Missouri, Columbia, **in the amount of \$6,000.**

Grant 759: Investigation of Antigenic Causes of Vaccine-Associated Allergic Reactions in Dogs. Dr. George Moore; Purdue University. **No funding.**

Grant 779: Characterization of the Canine Y Chromosome: Identifying Genes that Cause Male Infertility. Dr. William J. Murphy; Texas A&M University. **No funding.**

Cynthia Roethel and Denise Flaim

2007

Rhodesian Ridgeback Club of the United States

Health and Genetics Committee Report

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Co-Chairs Health and Genetic Committee

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* *Requires Board of Director approval.*

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Looking Ahead to 2007: Celebrations and Challenges

Before you read about specific projects and efforts of the H&G committee -- those we completed in 2006 as well as those we are poised to continue in 2007 -- we want to share our impressions of the goals and challenges ahead.

For RRCUS H&G, 2006 was a year of groundwork. We created www.RhodesianRidgebackHealth.org, a web portal that increasingly serves as a two-way communication tool with the greater Ridgeback world – including those who are overseas and those who are not affiliated with or even aware of RRCUS. We laid the foundation for the soon-to-be-completed Comprehensive Rhodesian Ridgeback Health Survey (CRRHS) and the DNAah (DNA Archive at Home) program – ground-breaking projects that will increase the sophistication of our research and communication tools by light years. We single-handedly facilitated DNA banking on hundreds of more Ridgebacks, either as part of DNA home storage or by seeing that it got into the hands of competent researchers.

2007 promises to be just as productive a year. But it also carries with it many challenges. One of our greatest concerns is the Rhodesian Ridgeback Donor Advised Fund – the pool of money that we use to fund research that impacts our breed. As the H&G committee, we have done an excellent job of piggybacking on other research projects and creating “free research” (such as the cataract and deafness projects, and phase two of the hypothyroidism research). This is only possible because of our ability to generate DNA samples – further underscoring the importance of the health survey (see page 9 and Appendix 3 on page 22) and the DNAah program for DNA home storage (see page 10). Also as a consequence of this, we expect to see more and more Rhodesian Ridgeback-specific grants submitted to CHF. It has become increasingly clear to us that the RRCUS Board of Directors needs to understand that we will soon find ourselves at a crisis point in terms of the RRDAF, because of impending research funding.

How can H&G help? We have no desire to become the RRCUS Ways and Means committee, but we are making strong efforts to help bring in revenue for the RRDAF, as well as to help fund high-caliber Specialty speakers, which we believe the membership, quite frankly, demands. At the Ohio national, this will include the sale of H&G-logoed merchandise, a silent auction of high-quality items and a 50/50 raffle. We expect to earn a small profit on the clinics and perhaps some income from Dr. Ford’s and Dr. Bell’s presentations, which will be advertised in fliers to the AKC clubs in Ohio and surrounding states. As agreed, profits will be used to help defray Dr. Bell’s expenses -- except for the 50/50 raffle, where Ohio State Law requires 50 percent of total funds collected go to a 501c charitable organization (the RRDAF qualifies). We also plan to sell merchandise via the RRCUS store throughout the year. We believe we will have some funds available for the RRDAF, but it is highly improbable they alone will be enough to cover all future grants.

Our point is that we cannot do this alone with only merchandizing. What are the answers? We are not sure. But we do know that the BOD needs to be cognizant of this and we hope will make a focused effort to increase the resources in the RRDAF.

We want to leave you with this thought: A fellow H&G person at another breed club told one of us recently: “Everyone is talking about the Ridgeback club!” She meant that our projects and endeavors – especially the health survey and DNA storage at home - are being watched closely by our peers in the all-breed dog world. While we appreciate the praise, what means more to us is the significance of that statement: It reinforces for us that the programs and initiatives we are instituting are moving us in the right direction in terms of our breed’s health, and could very well serve as a model for other breeds to follow.

Summary of 2006 Health and Genetic Committee Initiatives

In an effort to show the relative costs for each of these projects, an approximate cost for each is noted for 2006 and where applicable a cost/dog for 2007. These costs are intended to be used to compare relative expense and are not to be used as an expression of our budgetary needs. These values do not take into account requirements for bulk purchase of swabs, envelopes, shipping expenses other than regular postage, etc. Please refer to page 18 for our fiscal requirements for 2007.

Hypothyroidism (Lymphocytic Thyroiditis)

In 2004, RRCUS H&G collected 24 samples for the CHF-sponsored study on canine hypothyroidism. The study resulted in the landmark discovery of a group of genes (haplotype) that, when present, will double a dog's chances of developing heritable hypothyroidism. Potentially, this could lead to a genetic test that identifies the "at risk" haplotypes and allows us to breed accordingly to reduce the incidence of this all-too-common disease in the breed. Since we sent samples on primarily affected dogs, Dr. Kennedy used samples from Ridgebacks in Europe as controls. Unfortunately she found that the European Ridgeback population is probably not as free of the disease as she was lead to believe as a significantly higher portion of the "unaffected" European Ridgeback population has the haplotype compared to the controls of other breeds.

In an effort to provide a larger control population for Dr. Kennedy, and to ensure the research contained a large cross section of the American Ridgeback population, we coordinated the collection of blood for DNA for this research at the 2006 National Specialty in Utah. A total of 42 samples were collected on Ridgebacks that were registered for the thyroid clinic, thanks to the efforts of Dr. Kris Weaver. All samples with the corresponding thyroid data were sent to Dr. Kennedy in the U.K.

Dr. Kennedy just reported that these samples were most helpful for the candidate gene study. They need to confirm the results in a second data set before they can publish. Suffice it to say that "we made a difference."

This was an extremely complicated project, but it went very well. While a significant number of H&G hours went into making this project a success, the actual cost to RRCUS was limited to the shipping of the blood and administrative supplies (prepared forms, envelopes, labels, etc). It was approximately \$100 well spent. We have no plans to collect blood for hypothyroid research in 2007, other than to continue to encourage thyroid testing through Dr. Jean Dodds, a collaborating investigator working with Dr. Kennedy, who has agreed to discount the costs if blood is submitted to Dr. Kennedy for continued HT research.

Costs for 2007: None.

Deafness

As outlined in last year's report, Dr. Mark Neff at the University of California at Davis began accepting DNA samples via cheek swabs on deaf Rhodesian Ridgebacks and their near relatives, after Dr. Henthorn at the University of Pennsylvania analyzed the DNA retrieved from two deaf Rhodesian Ridgeback families and found the deafness was not caused by the same mutation that causes it in Pointers.

To date, Dr. Neff has collected 25 additional samples on deaf Rhodesian Ridgebacks and near relatives in 2006. He has found the region in the genome where the deafness gene is located, but more samples are needed to pinpoint the actual marker. We are at the point in this research where the addition of one more families of deaf Ridgebacks could very well be the tipping point that allows a mutation to be found. In truth, we have been disappointed at the lack of cooperation and on the part of one or two breeders, whose participation could very well assure this project's success. But this stands in sharp contrast to the dedication, commitment and, yes, enthusiasm of all the other breeders who went above and beyond to contact puppy people and send samples to UC Davis. The breed is indeed in good hands with such progressive and

conscientious breeders in its ranks. We remind breeders and owners of deaf Ridgebacks that they are welcome to contact Dr. Neff directly if they prefer to deal with someone outside of the Ridgeback community. Dr. Neff's email is mwneff@ucdavis.edu.

We will make every effort to continue to collect DNA for this project.

Costs for 2007: DNA swabs and postage. Approx. \$3.10/dog. 2006 costs: 25 dogs @\$2.50 each – approx. \$63.

Allergic Dermatitis Study

In 2001, RRCUS supported CHF grant 2234, “Basophil/Mast Cell Response to Lectins as a Predictor for Risk of Allergic Disease in Genetically Susceptible Dogs.” The next step was for Dr. Bruce Hammerberg at NCSU to test the predictor that his research showed would herald the disease. To that end, he needed blood samples on littermates less than 6 months of age, their sire and dam. At regular intervals -- ie, 8 months, 12 months, 18 months etc. – follow-up questionnaires would be submitted on each dog to determine if any developed symptoms consistent with allergic dermatitis. Our Allergic Dermatitis Coordinator, Melanie Behrens, reports she has sent blood tubes and forms for blood collection on six litters of Rhodesian Ridgebacks in support of this research in 2006. Three litters were collected in 2005 – which brings our total to nine litters of Rhodesian Ridgebacks.

Dr. Hammerberg greatly appreciates our efforts, noting that the Rhodesian Ridgeback samples were critical to the study. “The Rhodesian Ridgeback Club is one of the best organized and committed clubs I have worked with in conducting research on genetic diseases,” he said in an email to Melanie, the entirety of which can be found in Appendix 1 on page 20.

We will continue to collect samples on litters, the sire and dam for this research.

Costs for 2007: Postage, labels, envelopes, paper supplies. Approx. \$5 per litter. Costs for 2006: 6 litters @ approx. \$5/ litter – approx. \$30.

Ridge Project

Dr. Mark Neff continues to pursue the genetics of the ridge even though the CHF grant has expired. While his lab has identified the region of the gene where the ridge mutation is located, he is still searching for the specific mutation.

In 2006, a team of researchers at MIT's Broad Institute, in conjunction with Nicolette Salmon Hilbertz, a graduate student from Sweden, launched a parallel study. We are unaware of any progress on that front. The ridge gene, it appears, is not willing to surface without a fight!

We will continue to forward DNA to Dr. Neff to study ridge genetics.

Costs for 2007: None. UC at Davis assumes the cost of swabs and postage.

Cancer Sample Collection

Dr. Cynthia Willison reports adding 20 cancer cases to our cancer log in 2006. The breakdown is as follows:

MCT: 8

Osteosarcoma: 4

Lymphoma: 3

Melanoma: 2

Fibrosarcoma: 1
Mammary cancer: 1
An unknown rare cancer: 1

All cancer cases other than MCTs were handled by Dr. Breen's laboratory at NCSU, who received tissue samples and/or blood samples on affected dogs. All MCT samples went to Dr. London at the University of Ohio.

Cost for 2007: None.

Degenerative Myelopathy

Secondary to funding constraints, the subsidization of costs associated with degenerative myelopathy diagnosis confirmation was curtailed in 2006. Of the three pending cases we had, two had dropped out. The remaining case was confirmed with DM in January 2006 via necropsy. We felt obligated to follow this case to its conclusion because of the commitment we made to the owner in 2005.

DNA was collected via cheek swabs on all cases and all owners were strongly encouraged to submit blood samples to Dr. Joan Coates at the University of Missouri since she had a CHF grant submitted to study DM and sites Rhodesian Ridgebacks as one of the breeds to be involved in the study. That grant has subsequently been approved by AKC/CHF. Dr. Coates reports she can use the DNA swabs on those dogs where blood was not collected BUT the blood is so much more valuable in the preliminary research in that the quantity of the DNA is limitless. The DNA collected via cheek swabs will be used once the location of the genetic mutation is isolated to help tighten the data.

While we cannot assist in subsidizing costs to confirm diagnosis, we will continue to collect DNA via blood samples for Dr. Coates for the upcoming DM research and help Ridgebackers find facilities to confirm diagnoses. **While DNA from Ridgebacks with "presumed DM" has some value, we MUST have DNA on Ridgebacks that have been CONFIRMED to have DM in order for this research to be applicable to the Rhodesian Ridgeback.**

Cost for 2007: DNA swabs and postage. Approx. \$3.10 per dog. 2006 costs: 74 dogs @ \$2.50 each – approx. \$185

Juvenile Cataract Study

In 2006, RRCUS H&G sent DNA samples of six Ridgebacks with juvenile cataracts as well as DNA from six carriers to Dr. Cathryn Mellersh of the Animal Health Trust in England, who has isolated the genetic mutation that causes hereditary cataracts in Staffordshire Bull Terriers.

None of the Ridgeback samples carried the mutation, which means that the gene that causes heritable cataracts in Rhodesian Ridgebacks is different from the one that causes the diseases in Staffordshire Bull Terriers.

Though the lab likes to test 10 to 12 dogs before formally excluding a particular mutation from any breed, Dr. Mellersh wrote, "I think we can be fairly sure we need to search for the different mutation [in the Ridgeback], given 6 out of 6 were clear," (Her email is attached as Appendix 2 on page 21.)

If she receives samples on at least 14 more affected Ridgebacks and their affected and unaffected relatives (parents, siblings and grandparents), Dr. Mellersh can look for our breed's specific marker. This would

result in a test that would allow breeders to identify carriers for the disease and, through careful breeding, eliminate the disease expression in our breed population.

We have already begun a push for more DNA swabs on cataracts dogs. Whether or not we can collect the 14 additional samples remains to be seen. We have not gotten the same response from the Ridgeback community concerning cataracts as we have for other DNA collections. This is probably due to CERF examinations not being done routinely and the fact that the cataract that affects Rhodesian Ridgebacks does not cause significant vision impairment at this time – so owners/breeders would not know they have an affected dog unless they CERF.

Costs for 2007: swabs and postage. Approx. \$3.10 per dog. 2006 costs: 12 dogs @ \$2.50 each - \$30.

Epilepsy

The following table shows the samples received by Dr. Anita Oberbauer at the University of California at Davis for the purpose of archiving DNA on epileptic Rhodesian Ridgebacks and close family members.

Total Dogs:	41			
Female:	20			
Male:	21			
Seized once:	0	(Female 0	Male 0)	
Seized > once:	11	(Female 4	Male 7)	
Unaffected:	27	(Female 15	Male 12)	
Unknown:	3	(Female 1	Male 2)	
Average Age Seizure Onset	56.5 months			

Dr. Oberbauer reports this is not a very significant submission amount. We will continue our efforts to collect DNA in hopes of gathering enough to be analyzed for DNA markers. Also e-mails will be sent to all contributors reminding them to submit samples if not already submitted. **Costs for 2007: DNA swabs and postage. Approx \$3.10 per dog. 2006 costs: 114 dogs @ \$2.50 - \$285**

Rhodesian Ridgeback Health Website

Our crowning achievement this year is the Rhodesian Ridgeback Health website, www.RhodesianRidgebackHealth.org. Mike Teeling has been the center point of this project, devoting countless hours to its development, modification and tweaking. He went beyond the call of duty to make this site an easily accessible destination for health, genetic and breeding related issues concerning the Rhodesian Ridgeback.

The site was redesigned and relaunched in December with an even more engaging format and new, Ridgeback-specific content. Among the recent additions: “What Your Vet Should Know,” “Frequently Asked Questions,” which discusses everything from liver-noses to identifying Ridgeback mixes; a “Breeders’ Corner” that presents topics as varied as recommended genetic testing and puppy ear-taping; and an explanation of ridge inheritance.

Thanks to Ridgebackers who have linked to our site from their own, www.RhodesianRidgebackHealth.org has become the premier source of Ridgeback health information on the Internet. Web searches using health-related keywords and “Rhodesian Ridgeback” consistently yields our site in the top results.

For example, on Google.com:

“Rhodesian Ridgeback” and “health”: # 1 result.

“Rhodesian Ridgeback” and “hypothyroidism”: # 2 and # 3 result.

“Rhodesian Ridgeback” and “degenerative myelopathy”: # 2 and # 3 result.

“Rhodesian Ridgeback” and “cancer”: #4 and #5 result.

“Rhodesian Ridgeback” and “allergies”: #4 result.

We could not be prouder of our efforts.

Cost for 2007: \$150. Cost for 2006 - \$150.

Status of the Comprehensive Rhodesian Ridgeback Health Survey (CRRHS)

(For new members of the Board of Directors, the 2006 proposal for the Comprehensive Rhodesian Ridgeback Health Survey is attached as Appendix3 on page 22, for reference.)

Our most ambitious project to date, the CRRHS has progressed steadily in 2006. After a complete review of the original American Spaniel Club (ASC) survey by Dr. Viviano and the H&G chairs, edits were forwarded in sections to Mr. Larry Hopkins of Elemental Software Engineering. We discovered the ASC survey, while good in its own rights, was limited in its disease scope and did not collect data in some very key areas that we felt needed to be monitored -- i.e. reproductive data (including breeding data and litter data) and environmental influences (toxin exposure, tick/flea preventatives, etc) over time. Dr. Viviano and the chairs agreed that in order to correlate meaningful data in the years to come we needed to make the effort now - so we expanded the disease scope and added very detailed data collection on reproduction for both the bitch and dog as well as expanded the existing environmental exposure section and asked it be made updateable. We were aware that these edits were beyond the scope of the original ASC survey and assumed more programing would be necessary.

Our original projected start-up cost in 2006 was \$1,150.

The following is a breakdown of costs, including the new programing requirements that expand the survey.

Original cost of edits (one-time charge)	\$500
Monthly hosting fee is \$10/month. Yearly total is:	\$120
Biweekly backups are \$8 each. Yearly total is:	\$208
Making vaccination section updateable:	\$ 60
Updating scope of diseases:	no charge
Updating health-screening requirements:	no charge
Changing preliminary bitch reproductive data to be collected:	no charge
Changing whelp data to be collected:	no charge
Adding male reproduction data:	no charge
Adding Breeding data/Litter data:	\$200
	(10 hours x \$20)
Making environmental influences updateable:	\$180
	(6 hours x \$20)

Office work: \$40/hour and actual expenses (postage, envelopes, mailers, etc). Hourly rate would apply to stripping identifying data from the survey, “crunching the numbers” and forwarding data to the health

survey coordinator; time spent manually entering data for those not internet capable; time spent communicating with any club members having problems, etc.

Estimate 6 hours (very high estimate): _____ \$240

Total cost: _____ \$1,508

ESE reduced the hourly rate by 50% (normally \$40/hour) contingent on RRCUS allowing ESE to adapt the survey for other breed clubs. This is a more than reasonable request. Just as RRCUS benefited from the ASC survey, it more than appropriate that the rest of the purebred dog community benefits from our efforts.

You are invited to visit the CRRHS on line at <http://www.lkhopkins.com/Ridgeback/Defaultnew.htm>. Enter a dog; look around but **keep in mind it is not complete**. There is still some tweaking, typo corrections, streamlining and clean up that needs to be done not to mention the added programing. We think you can get a good idea of where we are going with this and will be as excited as we are about it.

We are sure you can see that the \$1,508 price tag is miniscule compared to what a survey of this magnitude would have cost if we hired a programmer and started from scratch. We have tentatively given ESE the go ahead to start edits with an estimated delivery date of February 2, at which time we will have approximately 3 dozen volunteers “test-drive” the database. After gathering their input and applying edits, we expect to debut the survey in early March 2007.

We have great expectations for health survey entries. We have collected the e-mail addresses of **more than 300** visitors to www.rrcus.org and www.rhodesianridgebackhealth.org who have contacted H&G. These owners are not RRCUS members. We are excited about the fact that we will be collecting data on such a large cross section of the Rhodesian Ridgeback population.

After the launch of the CRRHS, we will draft a letter of appreciation for the RRCUS BOD thanking the American Spaniel Club for the opportunity to use their health survey at no cost.

Cost for 2007: Maximum of \$1,508. Probably less.

DNA Archive at Home (DNAah) Program

As reported in Utah, the H&G chairs struggled with the best way to store DNA on families of dogs that might be useful for research projects in the future. In all situations where we assisted with a degenerative myelopathy case, the parents and grandparents had long been dead and this all-important DNA was gone. In an effort to be proactive in our DNA collection, we instituted the DNAah program to collect “generational DNA” and have it archived by breeders/owners to be made available to RRCUS H&G in the event DM surfaced again. The criteria were that the DNA had to be easy to collect and affordable to store, and the mechanism for storage had to give the breeder some control over how the DNA was to be used. The DNAah program fulfills all these criteria by letting breeders store RRCUS-provided swabs in their own homes.

Since DM is not the only disease where generational data is needed for research, the DNAah program has enlarged and has become the sister program of the Comprehensive Rhodesian Ridgeback Health Survey, where we give everyone who enters the survey the opportunity to obtain swabs for the DNAah. While anyone can receive swabs to archive at home, we are particularly interested in having breeders enter entire litters in the survey and obtain the swabs for DNA collection before the pups leave for their new homes. We are encouraging generational DNA collection for all kennels, regardless of genetic disease occurrences in the lines. This is an extremely forehanded approach to collecting DNA for research and for the first times

puts us (breeders/dog owners) in a position of control. When “SOMETHING” crops up in a particular breeding program – and it will - the DNA is there, ready to be submitted to researchers.

In 2006, we have sent swabs primarily for specific projects, but each of the 328 dogs swabbed also has swabs in DNAah. These owners/breeders intend to enter these dogs in the health survey. Of these 328 dogs, 110 were strictly for the DNAah program and includes breeders who had puppies on the ground that they intend to enter in the survey, as well as older dogs in their kennels.

It is difficult to predict how strong the demand for DNAah swabs will be until the survey debuts. Based on this early interest from our breeders, however, we are extremely encouraged. The following table details the swabs sent in 2006.

DATE	AMT	# DOGS	Study/DNAah	Total Swabs	Total Dogs
3/5/2006	48	8	Seizure/DNAah/Oberbauer	48	8
3/5/2006	200	10	Litter/kennelDNAah	248	18
3/5/2006	30	5	Seizures/DNAah/Oberbauer	278	23
3/18/2006	108	18	DM/DNAah	386	41
3/20/2006	60	10	Seizures/DNAah/Oberbauer	60	10
4/10/2006	6	1	Seizures/DNAah/Oberbauer	66	11
4/26/2006	6	1	Seizures/DNAah/Oberbauer	72	12
5/9/2006	35	5	Ridge study/UC Davis	107	17
5/9/2006	200	20	Litter/kennelDNAah	307	37
5/9/2006	100	10	Litter/kennelDNAah	407	47
5/9/2006	78	13	Seizures/DNAah	485	60
5/15/2006	6	1	DM/DNAah	491	61
5/15/2006	36	6	DM/DNAah -Ridge-blood to Coates	527	67
5/16/2006	6	1	Seizures/DNAah/Oberbauer	533	68
5/16/2006	54	9	Seizures/DNAah/Oberbauer	587	77
5/16/2006	54	9	Ridge study/UC Davis	641	86
5/16/2006	100	10	DM/DNAah	741	96
5/19/2006	200	33	Seizures/DNAah/Oberbauer	941	129
5/21/2006	6	1	DM/DNAah	947	130
5/21/2006	24	4	Seizures/DNAah/Oberbauer	971	134
5/21/2006	100	10	Litter/kennelDNAah	1071	144
5/21/2006	108	18	DM/DNAah	1179	162
5/21/2006	12	2	DM/DNAah	1191	164
5/21/2006	18	3	DNAah	1209	167
5/21/2006	6	1	Seizures/DNAah/Oberbauer	1215	168
5/28/2006	6	1	Seizures/DNAah/Oberbauer	1221	169
5/28/2006	6	1	Seizures/DNAah/Oberbauer	1227	170
5/28/2006	6	1	Seizure/DNAah/Oberbauer	1233	171
5/28/2006	100	10	Litter/kennelDNAah	1333	181
8/25/2006	18	3	IMHA/DNAah	1351	184
8/25/2006	100	10	Litter/kennelDNAah	1451	194
8/25/2006	6	1	Seizures/DNAah/Oberbauer	1457	195
8/25/2006	132	22	DM/DNAah	1589	217

DATE	AMT	# DOGS	Study/DNAah	Total Swabs	Total Dogs
9/6/2006	60	10	Ridge study/UC Davis	1649	227
9/6/2006	200	30	Litter/kennelDNAah	1849	257
9/7/2006	3	1	Seizures/DNAah/Oberbauer	1852	258
9/7/2006	100	10	Litter/DNAah	1952	268
9/7/2006	60	10	Seizures/DNAah/Oberbauer	2012	278
9/7/2006	18	3	Seizures/DNAah/Oberbauer	2030	281
9/25/2006	12	2	Seizure/DNAah/Oberbauer	2042	283
10/20/2006	6	1	Seizures/DNAah/Oberbauer	2048	284
10/20/2006	6	1	DM/DNAah	2054	285
10/20/2006	6	1	Seizures/DNAah/Oberbauer	2060	286
10/20/2006	6	1	Seizures/DNAah/Oberbauer	2066	287
10/20/2006	72	12	Kinked Tail/DNAah/	2138	299
10/21/2006	6	1	Seizures/DNAah/Oberbauer	2144	300
11/4/2006	6	1	DM/DNAah	2150	301
11/14/2006	6	1	DM/DNAah	2156	302
11/19/2006	90	15	Ridge study/UC Davis	2246	317
1/1/2007	6	1	Seizures/DNAah/Oberbauer	2252	318
12/15/2007	100	10	Litter/DNAah	2352	328

Costs for 2007: Swabs and postage. Approx. \$3.10/ dog. 2006 costs: 110 dogs @2.50 each - \$275 for DNAah only.

Status of the Rhodesian Ridgeback Donor Advised Fund

The following is the AKC Canine Health Foundation report to the Rhodesian Ridgeback Club of the United States on the Donor Advised Fund for the benefit of Rhodesian Ridgebacks. As of December 31, 2006, this fund was as follows:

As of January 1, 2006	Balance	\$20,199.34
Additions through December 31, 2006		\$4,760.61
Total as of December 31, 2006		<u>\$24,959.95</u>

The following deductions were made for Grants:

Grant 257 " <i>Investigation of Predictors of Outcome for Canine Mast Cell Tumors</i> "	\$1,250.00	
Grant 373 " <i>Mapping Genes Associated with Osteosarcoma in Large Dog Breeds</i> "	\$2,500.00	
Grant 615A " <i>Heritable and Sporadic Genetic Lesions in Canine Lymphoma</i> "	\$2,500.00	<u>(\$6,250.00)</u>
Total as of December 31, 2006		\$18,709.95

HOWEVER, this does not include the \$9,850 commitment for 2007. Grant commitments are noted in the table below.

Grant #	GRANT TITLE	RESEARCHER	2004	2005	2006	2007	2008
Grants funded before 2004 not show to conserve space. Information available upon request.							
2447	Genetic Determinants of Susceptibility of Hypothyroid Disease in Dogs	Lorna Kennedy	\$2,500				
257	Investigation of Predictors of Outcome for Canine MCT	Elizabeth Whitley			\$1,250	\$1,250	
459	Exploring the Genetic Loss of a Hallmark Trait - Ridgeless in the Rhodesian Ridgeback	Mark Neff		\$6,576			
373	Mapping Genes Associated with Osteosarcoma in Large Breed Dogs	Kerstin Lindblad-Toh/Kenine Comstock			\$2,500	\$2,500	
615	Heritable and Sporadic Genetic Lesions in Canine Lymphoma	Jamie Modiano/Matthew Breen			\$2,500	\$2,500	
678	Generation and Analysis of Canine Bone Marrow Derived Mast Cells	\$3000 donation made but grant was fully funded. Cheryl London					
632	MicroRNAs and Canine Lymphoma	William Kisseberth				\$600	
593	Mapping Genes Associated with Canine Hemangiosarcoma	Kerstin Lindblad-Toh/Chieko Azuma				\$3,000	

Available funds in the RRDAF as of January 9, 2007 - \$8,859.95.

Summaries of AKC/CHF Grants Presented For Funding

Grant 821: Phenotypic Characterization and Mapping Genes Associated with Canine Degenerative Myelopathy in the Boxer Dog. Dr. Joan Coates; University of Missouri, Columbia.

Grant cost: \$176,272 for two years.

Requesting: \$10,000 from RRCUS. *(In 2006 RRCUS pledged support for this grant. The requesting amount is a guideline only and need not be funded to that level.)*

Lay Summary

Degenerative myelopathy (DM) is an adult-onset, degenerative spinal cord disease affecting several breeds of dogs. Affected dogs show progressive rear limb weakness and eventual paralysis. A particularly high prevalence in certain breeds, such as a Boxer, Cardigan and Pembroke Welsh Corgis and Rhodesian Ridgebacks, suggests a genetic predisposition. This study has 2 main goals: the first will characterize DM in the Boxer dog to ensure that the disease in that breed is the same as has been identified in other breeds. Our second goal is to identify the mutation responsible for DM. We will use a new approach, which takes advantage of the most recent information from the Canine Genome Map, to identify genes that contribute to the increased risk for DM in Boxers and other at risk breeds of dogs. This mapping strategy will determine the location of the DM mutation on the dog chromosome. We will then examine the genes at that chromosomal location to identify the DM mutation and develop a genetic test for predisposition to the disease. A DNA test will detect carriers of the mutation permitting wise breeding strategies to decrease the incidence of the disease in the breed. It will also allow for definitive diagnosis of DM in affected dogs eliminating the need for expensive tests ruling out other conditions. Early identification of affected dogs will also permit sound therapeutic trials for disease. We expect this research to be applicable to several breeds presently affected by DM and perhaps others in which the condition is not yet recognized.

Grant 759: Investigation of Antigenic Causes of Vaccine-Associated Allergic Reactions in Dogs. Dr. George Moore; Purdue University.

Grant Cost: \$43,624 for 2 years.

Requesting \$1,000 from RRCUS. (*Funding guideline only*)

Lay Summary

Allergic reactions are the most common adverse event associated with vaccination in dogs. Recent research has demonstrated that small dogs in general, and several specific breeds, are at higher risk for these reactions. Laboratory studies have shown that normal dogs make antibodies against many vaccine components, even though they may not show an allergic reaction immediately following vaccination. Although the specific cause of allergic reactions in dogs remains unknown, vaccine component residual from the manufacturing process have been incriminated. Using serum from dogs of high-risk breeds, this study will compare antibody concentrations in dogs demonstrating allergic reactions versus antibody concentrations in dogs of the same breed that don't have reactions. From this study, vaccine components that stimulate allergic reactions will be identified, prompting vaccine manufacturers and/or the USDA (as regulating agency) to remove/reduce these substances and improve the safety of canine vaccines.

Grant 779: Characterization of the Canine Y Chromosome: Identifying Genes That Cause Male Infertility. Dr. William J. Murphy; Texas A&M University.

Grant Cost: \$203,344 for 2 year.

Requesting \$1,000 from RRCUS. (*funding guideline only*)

Lay Summary

Studies of the human and mouse Y chromosomes have shown that they contain many testis specific genes that when defective cause infertility and spermatogenesis defects. The causes of male infertility in dogs are not well known. Though much is now known about genes on the dog autosomes and the X chromosome, owing to the canine genome sequence, virtually nothing is known about the canine Y chromosome and the genes it harbors. This study will exhaustively characterize the gene content of the dog Y chromosome by sequencing from a cDNA selection library that is enriched for Y chromosome gene transcripts. This procedure will isolate the majority of canine Y chromosome genes and the DNA fragments they reside on, which will be mapped in the dog genome. The copy number and expression profile of these genes will be determined in a broad range of tissues to discern which genes have testis-specific expression patterns, and may therefore be good candidates for abnormal spermatogenesis. The identification of testis-specific Y chromosome genes will provide gene targets for future development of molecular diagnostic assays that examine the influence of these genes on canine male infertility.

Veterinary Review and Advisory Committee Funding Recommendations

The consensus of the VRAC committee is that funds be directed toward the degenerative myelopathy research in the amount of \$6,000 from the RRDAF. Four cases of degenerative myelopathy have been confirmed since we started the DM initiative in 2005, which is a 44% increase in the cases reported in the 2001 health survey update. This is a significant increase and only includes those dogs where owners were willing to have necropsies performed. We have a high confidence level that the actual incidence of DM is higher. This documented incidence of degenerative myelopathy in the Rhodesian Ridgeback more than justifies funding this research and was the rationale behind the RRCUS pledge in 2006 to support this grant.

While the infertility and allergic reaction studies are interesting, the VRAC sites that we do not have the funds available in the RRDAF to support either of these.

Report of the 2006 Health and Genetics Budget and Expenditures

Requested Budget for 2006: \$7200		Actual Budget for 2006: \$4700	
Health Survey	\$1150	Health Survey	\$ 0
Web Site	\$ 275	Web Site	\$ 128.50
Admin Costs	\$ 500	Admin Costs	\$1299.16
CERF report	\$ 75	CERF report	\$ 75
DNA Swabs	\$1801	DNA Swabs	\$2001.66
Specialty Speaker Expenses	\$ 600		???
DM and other high cost subsidy	\$1500	DM Subsidy	\$250
Genetic test/diagnostic test subsidy	\$1500		

The following spreadsheet details expenditures for the year.

Health and Genetics Accounting

DATE	TO	FOR	DEPOSITS	DEBITS	BALANCE
1/1/2006	RRCUS BUDGET FOR H&G		\$4,700.00	0.00	\$4,700.00
1/1/2006	Network Solutions	website		128.50	\$4,571.50
1/25/2006	(estimated date) Denise receipts	Postage (Chris A has individual receipts)		123.50	\$4,448.00
2/7/2006	Office Max	Labels for Allergic Derm and Seizure programs		62.54	\$4,385.46
2/8/2006	Post Office	Mailing swabs; mailing supplies to Brehens; stamps		53.86	\$4,331.60
2/23/2006	Medical Packaging Corp	6000 DNA swabs		2,001.66	\$2,329.94
3/3/2006	Fed Ex	Shipping DNA swabs to Denise		52.62	\$2,277.32
3/3/2006	Office Max	Labels for DNA swabs		81.88	\$2,195.44
3/6/2006	Fed Ex	Mailing DNA swabs; mailing labels to Denise		56.67	\$2,138.77
3/6/2006	US Postal Service	Postage DNA swabs		19.21	\$2,119.56
3/18/2006	Post Office	Postage		4.73	\$2,114.83
4/14/2006	Fed Ex	Microchip scanner to Suz		32.35	\$2,082.48
4/25/2006	Fed Ex	Thyroid Clinic Paperwork to Suz		69.46	\$2,013.02
5/1/2006	Fed Ex	Samples to MSU (from New Mexico)		92.41	\$1,920.61
5/1/2006	Fed Ex	Samples to Dodds (from Utah) for thyroid research		70.75	\$1,849.86
5/1/2006	Claudia Orlandi, PhD	ABCs of Breeding Workbooks x 77 copies		1,925.00	-\$75.14
5/1/2006		Sale of ABC's of Breeding Workbooks	\$2,162.00		\$2,086.96
5/1/2006		Postage for Orlandi Books		200.00	\$1,886.96
5/4/2006	Fed Ex	Scanner to me from New Mexico		14.71	\$1,872.25
5/9/2006	Cynthia Roethel	DM subsidizing; C. Roethel wrote a personal check		250.00	\$1,622.25
5/16/2006	US Postal Service	Postage		39.00	\$1,583.25
5/22/2006	US Postal Service	Postage DNA swabs		11.66	\$1,571.59
6/8/2006	US Postal Service	Postage DNA swabs		4.80	\$1,566.79
7/15/2006	Staples	Envelopes for DNA swabs		25.88	\$1,540.91
8/28/2006	US Postal Service	Postage DNA swabs		4.44	\$1,536.47
9/7/2006	US Postal Service	Stamps and Postage DNA swabs		77.36	\$1,459.11
9/14/2006	CERF	CERF Report		75.00	\$1,384.11
9/21/2006	Nationwide Envelope Co	Envelopes for DNA		120.25	\$1,263.86
9/21/2006	Online Labels	DNA labels		69.95	\$1,193.91
10/25/2006	(estimated date) Denise receipts	Postage (Chris A has individual receipts)		211.13	\$982.78
					\$982.78
	Postage	Envelopes and labels			
	Specialty	other expenses			

The \$982.78 surplus is solely related to the health survey expenses not being paid. In reality we would have had a shortfall in our budget had the survey expenses been paid in that Dr. Orlandi's personal expenses are not declared in our spreadsheet. The RRCUS treasurer took care of those expenses at the Utah Specialty.

This short fall in funds is directly related to the over expenditure in administrative costs.

These costs include:

- (1) Postage and shipping expenses of DNA swabs. _____ **\$658.98**
- (2) FedEx shipping of the microchip scanner, shipping of paperwork for thyroid draws and shipping of thyroid samples to MSU and to California. _____ **\$279.68**
- (3) Label and envelope purchases for mailing DNA swabs. _____ **\$360.50**

We do not anticipate FedEx charges in 2007 as both chairs are attending the Specialty in 2007. Nor do we anticipate significant supply purchases since we have purchased enough envelopes and labels from an online vendor that we expect to last two years.

Postage for the mailing of DNA swabs will be unavoidable. We expect postage costs to be higher in 2007 once the Comprehensive Rhodesian Ridgeback Health Survey is on line and the DNAah program is in full swing.

2007 H&G Committee Members

Request the BOD approve the following members of the 2007 H&G Committee.

Cynthia Roethel; 434-248-5018; houndscrest@earthlink.net H&G Committee Chair; CHF liaison; degenerative myelopathy project coordinator; epilepsy DNA collection coordinator; megaesophagus DNA collection coordinator; CHIC/OFA liaison.

Denise Flaim; 516-676-3398; revodana@aol.com; H&G Committee Chair; National Specialty liaison; DNA liaison; cataract DNA collection coordinator, deafness DNA collection coordinator.

Cynthia Willson, PhD; 919-309-7676; pingorarr@yahoo.com; Cancer liaison - MCT; osteosarcoma; lymphoma; hemangiosarcoma, mammary cancer, brain cancer.

Melanie Behrens; 845-635-1489; melanieowl@aol.com; allergic dermatitis collection coordinator.

Theresa Lyons; 908-256-9534; ridgereg@optonline.net; Fundraising coordinator.

Cynthia McFadden; cjmcfadden@hotmail.com; 512-528-1710

Debra Driza; 760-597-9383; houndrat@aol.com

Mike Teeling; 585-599-4133; michaelteeling@tajamani.com; H&G website manager

Mary Teeling; 585-599-4133; maryteeling@tajamani.com

VETERINARY REVIEW AND ADVISORY SUBCOMMITTEE

Lisa Miller, DVM; (901)624-9002 (wk) Selchi@aol.com, VRAC Chair

Susan Ralston, VMD; 801-829-3005; ridgeview@webpipe.net

Katrina Viviano, DVM; 608-238-1236; viviano@svm.vetmed.wisc.edu; Health Survey Coordinator

Felicity Grzemski PhD (biochemical toxicology); 734-340-3788; felicity.grzemski@pfizer.com

Kirsten Timms PhD (genetics); 801-355-6376; kirsten_timms@hotmail.com

Elizabeth Mansfield M.Ed (biology) 201-563-4194; etmansfield@gmail.com

Nancy Rich, DVM; 740-967-3818; chsprout@aol.com

2007 Health and Genetics Committee Budget Request

Projected Budget for 2007-----\$7800		Actual Budget Request for 2007-- \$5750	
Health Survey	\$ 650	Health Survey*	\$1508
Website	\$ 275	Website	\$ 150
Administrative Costs	\$ 500	Administrative Costs**	\$1000
CERF report	\$ 75	CERF report	\$ 75
DNA Swabs	\$1800	DNA Swabs 6 cases ***	\$1210
Special Projects	\$1500	-----	
Subsidizing high cost diagnostics	\$2000	-----	
CHF Conference Travel for 2	\$1000	CHF Conference Travel for 2 ****	\$1000
		2007 Specialty Speaker *****	\$ 800
TOTAL	\$7800	TOTAL	\$ 5743

* The projected budget for the health survey for 2007 was for its second year. The survey has not yet been completed and money has not yet been paid for the program. In reality the \$1,508 budget for the Health Survey is for its first year, which is \$358 over the original \$1,150 requested for its first year.

** Administrative costs are double that of projected costs given the postage requirements for DNA swab mailing. We do not know what the demand will be for DNAah swabs and would prefer to estimate high.

*** We anticipated using 6,000 swabs the first year the CRRHS and DNAah were operational. With Approximately 3,400 swabs in inventory we only need six more cases to reach 6,000 swabs in inventory.

**** RRCUS has two seats at the CHF Conference. One seat is for RRCUS since we have funded more than \$10,000 for research. The other seat was given to RRCUS by Gary Danford who received it for the \$20,000+ donation made from his uncle's estate. This is a very important meeting that both co-chairs need to attend. This is where we meet and speak to the researches "doing the business." It is our foot in the door to many research labs. It has proven invaluable to us in all our research efforts.

***** A contract, signed by the specialty co-chair, has been received by Dr. Bell and he will be making his presentation in Ohio. Preliminary discussion with the RRCUS President and First Vice President when they asked how this was going to be paid for we sited our plans to request \$800 in our budget and to defray additional costs with our fundraising efforts at the specialty.

In consideration of RRCUS's financial constraints, the Health & Genetics Chairs deferred consideration of any special projects for 2007 (including our megaesophagus initiative, which would attempt to, for the first time, define this congenital defect in our breed), reducing the size of the projected financial budget. We would remind the board that the requested 2007 budget represents the resources we need to fully maintain the programs that we worked so hard to launch in 2006: the health survey and DNA storage programs, continued sample collection, the website, etc. Be aware that funding cannot be reduced for any specific project with the expectation that "some" of the project will continue. These projects can only continue whole. For example, we cannot implement an incomplete health survey or only collect "some" samples for each research endeavor. In the event of forced downsizing, to avoid confusion and miscommunication we need **clear, written** direction on which programs the BOD wishes to continue and which should be abandoned.

2008 Health and Genetics Committee Projected Budget

Health Survey	\$ 700
Website	\$ 150
Administrative Expenses	\$1000
CERF report	\$ 75
DNA Swabs (12 cs @ \$188 + shipping)	\$2410
2008 National Specialty Speaker	\$1000
Special Projects subsidizing	\$1000
TOTAL	\$6745

Appendix 1

Email

From: Bruce_Hammerberg@ncsu.edu

Date: Wednesday, June 14, 2006

To: MelanieOwl@aol.com

Subject: Re: Allergic dermatitis study

“Melanie,

Your club's efforts are becoming the foundation for this study on a predictive assay for risk of allergic disease. The results to date look very strong with highly significant statistical difference between litters. This degree of significance could not have been revealed without the large numbers of samples your members have provided; I am very excited about the results and very grateful to you and your club's diligent work in providing so many samples.

I will be eagerly waiting for the questionnaire responses to come in when these puppies reach 8 and 12 months of age. As I have said before, and emphasis here again, all results are anonymous and coded to protect the identity of breeders and to assure there is no bias in evaluations of questionnaire responses.

Regarding samples from adult dogs, I would be pleased to accept those if the owners who are breeding these dogs will want to provide samples from 2 month old offspring as they come along.

The Rhodesian Ridgeback Club is one of the best organized and committed clubs I have worked with in conducting research on genetic diseases.

If you don't mind please pass this email on to your breeders, and especially those who have participated to date.

Best regards,
Bruce”

Appendix 2

-----Original Message-----

From: cathryn.mellersh@aht.org.uk
To: Revodana@aol.com
Sent: Tue, 2 Jan 2007 11:03 AM
Subject: RE: Ridgeback samples -- checking in

Dear Denise,

Its now almost a year since you made this enquiry (!) and we have had a total of 12 RR samples in since then, of which 6 were affected with cataract. We have tested all six dogs for the mutation we have identified in other breeds, and unfortunately none of the affected dogs carried the mutation.

We usually like to test 10 - 12 dogs before we exclude a particular mutation from any breed, and as we have only had six samples in from affected RRs we can't formally exclude this mutation. However, I think we can be fairly sure we need to search for the different mutation, given 6 out of 6 were clear.

So, we will need at least samples from in the region of 20 affected dogs - but its impossible to give a definite number as it depends on the numbers of close relatives we get in as well. Close relatives are parents, siblings (affected or unaffected) and grandparents of affected dogs. We will need to collect these samples before we can commence the lab work - but all samples will be stored here safely as they arrive until we have a sufficient number.

If you have any more questions please don't hesitate to get in touch.

Happy New Year

Cathryn

-----Original Message-----

From: Revodana@aol.com [mailto:Revodana@aol.com]
Sent: 28 February 2006 12:51
To: CATHRYN MELLERSH
Cc: houndscrest@earthlink.net
Subject: Ridgeback samples -- checking in

Hello, Dr. Mellersh ...

Just a note to see if you have had a chance to run the Ridgeback cataract samples we sent you, and what the result were. If it is the same allele, we will commence dancing in the aisles; if not, then we'd like to discuss how many samples/families you need in order to look for a Ridgeback-specific marker.

Best,

Denise Flaim

Rhodesian Ridgeback Club of the United States Health & Genetics Chair

Appendix 3

(This was the original Proposal that was approved by the RRCUS BOD in 2006. All is applicable except the new costs detailed on page 7 of the 2007 H&G Report)

“COMPREHENSIVE RHODESIAN RIDGEBACK HEALTH SURVEY” PROPOSAL

What is the Health & Genetics committee proposing?

We are proposing that RRCUS adopt a software program developed by the American Spaniel Club as the Rhodesian Ridgeback Comprehensive Health Survey, which would allow dogs to be entered through the Internet or through regular mail submissions. The American Spaniel Club is donating the software **free of charge**. Costs associated with initial reformatting, placing in on line, web site hosting and administration costs are estimated at \$1150. Yearly costs thereafter are estimated at \$650 or less. RRCUS Health and Genetics Committee will edit the survey to make it Ridgeback specific.

Why do we need a new Health Survey and why should it be online?

1. **Ability to update:** Of utmost importance to the designers of the first Rhodesian Ridgeback Health Survey 10 years ago was that it be perpetual, so new dogs could be added and that it be confidential.

The survey worked wonderfully as a perpetual database. While there were assertions that the postmark on the envelope could indicate who submitted the survey, there is absolutely no identifying data on the survey whatsoever, making it as confidential as it could possibly be. However, the confidentiality, which was intended to encourage survey submission, has become a problem: Because specific dogs cannot be identified, updates are extremely difficult.

The survey was modified slightly to allow for updates for new submitters by having the submitter create their own survey number and make a copy of the survey before it was submitted. For those surveys already submitted updates are only possible if the submitter recreated the data on the original survey -- i.e. number of dogs on the survey and identifying data for each dog, that included sex, date of birth, liver/black nose, spay/neuter status. When updates were received, Dr. Pethick, through heroic efforts, would go through surveys one by one until she found the matching survey.

We learned this endeavor was largely futile as few people made copies of the original survey they submitted, so accurately recreating the identifying data exactly as it appeared on the original survey was impossible for most submitters. Also, this approach was extremely time-consuming and was not the most productive use of our veterinarian chair's time.

The online health survey we are proposing RRCUS adopt requires submitters create their own secure ID and PIN number so they will be able to access their dog's information. This will allow effortless updates, assure total confidentiality, and as a result encourage wider participation.

2. **Ability to capture data on more Rhodesian Ridgebacks:** An online health survey will allow us to capture data previously unavailable to us by making it easy and effortless for owners to submit information. Our current survey is unwieldy in terms of the long list of instructions, and an owner who is not a dedicated member of the breed community would likely not attempt to complete it. This is

unfortunate, as we are striving to get as complete a picture of the breed's health as possible, and need submissions on all sorts of Ridgebacks.

By contrast, we have had great success in engaging non-RRCUS owners by using simple, straightforward links on the Internet. Alicia Franklin placed a link on the RRCUS home page asking visitors to email Denise Flaim if they are interested in participating in RRCUS health initiatives such as the DNA study. As a result, Denise receives about five inquiries a week from non-RRCUS members.

The American Spaniel Survey, which takes only 15 minutes to complete, is also an easily accessible, inviting survey that we feel would attract a significant pool of submitters from every corner of the Ridgeback world.

3. Ability to collect additional data: To date, we have largely collected data only on specific diseases found in Rhodesian Ridgebacks. There are other areas of critical importance where we should also be collecting data, including reproduction/whelping, adverse vaccination effects and toxin exposures. The online survey is extremely comprehensive and will give us insight into areas of the breed we have not been able to explore before, and will directly help our breeders and owners. For example: What is the average litter size for Rhodesian Ridgebacks and how does it change over the years? What is the prevalence of whelping difficulty? Is there a correlation to vaccination history and autoimmune disease manifestation? This comprehensive health survey includes everything we need and want in a survey.

4. Highly recommended: The RRCUS health survey coordinator, Dr. Katrina Viviano, works with Dr. Chet Thomas, DVM, PhD., at the University of Wisconsin who analyzes the American Spaniel Club data and it was he who recommended this survey for the Rhodesian Ridgeback. Dr. Viviano enthusiastically supports its adoption and as the health survey coordinator will analyze and publish the health survey data.

5. Record keeping for breeders and owners: The information breeders and owners enter on their dogs can be printed out for their own records. It can also be changed as the dog ages and new health findings emerge. In essence, it offers an in-depth snapshot of each dog's health history and status in every stage of life, which is valuable information that we often do not take the time to record as carefully as we should.

You can take a tour of the survey at: <http://www.lkhopkins.com/ascsurvey/index.html> .

To get an idea of the kind breadth we are proposing for the survey, please take a look at the statistical analysis done on data from the first 6 weeks after the Cocker Spaniel health survey was implemented: <http://www.asc-cockerspaniel.org/health/CBHSdec03report.pdf> .

What will happen to the data collected on the first health survey?

The data from our first health survey provided us with our first glimpse of the health of the breed. This data has been our resource in determining what research we need to pursue and what research we need to support. This data will always be available for us to evaluate our progress as it relates to improving the health of Rhodesian Ridgebacks. After thorough researching we have had to accept the fact that the original data cannot be incorporated with the new health survey. Without identifying data or another full proof way for **ALL** submitters to retrieve their original surveys the data would be meaningless in the context of the new survey – without the original surveys for submitters to reference, dogs could be entered twice or inadvertently omitted entirely. The key is having a method in place that allows submitters to enter information and then be able to access that information when necessary.

While it is unfortunate that we cannot incorporate the data from the first survey and continue to build on it, you have to remember the first health survey was designed 10 years ago and was the cream of the crop

approach to ensure data collection and confidentiality. But today we have a technological advantage that was not available 10 years ago. We are being given the opportunity to not only collect the data of the original survey but also environmental data that we may be able to correlate to disease.

What do we need to do to get this health survey up and running?

As mentioned above, the survey already exists and simply needs to be modified for our breed. The Cocker Spaniel - Comprehensive Breed Health Survey was years in the making and cost more than \$5,000 to develop. The American Spaniel Club is making this survey available to any parent breed club at **no charge**; the Leonberger breed club already has its version of the survey up and running.

How does the survey assure confidentiality?

When Ridgeback owners access the “Rhodesian Ridgeback Comprehensive Health Survey”, they will be automatically linked to a web site maintained by an independent agency, [Elements Software Engineering](#) (ESE). All health-survey data collected is stored there and is not accessible by any agency except ESE. Each owner will be asked to create their own ID and PIN number to proceed with data entry. Access to a dog’s information is only possible with the correct ID and PIN number. This is the exact same security used by bank debit cards, credit cards, etc.

No one – not the Health & Genetics Committee, not the RRCUS web master – can gain access to the ESE database. The company’s principal, Larry Hopkins, is not involved in the purebred fancy. He already maintains confidential health-survey sites for two other breed clubs, the American Spaniel Club and the Leonberger Club of America.

How does RRCUS obtain data from the Health Survey?

Before any data is sent to RRCUS for analysis, ESE strips any and all personal information that would identify an individual owner or an individual dog. Specifically, the owner's name, address and e-mail address, as well as the name and registration numbers of dogs, are removed. The generic information would then be sent to the health survey coordinator, Dr. Katrina Viviano, without any identifying details. ESE will forward the data as we request it. If we want data in order of disease prevalence – we can get it. If we want to know at what ages dogs have become hypothyroid, epileptic, etc – we can get it. If we want to know the prevalence of cancer in dogs on different types of diets – we can get it. The possibilities are endless. PLUS if we find a need to gather new information it can be added to the survey with approximately 30 minutes of programming time, i.e. \$20.00.

What does the Health and Genetics Committee have to do to get the online survey underway?

Once we receive BOD approval, we can begin to edit the survey to make it specific to the Rhodesian Ridgeback. We will use the same disease groups and diseases we outlined in our first survey plus incorporate some of the data the American Spaniel Club collects and will evaluate if there is other data we should take this opportunity to collect. We would like to have a prototype available at the 2006 National Speciality RRCUS for the membership to review and provide feedback. Our goal is to be ready to go online by the middle of 2006. It’s that simple.

What is this going to cost RRCUS?

Though the most expensive parts of the online survey – its development and testing – have already been paid for, there are nominal costs associated with this project as outlined below.

(1) The survey has to be altered to meet our needs and placed online.

(2) It has to be “hosted” by ESE on the web.

(3) There will be maintenance requirements. ESE will be available to deal with questions from the membership and forgotten IDs and PIN numbers, send data to our health survey coordinator for analysis, do backups, enter in manual data for those people who do not have internet access, etc, etc.

Larry Hopkins is willing to modify the survey for us, and has outlined the following costs:

Reformatting the survey and placing it online (one time cost): _____ \$500
(paid only when we are completely satisfied with the survey)

Recurring costs:

Monthly hosting fee is \$10/month. Yearly total is: _____ \$120

Biweekly backups are \$8 each. Yearly total is: _____ \$208

Office work: \$40/hour and actual expenses (postage, envelopes, mailers, etc).

Hourly rate would apply to modifications to the survey; stripping identifying data from the survey, “crunching the numbers” and forwarding data to the health survey coordinator; time spent manually entering data for those not internet capable; time spent communicating with any club members having problems, etc.

Estimate 6 hours of work: _____ \$240

Estimate actual expenses (postage, envelopes, mailers, etc): _____ \$ 82

First year total: _____ \$1150

Subsequent yearly expenses:

Hosting fee: _____ \$120

Biweekly Backups: _____ \$208

Six hours of office work and actual expenses): _____ \$322

Subsequent yearly total: _____ \$650 or less

What happens if something happens to ESE or to Mr. Hopkins?

Mr. Hopkins has an escrow document lodged with a local attorney which contains his user ID and password to the web site. This document instructs the attorney to contact one of several local web-designers who can copy the Rhodesian Ridgeback database and all associated survey codes to a DVD. The attorney will then mail the DVD to a pre-designated RRCUS representative. The database is an ordinary Microsoft Access database with tables and field names documented so that anyone with a reasonable knowledge of Access can do the analysis and run reports, etc. If we wanted to continue the survey we could install the code on another server. We would have to find someone familiar with Java script, Active Server Pages, and Access to maintain the site for us.

The point is, the data would not be lost and the survey could continue.

What are the alternatives? The alternatives, none of which are optimal, include:

1. Continue with a non-electronic survey. This is very time-consuming for the committee; frustrating for

users who have to shift through reams of paper; and does not give us an easy and effective mechanism for updates. Data collected between 1996 – 2001 is, for the most part, impossible to update.

2. Create our own survey. This would involve hiring a programmer to create an online health survey to our specifications; ***Providing/purchasing*** additional webspace for the health survey or host, and ***locating a database manager*** with no connection to Rhodesian Ridgebacks to monitor the database, organize the data we request, add in manual survey data and strip identifying data from the surveys, etc, etc. Essentially, this amounts to “reinventing the wheel,” as the American Spaniel Club has already covered this ground and offers their finished product **free of charge**.

It has been our intent to ask and answer any questions you might have concerning this project. If you have any [other](#) questions, or issues that we did not address please contact Cynthia Roethel at 434-248-5018 or at houndscrest@earthlink.net; and Denise Flaim at 516-676-3398 or at revodana@aol.com. Please give us the opportunity to answer questions, address issues or argue our position concerning this issue.