FROM THE EDITOR . . .

Welcome to the inaugural issue of Wheaten HealthNews. We are very pleased to be able to offer Wheaten breeders and owners a new source for information on the health endeavors of the SCWTCA.

With the goal of helping owners improve the quality and longevity of their dogs’ lives, we will also offer the latest information on all aspects of your dog’s health. Future issues will feature articles on Caring for Your Senior Dog; Reproductive Issues; and Temperament as well as the latest developments in genetic research and our club-sponsored projects.

This newsletter could not have come about without the generous help, support, and shared dedication of many people. My thanks go out to our Graphics Designer, Roxanna Springer for her many artistic talents and eye for detail; Carol Carlson for her input, support, and sharing of experience; and Bonnie O’Connor and Ken Gengler for their work on getting this publication on the Web where it can benefit all Wheaten owners and to all the writer/contributors to our first issue!

We hope you will find our newsletter helpful and informative. For the love of the dogs,

– Cecily Skinner
KEY MESSAGES:

• Completion of the canine genome increases researchers’ ability to identify disease genes.

• DNA samples with complete health documentation are essential to finding disease genes.

• Fund-raising is crucial to success.

• Parent breed clubs can help by supplying DNA samples, data and funds.

DNA SAMPLES:

• All the researchers say having DNA samples with documented health information available is essential for future research.

• Number of results derived from DNA samples depends on the breadth of the documentation more than on the amount of DNA stored.

CHF GRANTS:

• CHF has budgeted $2 million for grants in 2006.

• Most breed specific research grants require matching funds from parent clubs.

• CHF uses responses to annual Parent Club Survey when determining grant recipients.

• CHF will include specific breed club requests in their call for grant proposals.

• CHF is offering a new program of “Acorn” grants of less than $12,000 for preliminary data or small projects.

HEALTH FOUNDATIONS:

• Health foundations and breed clubs have different missions, purposes, and constituencies.

• Foundation’s primary purpose is raising money for health related projects including research and education.

• Foundation’s constituency includes all breed owners.

• Foundation offers tax benefits to donors.

• Breed club and foundation must work cooperatively.

FUND-RAISING:

• Find a dedicated volunteer to organize this and give her lots of help and support.

• Increase donor base. Use club website, e-lists for fanciers including non-members. Contact vendors, advertisers, civic groups, veterinarians, etc.

• Keep records of donors, treat them well and … ask them again.

• Always say Thank-You!

Send handwritten notes to every donor of money, services or goods.

(continued on next page)
Give recognition in newsletter, magazine, show catalog etc.

• Purina-Parent Club Partnership offers funds for health, education and rescue. Pro-Plan Club members submit weight circles/declare breed when join.

HEALTH SURVEYS:

• Survey is essential to identify and prioritize health issues.

• Spend money to have a professional design it and analyze the data.

• Plan survey carefully after determining its purpose.

• User-friendly format and length are important. Too long reduces participation; too short limits information.

• Consider legal issues in the beginning. Get broad authority to use any identifiable data. State how data will be used, published and owned.

• Do a test run with small group and then revise form.

• A large number of responses are needed. Establish and publicize benefit to the breed and individual dogs. Promote participation; consider incentives.

• On-line surveys are cheaper; people don’t trust that they are confidential.

SOURCE FOR MORE INFORMATION FROM THE CONFERENCE:

Excerpts and short summaries of some of the conference presentations may be read at the CHF website, http://www.akc-chf.org. On the left bar, click on “Research” and select “Health Resources”. Click on “Articles and White Papers”. Select “Biennial National Parent Club Canine Health Conference October 2005”. (Presentations related to the canine genome project are not included since that information was embargoed until it was published in December.)

– Elaine Azerolo

2006 VISIT TO U of MISSOURI Canine Pherome Project

On June 5, 2006, several SCWTCA members visited the laboratory of Dr. Gary Johnson in the College of Veterinary Medicine, Department of Veterinary Pathobiology, University of Missouri in Columbia, MO. Participants included: Beth Verner and Carol Carlson from the Endowment Board; Kenna Kachel, Genie Kline, and Susan McGee from both the Endowment and the SCWTCA Boards; Helen Moreland (Chair of the Health Committee) and Barbara Zapf from the SCWTCA Board; Jackie Gottlieb from the Genetic Research Fund; and Cindy Vogels, Canine Health Foundation Vice President and SCWTCA, Inc. Delegate to the AKC.

Four major objectives prompted this visit:

• Become familiar with the Canine Phenome Project and meet the researchers and staff involved.

• Determine if we should recommend participating in the Canine Phenome Project.

• Understand the relationship between CHiC and University of MO.

• Understand the relationship between CHiC and the Canine Phenome Project.

SCWTCA MEMBERS VOTE FOR CHIC MEMBERSHIP

With just over a third of the Soft Coated Wheaten Terrier Club of America members returning ballots, the majority of votes recommended that SCWTCA join CHiC. CHIC is the acronym for the Canine Health Information Center. CHIC has been established as a health data storage center and will also offer DNA storage.

The Board of the SCWTCA, Inc has passed a motion for CHIC membership. CHIC will be contacted to determine the next step and a committee will be formed to review plans and further recommendations. Existing databases for OFA and CERF results will automatically be placed on the CHIC Registry as soon as our membership is in place.

For more information on CHIC, please visit their website at www.caninehealthinfo.org.
Project (current participants: Basenjis, Kerries, and Collies) and related research projects by other breed clubs. The presentation was a result of conversations I had with Liz Hansen who works for Dr. Johnson. Liz served as parent club liaison for Dr. Johnson’s work on Epilepsy in the Standard Schnauzer, the breed she has bred and shown for some 25 years. As the project evolved, Liz left her former job as a scientific illustrator to work for Dr. Johnson as liaison for parent clubs and breeders. His research focuses on identifying DNA markers for diseases/traits in domestic animals, primarily dogs and beef cattle. [To learn more, visit www.cvm.missouri.edu/vpbio/index.html.] AKC/CHF has sponsored 16 of his research projects. [To learn specifics about the projects, see: www.akcchf.org/research/grants/search/index.cfm?search=researcher&display=results&researcher=Johnson,%20DVM,%20PhD%20Gary%20S.]

The goal of the Canine Phenome Project is to assemble a resource consisting of DNA samples from a wide variety of dogs with well-characterized phenotypes in order to have the information available when more complex mapping technology is ready (anticipated within a year). Correlations noting the strength of association between marker data and information about the characteristics of the individual dogs that supplied the DNA will lead to the identification of genes responsible for canine diseases, temperaments, and other traits. Markers for these genes could guide the selection of breeding stock to consistently produce new generations of dogs well suited for their roles in modern society. [To read more about the Canine Phenome Project, see: www.caninephenome.org/info.html.] To date, complex mapping has not been highly successful due to technology limitations. However, Dr. Johnson believes that the recent rapid technological advances permitting allele association testing, in addition to the linkage testing that is more extensively used, will facilitate unraveling the more complex mapping sequences believed to be associated with many immune system problems.

Both CHIC and the Canine Phenome Project require the dog owner(s) to complete a health questionnaire. The CHIC survey is a paper questionnaire. The Canine Phenome Project utilizes an online survey and addresses temperament, structure, and coat plus any other attributes that the parent club is interested in collecting; and it automatically sends participants requests for updates on the dog’s history and physical status. Blood samples for both CHIC and the Canine Phenome Project are stored at U of MO where they are converted to DNA pellets, indexed, and stored in Dr. Johnson’s laboratory. The cost for a single sample is $40.

Dr. Johnson and his associates are open to collaboration and willingly share samples with other researchers conducting worthy projects approved by either AKC/CHF or Morris Animal Foundation. Before releasing samples, Dr. Johnson and his associates review the proposed project to assess the quality of the research design, evaluation of progress as well as ongoing monitoring and reporting. Cheek swabs for CHIC are sent to U of CA at Davis. The advantages of blood samples over cheek swab samples are that the quantity of DNA produced is greater, and the shelf life under proper storage conditions is unlimited.

The SCWTCA members toured Dr. Johnson’s laboratory and met the doctoral students and technicians working on the team, observing the DNA extraction process and storage of the final product.

As a result of this trip, it was recommended by the visitation group that SCWTCA, Inc 1. Explore developing an ACORN grant for mapping gene sequences for PLE/PLN. (ACORN grants are designed to allow researchers to complete small, relatively short time-frame projects, test research hypotheses, and/or generate preliminary data for possible future (continued on next page)
NEW SPEAKER ADDED TO MONTGOMERY EDUCATION DAY!

We are pleased to announce that Ms. Liz Hansen, Club Liaison for Dr. Gary Johnson, U of MO, College of Veterinary Medicine, Department of Pathobiology (see previous article), has agreed to present information on current goals for DNA collection and the future of genetic research, including the Canine Phenome Project and other related research projects. Blood samples for both CHIC and the Canine Phenome Project are stored at the University of Missouri in Dr. Johnson’s lab after being converted to DNA pellets.

Ms. Hansen will speak in the afternoon session of our Education Day following the Vaccination Presentation by Dr. Schultz in the morning session. Our Education Day will be held on Thursday, October 5th at our hotel headquarters.

We are planning to video tape this event and have DVDs available for those unable to attend. Purchase information will be published as soon as details are finalized with the videographer.

THE FUTURE OF THE OPEN REGISTRY

The Open Registry was recently a topic of great discussion on the National Club listserv, SCWTCA-Discuss. SCWTCA Endowment President, Carol Carlson asked Dr. Meryl Littman, who maintains the registry for our club, to comment on the discussion. With both Carol and Dr. Littman’s permission, we are publishing Dr. Littman’s comments on the future of the Open Registry.

Dear Carol,

I think the OR is still valuable. Urs (Giger, VMD) and I were discussing the Open Registry some time ago, and I pulled up an old email from July 2004 (copied here) that we wrote to a breeder and then also to you, John Giles, and [Dr.] George Jeitles. I still believe the content, so I’m copying it here. I will call your attention to #2 and the reasons why the Open Registry is still an important effort. The breed club can feel proud that they did all they could to be honest/open with one another and share information, generations before other breed clubs did so. I think the Wheaten community of the future will benefit from the precious historical information as well as the samples saved and not just thrown away or lost.

I don’t think the OR has “failed”. It just isn’t as up-to-date or complete as we’d like. But what it has done so far is already remarkable. It has certainly helped us to educate owners, breeders, and veterinarians. It has helped to stop some rumors, but it has opened a
can of worms about who is cooperative and forthcoming and who is not. It has helped people realize that they were confusing several diseases together because of mimicry and common clinical signs and laboratory test results. In the beginning, only PLE/PLN and renal dysplasia were listed. Then we realized that IBD without PLE was a growing concern. And most recently we have saved the lives of many Addisonian Wheatens as we alert people that Addison’s is also a problem in the breed and can be misdiagnosed as kidney failure.

We are now poised at a much more sophisticated level than we were in the past, and I think the OR has helped us come to this point. The OR helped recognize informative families which help geneticists and other researchers currently working on these problems. The information, extent of the problem, and the cooperative zeal noted by having an Open Registry also motivates future investigators to get involved and work with these diseases and with this breed. But I see I am repeating #2a-d below, so let me put the info from the ‘old email’ in now.

Here’s our consensus:
#1. The OR is currently of limited use to make breeding decisions because:
   a. in so many SCWT families, affecteds have been found
   b. there is not yet an age or a definitive way to declare a dog free of the disease trait (therefore, we cannot list “normals”)
   c. the mode of inheritance of these clinical conditions has not yet been determined
   d. besides the genetic predisposition to develop PLE/PLN, there are probably environmental factors that are influencing the clinical expression of the disease with respect to onset, organ involved, and progression.

#2. Even though the OR is not yet as useful a tool for making breeding decisions as we would like, there are positive things the OR does for the SCWT community, including:
   a. The OR helps to stop rumors concerning which dog had which disease.
   b. The OR helps to show the extent of disease in the breed and helps researchers and funding agencies become aware of the need for further investigations.
   c. The OR helps to show researchers family patterns of disease which helps us find and study informative families.
   d. The OR increases the likelihood that owners, breeders, and their veterinarians will become better educated about these diseases.
   e. The SCWT Open Registry has received an award for this important effort.

Making decisions also will depend on the philosophy of the breeder as far as how far away from affecteds they feel should not be used in their breeding program. Some breeders may feel that they don’t want to use any close relative (littermate, sire, dam, progeny) of an affected. Others might include aunts/uncles. Some people may feel that we don’t know enough yet to make those decisions, and that we may throw out too many good dogs and lose genetic diversity if we cull so many dogs this way.

Carol, it’s interesting that we are now seeing European investigators getting involved in studying these diseases. We are now hearing about European dogs getting diagnosed with these problems. It’s not just a North American problem, it is now recognized as widespread and much more work needs to be done. Technology is getting better and better to help us with our work. Our DNA bank is getting more and more samples which hopefully will lead to statistical satisfaction. I don’t think now is the time to stop a helpful tool such as the Open Registry. Now is a time for growth in learning and continued effort!

I am hiring 2 students to help me with Wheaten work this summer! I hope people will take advantage of the extra help I have to catch up and will send us the medical files on dogs that may have been affected with the diseases to which Wheatens are predisposed, namely:

- inflammatory bowel disease
- lymphangiectasia
- PLE (protein-losing enteropathy)
- PLN (protein-losing nephropathy)
- juvenile renal dysplasia
- Addison’s disease.

Sending medical records to be interpreted for documentation of the criteria for diagnosis is not expensive. It’s free! The only cost may be for xeroxing paper copies or the stamps. Penn and I are still not charging for my interpretation or for my Wheaten work. I do however have to pay the students who work for me. Thanks to Beth Heckermann’s gift (bless her soul) and other donations, I can hire 2 students this summer.

Use any or all of this email that you want.

(continued on next page)
On another topic: an owner of an affected dog contacted me a few months ago. She found me through the Internet and I gave advice to her and the vet as best I could but the dog was already quite ill and succumbed shortly thereafter. I told her to contact her breeder to notify them. The breeder rightly told her that she knew that a close relative had died of the disease. The owner was very disappointed that the breeder had not notified her sooner about that, because she felt that if she had known, she would have had her dog monitored more closely and screened annually. The breeder told her that she did not want to worry her. Carol, do the breeders have ethical guidelines about educating owners about the health of family members and advising screening tests (before and even years after a puppy is sold)? What about making sure that all new puppy owners at least have the website address www.scwttca.org to learn about diseases all Wheatens are predisposed to and about screening before a dog becomes sick? Because otherwise owners don’t find the website until after their dog is sick and then it’s harder to help them. I think this owner was very, very upset about this, and I can understand her outrage. Sorry to end on such a sad note. I hope you have a great Easter holiday. Thanks for all the good work you do! Take care.

- MERYL

HEALTH INFORMATION
– A Breeder’s Response

The following is written in response to Dr. Littman’s question “Do breeders have ethical guidelines about educating owners about the health of family members and advising screening tests (before and even years after a puppy is sold)?” The question is from a letter titled, The Future of the Open Registry, previously posted to the scwtbreeders listserv and included earlier in this issue.

“While it is unfortunate and terribly sad that the breeder/owner Dr. Littman references in her letter did not provide necessary services to the dog’s owner, it should not be construed as typical of Wheaten breeders. On the contrary, I believe that yes, breeders who are national club members ARE supporting and providing their puppy buyers with accurate and complete information concerning health as well as the whole dog. Our Code of Ethics requires members to agree to a variety of desired behaviors including the following breeding conditions. Excerpted from the SCWTCA Code of Ethics, breeders agree to be:

“F) Knowledgeable about the genetic diseases affecting Wheatens and work to manage these and other diseases.”

1) My breeding stock over two years of age is OFA certified for hips or meets the average mean for SCWT using PennHIP. Any breeding stock under two years of age is OFA Preliminary evaluated for hips or meets the average mean for SCWT using PennHIP.

2) My breeding stock’s eyes are examined by a Board certified ophthalmologist prior to the first breeding and a minimum of every two years thereafter while being bred or until age 10, whichever is later; dogs whose semen has been frozen are tested for life or until frozen semen is no longer stored.

3) My breeding stock undergoes blood and urine testing, including blood chemistry panel, CBC, urinalysis, and urine protein:creatinine ratio before the first breeding and at least annually thereafter.

4) I keep accurate health records on my breeding stock.

Furthermore, members agree “to provide complete medical records, and complete written instructions on feeding, health care, training, and grooming....”

As part of these complete written instructions, most reputable breeders provide puppy buyers with packets of information which may include the testing protocol – recommended by SCWTCA – that the new owner places in the puppy’s vet folder when visiting the veterinarian for the first time. I believe that many, if not all, breeders, refer buyers to the national club website BEFORE they purchase a puppy. Another common inclusion in a puppy packet is the post-mortem protocol and the application for the Open Registry. Some breeders require that buyers join the OR before picking up the puppy.

Perhaps the breeder of the dog that died is not a member of SCWTCA or a member of a local club which would have a similar COE. Assuredly SCWTCA members in good standing are vigilant about the health care of those dogs they breed.”

– MOLLY O’CONNELL
AN INTRODUCTION TO GENETICS

Featuring Dr. Neil O’Sullivan

The Soft Coated Wheaten Terrier Club of America, the Soft Coated Wheaten Terrier Club of Southern California, and the Soft Coated Wheaten Terrier Genetic Research Fund jointly sponsored a health seminar in conjunction with the National Roving Specialty, Thursday, June 22, 2006 from 4-6 p.m. on the Great Western Terrier Association show grounds. There was no charge to attend this event.

Dr. Neil O’Sullivan presented an overview of genetics using examples primarily from the Soft Coated Wheaten Terrier. There was also a Question and Answer session and opportunity for the attendees to interact with our speaker. We’ve asked one of the seminar attendees, Kathy Drobnak, for her observations regarding this mini-seminar.

On Thursday afternoon, the Soft Coated Wheaten Terrier Club of America Inc., the Soft Coated Wheaten Terrier Genetic Research Fund, the Soft Coated Wheaten Terrier Endowment Fund, and the Soft Coated Wheaten Terrier Club of Southern California joined forces for the first time. The four groups sponsored a mini-seminar on genetics, presented by Dr. Neil O’Sullivan.

Although I have shared my life with Wheatens for the past twenty years, I have only been “in Wheatens” for the past three of those years. During that short period of time, I have been climbing an incredibly steep learning curve. A myriad of previously foreign topics, including SCWT conformation, health testing, temperament testing, pedigree research, training concepts, and others have all become important. As I contemplate the possibilities available to me in acquiring my next dog and making the move from co-owner to breeder, I hope to collect a sufficient number of “tools” of knowledge to get started on the right foot.

An understanding of basic genetic concepts is one of the essential tools. That being said, I was pleased to hear that Dr. Neil O’Sullivan had been scheduled to present an introductory seminar on genetics at Great Western. Neil is not only well qualified to speak on the topic of genetics (he has a Masters Degree in Genetics from the University College in Dublin, Ireland and a PhD from Virginia Tech), he is also an active breeder, owner, and exhibitor of Wheaten Terriers.

The seminar was attended by forty to fifty SCWT fanciers. Neil geared his talk to an introductory level and discussed a number of fundamental concepts. The handout that he provided was both informative and easy to follow. I have taken the liberty of reciting portions of the information provided by Neil in his handout. Please accept my apologies if any of my comments or observations are inaccurate or misinterpret the information given.

Neil made a comment early in his presentation that struck a chord with me: “All breeders are working geneticists.” Whether or not a breeder has an understanding of genetics as a science, it’s important to keep in mind that any puppy produced by a breeding carries with it the possibility of making genetic impacts to the gene pool. When you come right down to it, breeding is the science of genetics in action. Each breeder undertakes the awesome responsibility of selectively breeding and potentially affecting the dynamics of the gene pool.

(continued on next page)
Comments about breed development and mutations were interesting. As we all know, the development of any breed is driven by the function that the breed was “designed” to perform or the purpose for which it was bred to serve; in other words, the oft-recited concept of “form follows function.” With selective breeding of various animals that perform roughly similar functions, animals best suited to perform the desired function will be produced. Over time, uniformity of conformation and temperament will develop as like animals with similar traits are selected for breeding together. As breeders set goals and breed to their goals using animals within a designated gene pool, the gene frequency for these traits within the gene pool increases.

Once a gene pool is established, it stands to reason that any given breed has a limited amount of genetic variation available. Neil pointed out that the available genetic variation can be limited even further by artificial barriers and imposed limitations. One such barrier is the existence of breed registries. Other barriers exist when breeders place restrictions or limitations on the use of their breeding stock. This is not a statement of right or wrong here. It is simply interesting food for thought.

Another interesting discussion questioned popular beliefs relating to the limited size of our gene pool. Tremendous technological advances have been made in the methods of freezing, storing, and thawing semen. The rate of success of conception after insemination with frozen semen is increasing. This technology is becoming readily available and more widely used. The use of frozen semen collected from foreign and deceased dogs has resulted in an increase in the size of our gene pool.

Changes or “mutations” occur in gene pools when we identify and increase the frequency of a rare trait. As Neil pointed out, most mutations are neutral and have no noticeable effect, a small number have a positive effect, and a similar number are undesirable and have a negative effect.

Through selective breeding, breeders have the power to make changes. Causing changes in gene frequencies results in changes in the makeup of the available gene pool. By way of example, Neil discussed the presence of the Irish coat gene in North America. Up until 1990, Irish coats were very rare in North America. As imported dogs with Irish coats began to arrive in North America and these imported dogs were bred to North American dogs, the gene frequency for Irish coats began to increase with a resulting change in the North American genetic population or gene pool. I found it interesting to learn that the gene for an Irish coat is dominant to the gene for a heavy coat. Any dog with one or two copies of the Irish coat gene will be Irish-coated. Most Irish-coated dogs in North America are heterozygous – meaning they carry genes for both Irish and heavy coats. These dogs, depending on how they are bred, can produce both coat types.

Another change that has been made in the gene pool through selective breeding has been the reduction in the gene frequency for kinky coats.

One of the other concepts Neil discussed was inbreeding. All breeds evolved by doing some inbreeding on excellent ancestors that allowed the gene frequency of the good genes to be increased. Neil cautioned that care needs to be taken, however; very rapid inbreeding (brother/sister, father/daughter) allows very little room to selectively breed away from deleterious traits.

As a breeder, my challenge will be to evaluate the breed standard, formulate goals, and breed to those goals. With each breeding, I will initially ask myself the questions instilled in me by my mentors: “What do you want to gain, and what can you afford to risk?” I will then, undoubtedly, spend many hours using the tools at my disposal to select the best match possible. Thanks, Neil. You have provided me with a few additional tools!

-Kathy Drobnak
RENAL DYSPLASIA
IN SOFT COATED WHEATEN TERRIERS:
10 Years of Experience with Dogs along the Front Range of Colorado

Renal dysplasia (RD) is defined as the abnormal differentiation of kidney tissue such that inappropriate or anomalous structures appear within the renal parenchyma. There is disorganization of renal architecture with abnormal tubulogenesis, abnormal glomerulogenesis, cyst formation, and immature nephronic (immature nephrons) and ductal structures (immature renal ducts). In the normal embryonic and fetal development, tubular development occurs from metanephric tissue and proceeds in concert with branching of the ureteral buds. Glomeruli form from blood capillaries that invaginate into, or are surrounded by, the terminal end of the tubular structures.

RD is presumed to be familial in the Lhaso Apso, Shih Tzu, Soft Coated Wheaten Terrier, and is suspected to be familial in the Alaskan Malamute, American Cocker Spaniel, Bedlington Terrier, Chow Chow, Golden Retriever, Keeshond, Miniature Schnauzer, Standard Poodle, and Weimaraner. RD was first described in related Soft Coated Wheaten Terrier (SCWT) dogs in the 1980s in Europe. It has been reported in both sexes, with affected dogs ranging in age from 1-30 months. In 1984, two articles were published in the Journal of Small Animal Practice regarding RD in Wheaten Terriers. Nash, Kelly, and Gaskell from the University of Liverpool described 7 SCWTs with chronic renal disease. The oldest dog was 2.5 years of age, and the other six died between 1 and 15 months of age. Three of the dogs were in two litters of the same sire and dam. This pairing produced four litters during a 4-year period, with a total of 18 puppies weaned. Nine died before 3 years of age, though only 3 of 9 were studied. Eriksen and Grondalen from the Norwegian College of Veterinary Medicine describe chronic renal failure in 5 to 10 dogs in two litters having the same parents. The dogs died or were euthanized between 7 and 30 months of age. Both the dam and sire were imported from Sweden.

Currently, RD is believed to be genetic, autosomal, and recessive. Dysplasia may be related to a primary error in renal maturation. It could also be a nonspecific response of the developing kidney to injury. The insult could be a circulating nephrotoxin, ischemia, or urinary obstruction, as documented in humans. In one report, puppies infected with canine herpesvirus had tubular and glomerular lesions consistent with dysplasia.

VetGen has reportedly discovered a linked DNA marker to a required genetic determinant of RD in three breeds, including SCWTs. They report that there is strong linkage between this marker and the defective gene such that about 95% of the definitely affected dogs in these breeds have one or two copies of an allele we have called M (standing for marker). At this marker locus, there is only one other allele called N (for normal). The population frequency of the M allele in the Shih Tzu, Lhasa Apso, and Wheaten Terrier is about thirty percent. [For more info about VetGen’s RD marker work, see www.vetgen.com/renal dys.htm.]

Clinical signs of RD can include increased water drinking and urination, dilute urine, decreased appetite, lack of vigor, weight loss or failure to gain weight, and vomiting. Kidney failure often manifests at less than one year of age.

Screening tests for RD include a biochemical profile, complete blood count CBC), urinalysis, abdominal radiography and/or ultrasound, and wedge biopsy of the kidney.

Serum creatinine and BUN will stay normal until less than 25% of renal function exists, so abnormal values are not a sensitive indicator of renal function.

Urine concentrating ability, which is not fully mature until puppies are 12 weeks of age, is often affected in puppies with RD. A dog with RD is unable to concentrate, or conserve urine, and may drink increased water in order to compensate for the loss. Urine with a specific gravity of greater than 1.035 is considered concentrated. Dogs with renal compromise often have a urine specific gravity between

(continued on next page)
Keep in mind that renal reserve has to drop below 33% before concentrating ability is lost, so a dog with mild RD may have normal concentrating ability. Proteinuria is not a prominent characteristic of RD.

On ultrasound, dysplastic kidneys are usually small but may appear larger if cysts are present. Echogenicity is usually increased, and the distinction between the cortex and medulla is decreased. Normal renal size for a 5-9 kg dog is 3.2-5.2 cm, 5.0-6.7 cm for a 15-19 kg dog, and 5.2-8.0 cm for a 20-24 kg dog. The medulla has a hypoechoic round appearance, and the cortex surrounds the medulla. Between the medulla, slightly hyperechoic bands are seen. At the center, the renal pelvis is hyperechoic due to fat. The renal borders should be smooth.

Renal wedge biopsy is a sensitive way of determining whether RD is present.

With RD, a biopsy will show decreased numbers of glomeruli, immature (fetal) glomeruli, and cystic glomerular atrophy. There may be segmental interstitial and periglomerular fibrosis. In the renal medulla, changes include atrophy, dilatation, basement membrane mineralization, interstitial fibrosis, and adenomatous proliferation of the collecting duct epithelium. Unfortunately biopsy is not without risk or expense. Needle biopsy can also be considered, but obtaining adequate numbers of glomeruli for examination is not as certain as with wedge biopsy.

ULTRASOUND RESULTS OF WHEATENS IN THE GREATER DENVER AREA (1995-2005)

Our method of ultrasound is as follows: puppies are examined without sedation and in a standing position. The hair coat is not clipped as is standard with ultrasound, but wetted with alcohol. Ultrasound gel is liberally applied. Both the left and right kidney are imaged caudal to the last rib. Sagittal views of both kidneys are obtained using a 7.5 mg Hz transducer. The length of the kidney is measured and pictures are taken of both kidneys in a sagittal view. Abnormalities seen with RD include decreased renal size and abnormal architecture. The cortex is often thick and there is poor distinction between the cortex and medulla.

Over a ten-year period, 528 SCWTs along the front range of Colorado had renal ultrasound performed. Most were puppies between 7-9 weeks of age. The oldest dog that was included was 4 years of age. RD was suspected in 16 puppies (3%). Most, but not all of these 16 puppies subsequently had renal histopathology done which confirmed RD. So far, none of the dogs classified as normal were later shown to have RD.

Questions that remain to be answered relative to RD in the SCWT include:

1. How sensitive/specific is renal ultrasound?
2. Are the questionable kidneys normal or abnormal? Could they be a variant of RD?
3. What is the true prevalence of RD in SCWTs?
4. Is RD a significant concern in the breed?
5. Should ultrasound continue to be used to screen puppies for RD?

Further research into this area should include wedge biopsy of normal left kidney

dysplastic left kidney
any abnormal appearing kidneys. The tissues should ideally be sent to the same laboratory/pathologist who is experienced in diagnosing RD.

SELECTED REFERENCES:


HELPFUL DEFINITIONS:

Autosomal = describing any non-sex determining chromosome.

Recessive = a trait is recessive when two copies of a disease-causing gene (one from each parent) are required to cause a specific problem.

Congenital = present at or existing from the time of birth.

Familial = occurring in or affecting more members of a family that would be expected by chance. Some familial diseases are genetic and others are acquired.

Hereditary = genetically transmitted from parent to offspring.

– Lori A. Wise, DVM, MS
Board certified in Internal Medicine

SAMPLES NEEDED BY PENNVET FROM DOGS AFFECTED WITH JUVENILE RD

PennVET has been involved in the clinical to molecular characterization of several kidney diseases. These include cystinuria, Fanconi syndrome, cobalamin malabsorption, amyloidosis, renal dysplasia (RD), and glomerulonephropathies. While we were concentrating our efforts in the SCWT on the PLE/PLN problem, we would be interested in receiving some 1-2 ml EDTA blood or 3 cheek swab samples from SCWTs with documented juvenile RD and, if possible, the parents for some additional genetic studies and for contrasting the PLE/PLN disease in SCWTs. Information gained will be reported to the submitting Owner(s) and kept confidentially. Please contact Dr. Urs Giger for further instructions at penngen@vet.upenn.edu or 215-898-PennVET

Here are some websites that you may find helpful:

http://w3.vet.upenn.edu/research/centers/penngen/ and http://w3.vet.upenn.edu/research/centers/penngen/services/swabcollection.html.

– Urs Giger DVM
Chief, Medical Genetics
UPenn School of Veterinary Medicine

HISTORY OF RD IN THE U.K.:

In the 1960s, a number of Wheaten Terriers in the U.K. died from kidney failure. In those early days, the affected dogs were diagnosed as suffering from nephritis. The dogs ranged in age from very young puppies to 8 years. The majority came from one bitch mated to three different sires. It is believed that a total of 23 out of 30 puppies were affected. At the time, Wheatens were uncommon in the U.K. which meant that a large proportion of the population could be affected or carriers.

In the 1970s, reports came from Scandinavia and Holland of Wheaten terriers dying from kidney disease. A study of these affected dogs led to the diagnosis of hereditary renal cortical hypodysplasia (i.e. RD). All those affected at the time had pedigrees containing English lines.

In 1978, the late Dr. D. F. Kelly, pathologist at Liverpool Veterinary College, diagnosed a young dog (from a litter born in England) as having inherited kidney disease. Dr. Kelly was asked by the SCWT Club of Great Britain to investigate further. Other affected litters were later identified confirming that inherited kidney disease existed.

Professor A.S. Nash treated several affected Wheatens at the University of Glasgow Veterinary School. His assistance was therefore sought and, in 1984, in conjunction with the
SCWTCofGB, a litter-monitoring scheme was established with funding from the Clinical Studies Trust and the SCWT-CofGB. Nearly all the puppies born in 1985 and 1986 were monitored and had blood and urine samples tested every six months for the first two years of their lives. Dr. Nash was able to identify potentially affected puppies at an early age. Over the next decade, many litters were blood- and urine tested prior to sale to be sure that no puppy showed signs of early renal failure before going to its new home. This policy of blood and urine testing is still actively encouraged by the SCWTCofGB with many breeders continuing to test today.

About the same time, SCWT-CofGB asked Dr. Bruce Cattanach, geneticist at the Medical Research Council Radiobiology Unit in Harwell to attempt to establish the mode of inheritance for this kidney disease. As a result, breeders were advised to treat the problem as a recessive gene to help eradicate the problem.

In December 1983, the Committee of the SCWTCofGB approved a health directive stating that no dog or bitch that had produced any offspring diagnosed as being affected by RD should be bred from further.

In 1986, the members agreed that the Club would publish all results of hereditary defect tests (hip dysplasia, eye problems, RD) following confirmation from the relevant experts. In 1988, the members agreed to a proposal denying use of the Club’s puppy list to any breeder mating a dog and bitch who both had a high probability of being a carrier of RD, (i.e., a littermate of a dog who had died of RD or any progeny of a known carrier). The incidence of RD began to drop. This was due to careful breeding and the widening of the gene pool by using bloodlines from Europe and North America.

To facilitate the diagnosis of affected animals, the Club made funds available for the post mortem examinations of suspect cases. The post mortems were done at the University of Glasgow Veterinary School, Department of Veterinary Clinical Studies.

There have been very few confirmed cases of RD in the U.K. since 1993.

WHEATENS NEEDED FOR PLE PILOT STUDY

Researchers from the Gastrointestinal Lab at Texas A&M University, in collaboration with the Soft Coated Wheaten Terrier Club of America, Inc., are conducting a three-month study that targets “abnormal intestinal permeability”, found in many dogs suffering from gastrointestinal (GI) diseases such as PLE (Protein Losing Enteropathy). It is hypothesized that this abnormal intestinal permeability could be the aggravating disease for other diseases such as PLN (Protein Losing Nephropathy) by allowing substances to enter the blood that should normally not get there.

This will be a small pilot study of eight Wheatens who meet the study criteria.

If your SCWT has the symptoms of PLE, has PLE, or has been diagnosed with IBD (Irritable Bowel Disease) but does not have PLN, he/she may be eligible for this pilot study. All contact will be between the Wheaten owner(s) and Dr. Berghoff, and participation in the study is confidential.

SCREENING PROCESS:

If your SCWT meets the study criteria, Dr. Berghoff will send you a kit that includes plastic
tubes for collection of three fecal samples on three separate days. These samples will be tested for Fecal Alpha-Proteinase Inhibitor (A1-PI), an indicator of possible PLE. The GI Lab will also need a blood sample from your Wheaten to further assess any gastrointestinal disease. The kit will include specific instructions for both the fecal sample collection as well as the blood draw.

Texas A&M covers the costs of the kit, the testing and the shipping. The SCWTCA has agreed to pay for the screening vet visit and blood draw for candidate dogs. This is the only part not covered by Texas A&M. There will be no cost to the Wheaten owner. If you wish to be reimbursed for the vet visit and blood draw, please send receipts to Kenna Kachel, Treasurer, SCWTCA, Inc. The fecal samples must be collected three days prior to the blood draw, and the blood sample will tell Dr. Berghoff whether your dog has Gi disease and meets the criteria for the pilot study. Even if your SCWT is not suited for the study, the test results are valuable since they give you a health update on your dog.

If your Wheaten has Gi disease and meets the study criteria, he/she will undergo an initial intestinal permeability test that consists of a special blood test involving oral administration of a test solution containing sugars. This test involves a 2½-3 hour vet visit because blood draws are taken at specific intervals after your Wheaten has been given the sugar solution. Owners will need to collect fecal samples in the three days prior to this Sugar Test.

Once this is done, your SCWT will begin receiving an oral twice-a-day “trial medication” that is presumed to improve permeability in the intestine. This medication has been tested in both rats and dogs at doses 1000 times greater than what will be given to your Wheaten, and no toxic effects have been found. The Texas A&M lab personnel are confident in saying that it is safe to give.

The medication will be given for a total of three months, and the fecal collection and permeability testing will be repeated twice during that time (once after two weeks of treatment and once at the end).

All in all, this is a simple protocol to follow and participating dogs may very well benefit, if the medication works as anticipated.

COSTS OF PARTICIPATION:

There is no cost to the Wheaten owners. The only part Texas A&M would ask the owners to pay is the very initial screening blood draw which is necessary to determine if your dog is eligible for the study. However, the SCWTCA has agreed to pay for this blood draw and the necessary vet visit. The shipping of the blood sample and the fecal API testing is provided by the GI Lab at no cost to the owner. All other costs associated with the study will be paid by the GI Lab at Texas A&M including:

- Visits to the vet (total of four, including three permeability tests)
- All vet costs related to this study will be covered (administration of the Sugar Test, subsequent blood draws, etc.)
- Cost of the medication
- The owner does not have to pay their vet for these tests and blood draws. Your veterinarian will be paid directly by the GI Lab at Texas A&M.

If you are interested in seeing if your Wheaten can participate in this study, or if you would like further information on the testing and medication to be used in the study, please contact Dr. Nora Berghoff at NBerghoff@cvm.tamu.edu or call Dr. Berghoff at (979) 458-2283.

– Dr. Nora Berghoff
    TAMU GI Laboratory

TIPS ON TICKS

Tick season is upon us and may be a worse than normal season in many parts of the country. While Lyme Disease is not a problem in some areas, ticks of all types can carry other diseases that can be transmitted to dogs and humans. IDEXX Laboratories and the Lyme Disease Association have set up a website featuring information on tick-borne diseases. Visit the links at www.dog-sandticks.com.
SCREENING & MONITORING TESTS FOR INTESTINAL DISEASE

The following is an Open Letter to all Wheaten owners from Dr. Nora Berghoff from the GI Laboratory at Texas A&M University. Dr. Berghoff is involved in ongoing research into intestinal diseases such as PLE and IBD. [See previous article.]

Dear Soft Coated Wheaten Terrier owner,

The Gastrointestinal Laboratory at Texas A&M University is providing several gastrointestinal function tests that can help screen or monitor your SCWT with suspected or diagnosed gastrointestinal disease.

The tests we recommend to assess the presence of gastrointestinal disease in your Wheaten are these (please see info below explaining why we recommend these tests):

1. Blood (serum) tests:
   - Cobalamin (Vitamin B12)
   - Folate
   - Trypsin-like immunoreactivity (TLI)
2. Fecal test:
   - Alpha1-proteinase inhibitor (Alpha1-PI; this test is used specifically for the diagnosis of protein losing enteropathy)

HOW TO COLLECT & SUBMIT SAMPLES:

Note: Ideally, the fecal samples and the blood sample should be collected within one week of each other.

COLLECTION OF FECAL SAMPLES:
Collect three fecal samples from consecutive bowel movements from each dog. Collect one spoonful into the provided sample tube (approx. 1 g), and level off excess material with the rod that is provided with the tube. Discard the rod. Label the tube with the dog’s name and the date of collection. Freeze the sample as soon as possible after collection and keep frozen until shipping.

Please make sure that you collect a total of three samples from each dog, because we cannot make a diagnosis with only one or two samples.

COLLECTION OF THE BLOOD SAMPLE:
Please make sure that your dog has been fasting for at least 12 hours prior to the blood draw (that means withholding food only, not water). Not doing so may alter the test results we obtain. Your veterinarian will obtain the blood sample from your dog and process it as needed.

SHIPPING:
Please have your veterinarian ship all samples, including the frozen fecal samples, to us by overnight shipping so that the shipments can be tracked. Use ice packs and an insulated package to prevent degradation during transit! Do not ship anything on Friday – we have no Saturday delivery of mail at Texas A&M University. Ship packages on Thursday at the latest, to ensure they get delivered on Friday.

Please have your vet make sure that every set of samples is accompanied by an individual submission form that allows us to identify your dog and your veterinarian’s information. This form can be obtained by your vet through the GI Lab (www.cvm.tamu.edu/gilab; gilab@cvm.tamu.edu; 979-862-2861).

FURTHER INFORMATION:
WHY ARE WE RECOMMENDING COLLECTING FECAL SAMPLES AND A BLOOD (SERUM) SAMPLE?

The fecal samples are used to test for fecal Alpha1-Proteinase Inhibitor (α1-PI), which is an indicator of Protein-losing enteropathy (PLE). If the α1-PI concentrations in one or more of those three samples are high, we can assume that the dog has PLE.

The interpretation of the α1-PI test regarding diagnosis of PLE is based on evaluation of three fecal samples. The reference range for α1-PI is 0-5.7 µg/g. Due to normal variation, healthy dogs can occasionally have single elevated α1-PI concentrations, which would not be considered PLE, as long as the concentration of α1-PI in that sample does not exceed 15 µg/g. If a single sample has a α1-PI concentration greater than 15 µg/g, or if the mean concentration of all three samples exceeds 9.4 µg/g, PLE is diagnosed. This method of interpretation reduces the probability of obtaining false positive results.

The serum sample is needed to measure the cobalamin (Vitamin B12), folate and TLI concentrations.

Cobalamin is a vitamin that is absorbed in the last part of the small intestine. Therefore, if cobala-
min is low, it is an indicator that the absorption of cobalamin is not functioning properly, which can be a sign of chronic disease in that part of the intestine.

Folate is absorbed in the first part of the small intestine. If folate concentrations are low, it is a sign that there is disease in this part of the small intestine. If both cobalamin and folate are low, we can assume that intestinal disease includes the whole length of the small intestine.

The TLI is an indicator of a disease of the pancreas called EPI. The reason we are doing this test is not that we suspect many SCWT to have this condition, but pancreatic disease can alter cobalamin and folate concentrations similar to gastrointestinal disease. By checking the TLI we are simply ruling out that the dog has any issues with the pancreas, which could otherwise give us false results.

In conclusion, by evaluating not only fecal samples but also a serum sample we get a much wider picture of what is happening in the dog’s intestine. Due to the fact that the two vitamins are absorbed in different parts of the intestine, it will give us a hint as to the location of disease in the tested dog. We also get a much better idea of how badly, if at all, the dog is affected, because the more severe the changes in serum cobalamin and folate are, the more severe the GI disease usually is.

– Dr. Nora Berghoff
GI LABORATORY, TAMU

SCWTCA EDUCATION DAY MONTGOMERY 2006 Vaccinations

We are fortunate this year that Dr. Ronald Schultz will present the latest information on vaccinations on Thursday, October 5, 2006 from 9 a.m. to noon.

The subject of vaccinations has seen tremendous changes in the past 10-12 years. Dr. Schultz is and has been the leading researcher in the field of veterinary vaccinations and immunology for the past 20 years. The testing for the project to establish the effectiveness of the rabies vaccine for at least seven years will be done by Dr. Schultz in his facility at UW-Madison. Dr. Schultz’s presentations qualify as continuing education for veterinarians. For anyone concerned about the long term health of Wheatens, a sound knowledge of vaccinations is critical.

BACKGROUND ON RONALD SCHULTZ, PhD,

Dr. Schultz earned his PhD in Immunology and Veterinary Pathology (1970) from Pennsylvania State University. He established the first Veterinary Clinical Immunology Laboratory in the US while on the faculty at Cornell University in New York. He accepted his current position as Professor and Chair of the Department of Pathobiological Sciences, School of Veterinary Medicine, UW-Madison in 1982. Dr. Schultz has won a number of awards including the first Distinguished Veterinary Immunologist Award in 1988. He is on the AAHA Canine Vaccine Task Force, as well as the AAFP Feline Vaccine Task Force, that provides Guidelines for Canine and Feline Vaccines and Vaccination Programs. He has recently been asked to help develop the canine and feline vaccination guidelines for the World Small Animal Veterinary medical Association. He was the first president of the American Association of Veterinary Immunologists (1980) and has been president of the Conference of Research Workers in Animal Disease. He has published more than 200 papers on the immunology and microbiology of animal disease, clinical immunology, and vaccinology.

NEW 2006 VACCINATION PROTOCOLS

The American Animal Hospital Association has published the new guidelines for vaccinations. Their recommended protocol can be found at: www.aahanet.org/About_aaha/About_Guidelines_Canine06.html.

Additional information on vaccinations is available through Dr. Jean Dodds, a pioneer in the fight against over-vaccination. Her site is: www.dogsadverseactions.com/MinimalVaccineUse.html.

Dr. Dodds has generously offered to answer vaccine questions for Wheatens owners through a vaccination hotline. Please send any questions to Cecily Skinner, Health Coordinator, SCWTCA, Inc. at tarascwt@aol.com. She is the SCWTCA contact for Dr. Dodds and will forward her reply.

Vaccinations

We are fortunate this year that Dr. Ronald Schultz will present the latest information on vaccinations on Thursday, October 5, 2006 from 9 a.m. to noon.

The subject of vaccinations has seen tremendous changes in the past 10-12 years. Dr. Schultz is and has been the leading researcher in the field of veterinary vaccinations and immunology for the past 20 years. The testing for the project to establish the effectiveness of the rabies vaccine for at least seven years will be done by Dr. Schultz in his facility at UW-Madison. Dr. Schultz’s presentations qualify as continuing education for veterinarians. For anyone concerned about the long term health of Wheatens, a sound knowledge of vaccinations is critical.

BACKGROUND ON RONALD SCHULTZ, PhD,

Dr. Schultz earned his PhD in Immunology and Veterinary Pathology (1970) from Pennsylvania State University. He established the first Veterinary Clinical Immunology Laboratory in the US while on the faculty at Cornell University in New York. He accepted his current position as Professor and Chair of the Department of Pathobiological Sciences, School of Veterinary Medicine, UW-Madison in 1982. Dr. Schultz has won a number of awards including the first Distinguished Veterinary Immunologist Award in 1988. He is on the AAHA Canine Vaccine Task Force, as well as the AAFP Feline Vaccine Task Force, that provides Guidelines for Canine and Feline Vaccines and Vaccination Programs. He has recently been asked to help develop the canine and feline vaccination guidelines for the World Small Animal Veterinary medical Association. He was the first president of the American Association of Veterinary Immunologists (1980) and has been president of the Conference of Research Workers in Animal Disease. He has published more than 200 papers on the immunology and microbiology of animal disease, clinical immunology, and vaccinology.

NEW 2006 VACCINATION PROTOCOLS

The American Animal Hospital Association has published the new guidelines for vaccinations. Their recommended protocol can be found at: www.aahanet.org/About_aaha/About_Guidelines_Canine06.html.

Additional information on vaccinations is available through Dr. Jean Dodds, a pioneer in the fight against over-vaccination. Her site is: www.dogsadverseactions.com/MinimalVaccineUse.html.

Dr. Dodds has generously offered to answer vaccine questions for Wheatens owners through a vaccination hotline. Please send any questions to Cecily Skinner, Health Coordinator, SCWTCA, Inc. at tarascwt@aol.com. She is the SCWTCA contact for Dr. Dodds and will forward her reply.
REVISED POST-MORTEM PROTOCOLS

We are all aware of the health problems facing the Soft Coated Wheaten Terrier. We also well know the difficulties facing our veterinarians and researchers when diagnosing these issues.

Until new methods, such as DNA analysis, become available, we are, in many cases, breeding in the dark. For many dogs, the only definitive diagnosis can be made by a post-mortem examination. Although a post-mortem may come too late to help with some breeding decisions, it can be quite useful to know the status of the dogs in our pedigrees. The Soft Coated Wheaten Terrier Club of America and its researchers therefore suggest that Wheaten breeders and owners plan to have necropsies performed at the time of death on the following three (3) classes of dogs:

1. Wheatens not affected with PLE, PLN, Addison’s, IBD, or RD at the time of death and who have been used in breeding programs;
2. all Wheatens suspected to have or known to be affected with PLE, PLN, Addison’s, IBD or RD at the time of death;
3. Geriatric Wheatens over the age of 13 years and in relatively good health.

The current Post-Mortem Protocols can be found on the SCWTCA website at [www.scwtca.org/Health/postmortem.php](http://www.scwtca.org/Health/postmortem.php). It is suggested that a copy of the protocols be put in your dog’s file at their vet. It is understandably hard to make these decisions during the time when we face losing our loved ones.

TEST! TEST! TEST!

Please remember to test your dogs at least annually. Our health researchers currently recommend that annual testing include a Complete Blood Count (CBC), Super Chemscreen, Urinalysis, and Urine Protein: Creatinine Ratio. Additional screening tests available include the Heska ERD Test, the MA (microalbumin) Test, and the Fecal API Test. Printable Testing Protocols designed for Wheaten owners and also for their Vets can be found on the home page of the SCWTCA website at [www.scwtca.org/health/vet-prot.asp](http://www.scwtca.org/health/vet-prot.asp) and [www.scwtca.org/health/srngprot.asp](http://www.scwtca.org/health/srngprot.asp).

Retest your dogs according to your Vet’s advice should any result present cause for concern. It is essential that you track your dog’s results and watch for any trends. Early diagnosis of all health problems, including but not limited to kidney issues, is vital for a positive prognosis.

An easy-to-use, online Health Tracker is available for a small donation of $10 to the SCWTCA Endowment Fund [wheatenhealthendowment.org](http://wheatenhealthendowment.org/). Please send your donation to SCWTCA Endowment Fund, c/o Carol Carlson, Endowment President, 21 N. Vintage Road, Paradise, PA 17562-9619. You can get the Tracker by emailing Anna Marzolino at marzolinoam@aol.com. Anna is also available to help with any questions on how to input data onto the Health Tracker.

“HEARTS FOR HEALTH” BOUTIQUE

Looking for that perfect present? . . . visit the SCWTCA “Hearts for Health” boutique at [www.scwtca.org](http://www.scwtca.org).

Our online boutique features great gifts in all price ranges with new items added often!

Net proceeds benefit the SCWTCA Health Fund which supports the Geriatric Wheaten Project, the student assistant for Dr. Littman, Health Surveys, and education events such as the recent Genetics Seminar at Great Western.

Please send questions and suggestions for new items to Ann Leigh at sleigh@ddrr.com.
DONATE TO SCWTCA HEALTH ENDOWMENT

The Board of the Soft Coated Wheaten Terrier Club of America and the Endowment Board thank everyone for their generous donations.

Donations either fund grants selected by the SCWT Endowment Fund Board or provide matching funds for grants approved by the American Kennel Club/Canine Health Foundation (AKC/CHF).

Send your contribution to Rosemary Berg, 37953 Center Ridge Dr., North Ridgeville, OH 44039-2821.

Make check payable to SCWTCA Endowment (US funds only), or contribute online via the SCWTCA website www.scwtca.org/cashdonations.html.

DONATE TO AKC/CHF SCWT GENETIC RESEARCH FUND

The Board of the SCWT Genetic Research Project thanks everyone for their generous donations to the fund.

The SCWT Genetic Research Fund, in cooperation with the AKC/CHF, will sponsor genetic research into the canine genome specifically aimed at identifying the genes responsible for the transference of PLE/PLN. This information will make it possible for the development of testing protocols to identify Wheatens with protein-wasting diseases.

To join our effort with a tax deductible donation, make your check payable to AKC/CHF SCWT Genetic Research Fund and mail to: David Ronsheim, Project Financial Officer, 14837 N. 25th Drive #11, Phoenix, AZ 85023-5082.

Or, visit our web site www.scwtgrf.com to make an online donation through PayPal.