

Dalmatian

Update

Vol. 10, No. 1 ■ May 2011

Dalmatian Breeders Urged to Take Steps to Breed Against Deafness

The potential of breeding puppies with hearing problems is a fact of life for Dalmatian breeders. Dalmatians are one of about 92 breeds that suffer from congenital deafness. The incidence of deafness in Dalmatians is highest of all breeds, with as many as 29.9 percent of Dalmatians born deaf in one or both ears.

Like many other Dalmatian breeders Sara Pruyne carefully tests puppies to determine their hearing status. In March, a new litter was whelped at her Blackthorn Dalmatians kennel in Greenwood, Maine. "We start testing puppies at about day 14," she says. "We make noises to make sure their little ears twitch and work."

Deafness in the breed stems from coat coloring, which also makes the breed so unique. The breed's distinctive spots are not the problem. Deafness has been linked to the extreme piebald gene, the genetic coding that gives the dog its brilliant white coat.

In Dalmatians, an underlying coat of black or liver is covered with white by the extreme piebald gene. Many researchers believe Dalmatians develop deafness because of the suppression of pigment-producing cells that are necessary to the health of the stria vascularis, the vascular bed lining the outer wall of the cochlear duct. This leads to damage to cochlear and sensory hair cells necessary for hearing.

Other breeds that have relatively high rates of deafness include Australian Cattle Dogs, Bull Terriers, Cocker Spaniels, English Cocker Spaniels and English Setters. Though Dalmatian deafness is widespread and has been researched since the 1890s, not everyone is aware of the problem.

When Pruyne accepted a Dalmatian puppy from a neighbor years ago, she had no idea that deafness was a breed health issue. That changed as the puppy she named "Panda" matured.

"We had Panda about two to three weeks and thought she was hard to housetrain. Then, we figured out she couldn't hear," Pruyne says.

By then, Pruyne and her husband, Don, had grown attached to Panda. That fondness blossomed into a

romance with Dalmatians that has lasted 30 years. While Panda became a wonderful running partner, her deafness created issues.

"She was what we classify today as aggressive. She bit some people," Pruyne

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says. "It's not that we didn't socialize her. We did. She just never was good with other people or other dogs."

Undeterred, Pruyne decided to get a second Dalmatian, "Cheeca." Unfortunately, Cheeca also was deaf. Pruyne advises owners of deaf dogs to find an obedience instructor who has worked with hearing-impaired dogs.

"You still need to go to obedience class, not so much for the dog but to teach you how to train the dog," she says. "The more deaf dogs know their boundaries, the better it is for them."

Though Cheeca lived to be 14 years old, she also had aggression issues.

"She too was not good with other dogs or people," Pruyne says. "She was always a lot more work. You could never trust her in a strange situation."

Despite those early difficulties, Pruyne has become a successful breeder and her Blackthorn's Dalmatians have won numerous titles. Last year, GCH Blackthorn's Flower Power ("Daisy") was the No. 1 Dalmatian in the country, earning 153 Grand Champion points and 10 Best in Specialty Show wins. While she loves the breed, Pruyne says it would be difficult today to keep a deaf Dalmatian.

"I applaud people who keep their deaf dogs, but you really are handicapping yourself for as many as 15 years," Pruyne says. "You have a dog that's always going to be a more work and have some heartbreak mixed in."

The Search for Genetic Markers

So far, researchers have not found a way to eliminate the heartbreak of breeding a deaf Dalmatian. One hope is to identify genetic markers that will tell which Dalmatians are carriers for deafness before they are bred. Ongoing studies have not been able to pin down a specific genetic location for deafness in Dalmatians, but researchers have identified steps breeders can take

Continued on page 2

BAER Hearing Tests Determine Deafness

The most reliable way to check hearing in dogs is the brainstem auditory evoked response, or BAER test. The testing uses computers to record electrical activity of the brain in response to sound stimulation. The same test is used in human infants. While it does not measure the full range of canine hearing, the BAER test will determine if a dog has hearing within normal human range.

During the test, a computer produces a stimulus click that is directed into a dog's ear through a foam microphone. Responses are collected through small electrodes. Testing is not painful, can be conducted on any dog 6 weeks of age or older, and typically takes 10 to 15 minutes.

The Dalmatian Club of America periodically offers BAER testing at all-breed dog shows and specialties. For a list of locations where dogs can be taken for BAER testing, visit www.lsu.edu/deafness/baersite.htm. George Strain, Ph.D., professor of neuroscience at Louisiana State University, updates the listing. You also may visit Strain's website at www.lsu.edu/deafness/deaf.htm for information about deafness in dogs.

Deafness

continued from page 1

to reduce the likelihood of producing deaf puppies.

One key to future breeding success is to use the brainstem auditory evoked response, or BAER test. The test can be performed on puppies as young as 6 weeks of age.

"I think it's an advantage we can use BAER testing as early as we do," says Scott Facey, a Massachusetts breeder who also is head of the Dalmatian Club of America's hearing committee. "It's not like hip dysplasia that doesn't show up until the dog is 2 or 3 years old and is suddenly in agony."

BAER tests also should be used for adult Dalmatians planned for breeding. This is important since detecting which dogs are unilaterally deaf, or have no hearing in one ear, can be difficult. Testing is significant, however, since research has shown that breeders almost double the chance of deaf offspring by breeding parents that

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are deaf or unilaterally deaf.

Studies by George Strain, Ph.D., professor of neuroscience at Louisiana State University, and others indicate that Dalmatians with blue eyes are more likely to produce deaf puppies. That's one reason Great Britain, along with Mexico, European countries and Canada, restricts breeding and conformation of Dalmatians with blue eyes, Strain says.

"The incidence of deafness in Dalmatians in Great Britain is 18 percent compared with 30 percent in the United States, which has no breeding restrictions for blue eyes," he says.

The Dalmatian Club of America recommends that breeders do not breed dogs that are unilaterally deaf or those with blue eyes. "We also recommend that people try to keep track of the parents, the grandsires and granddams, and the great-grandfathers and great-grandmothers," Facey says. "The more dogs you have behind you that are free of deafness and the more puppies that are clear, the better your chances of producing puppies free of deafness."

Studies have shown that Dalmatians with solid areas of color, or patches, on the ears or around the eyes have a lower incidence of deafness. Strain's research showed that only 8.5 percent of Dalmatians born with patches were

unilaterally deaf compared to 23.5 percent for those born all white. Producing Dalmatians with patches is not realistic since patches are a disqualification, according to the American Kennel Club standard for the Dalmatian.

Even by taking precautions, predicting the hearing capabilities of a litter is almost impossible. Two hearing dogs can produce deaf offspring, and two deaf dogs can produce hearing puppies. The various combinations between the two extremes are mind-boggling.

Facey learned that firsthand several years ago with the second litter out of one of his Dalmatian bitches. The bitch came from a long line of hearing dogs. In her first litter, seven of eight puppies had normal hearing and one was unilaterally deaf. Buoyed by that result, Facey bred the bitch again to a sire who could hear in both ears and whose parents had not suffered from deafness. In that second litter, five of seven puppies were unilaterally deaf.

While unilaterally deaf dogs can make good pets, Facey says research is clear in regard to breeding hearing-impaired Dalmatians. "Don't breed unis and don't breed blue eyes," he says. "When you are breeding Dalmatians, you are rolling the dice. You try to put it all in your favor and the more you can do that, the better your chances. But it's still a roll of the dice in the end."

Researchers hope to change that. Studies into congenital deafness are ongoing in the U.S. and around the world. The DCA has spent more than \$40,000 in support of research of hereditary deafness, including two AKC Canine Health Foundation grants completed in the past few years.

In a study completed in 2000, Vilma Yuzbasiyan-Gurkan, Ph.D., professor of microbiology and molecular genetics at Michigan State University, evaluated five candidate genes for hereditary deafness in Dalmatians. Though her group sequenced 50 to 100 percent of the coding region for affected and normal dogs for each gene, they did not find the mutation.

In a 2002 study, Keith Murphy, Ph.D., professor and chairman of genetics and biochemistry at Clemson University, concluded: "Although deafness in the Dalmatian is clearly heritable, the evidence for the presence of a single major gene affecting the disorder is not persuasive."

More recently, Claire Wade, Ph.D., professor of computational biology and animal genetics in the Faculty of Veterinary Science at the University of Sydney in Australia, has been working on a study that could have significant findings.

"We have preliminary data suggesting that genetic deafness in Dalmatians is at least partly controlled by a rearrangement of DNA. We see a clear difference in our pre-

liminary data between hearing and deaf dogs," Wade says.

"But at this time our sampling is limited and it is a difficult mutation to work with in the laboratory, so our progress is slower than we would like. At the moment we are trying to form a more solid view of what is happening at our deafness locus. We believe that a critical part of DNA has been

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SCOTT FACEY, BREEDER AND HEAD OF THE DALMATIAN CLUB OF AMERICA'S HEARING COMMITTEE

altered in deaf dogs. The nature of the alteration is such that it may not be the same in every deaf dog."

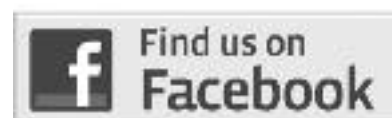
New discoveries that potentially will help reduce the incidence of deafness in Dalmatians are welcomed. "I want people to enjoy their dogs and enjoy the breed for what it really can be," Facey says. "When you have a good, healthy Dalmatian, there's nothing better. I love the breed." ■

Purina appreciates the support of the Dalmatian Club of America and particularly Meg Hennessey, DCA president, in helping to identify topics for the *Purina Pro Club Dalmatian Update* newsletter.

Get Connected to *Pro Plan* on Facebook

The *Purina Pro Plan* for Professionals Facebook fan page allows breeders and enthusiasts to connect using the popular social networking site. Fans can post photos, videos and experiences and share insights about breeding, handling and other topics.

Go to www.facebook.com/PurinaProPlanforProfessionals to become part of the conversation and share your passion for the sport with a community of dog enthusiasts. ■



Pro Plan Introduces New Shredded Blend Puppy Formula

Purina Pro Plan brand dog food is introducing Pro Plan Shredded Blend Chicken & Rice Puppy Formula in June. The puppy formula is the newest addition to the Shredded Blend portfolio, which includes foods for adult dogs, senior dogs and weight management.

"The Shredded Blend line now offers foods for all life stages and even a weight management formula," says Brand Manager Tracey Johnson. "The puppy food enables breeders and owners of new puppies to start out with a food specifically made for growing puppies and then go on to one of the adult formulas."



Made with real chicken as the No. 1 ingredient, Pro Plan Shredded Blend Chicken & Rice Puppy Formula builds on the success of the Shredded Blend adult dog formulas with its mixture of hard kibble and tender, shredded pieces. The puppy formula contains OptiStart®, with easy-to-digest milk proteins to help nourish puppies' developing immune systems, and provides complete and balanced nutrition for puppies.

Introduced in 2008, the Pro Plan Shredded Blend line provides optimal nutrition and outstanding palatability. In addition to the new puppy formula, the

line includes these adult dog foods:

- Chicken & Rice Formula, with real chicken as the No. 1 ingredient
- Beef & Rice Formula, with real beef as the No. 1 ingredient
- Lamb & Rice Formula, with real Australian or New Zealand lamb as the No. 1 ingredient
- Chicken & Rice Large Breed Formula, with glucosamine and EPA, an omega-3 fatty acid for joint health and mobility
- Chicken & Rice Formula Adult 7+, a highly digestible food for dogs 7 years and older
- Chicken & Rice Weight Management Formula, with an optimal protein-to-fat ratio to help maintain muscle mass during weight loss. ■

Pro Plan Shredded Blend and Pro Plan Entrées are sold at pet specialty and farm supply stores. For information, visit www.proplan.com or to talk to a pet nutrition consultant, call 800-PRO-PLAN, or 800-776-7526, from 9 a.m. to 4 p.m. Central time Monday through Friday.

Pro Plan Adds Four Wet Formulas to Canned Entrée Portfolio

Four new Purina Pro Plan Canned Entrées are being introduced to dog owners and breeders in June. Made with high-quality ingredients, the new wet dog foods are blended with highly palatable complement ingredients. More than 20 assorted flavors and forms are available in the Canned Entrée line.

Two of the new Pro Plan Entrées contain seared beef or chicken, which is a new form for the wet dog food line. They are:

- Seared Beef, Green Beans & Brown Rice Entrée in Gravy
 - Seared Chicken, Julienne Carrots & Barley Entrée in Gravy.
- The other two new Canned Entrées are:
- Chicken & Barley Mini-Morsels Entrée in Gravy
 - Shredded Beef & Lamb Entrée in Gravy.

Pro Plan Canned Entrées contain antioxidants to help support healthy immune function and are rich in omega fatty acids for healthy skin and coat. They offer complete and balanced nutrition for adult dogs. ■



Purina-Sponsored Sporting Events* June to July 2011		
Event	Date	Location
National Shoot to Retriever Association (NSTRA) National Performance Classic	June 1-4	Waverly, NE
United Kennel Club (UKC) American Redbone Days	June 2-5	LaGrange, IN
Hunting Retriever Club (HRC) Annual Meeting	June 10-11	Memphis, TN
Purina All-Age and Top Shooting Dog Awards	June 10-11	Overland Park, KS
Retriever National Amateur Championship	June 18-25	Ronan, MT
UKC Kansas State Coonhound Championship	June 24-25	Fort Scott, KS
U.S. Complete Shooting Dog Association Annual Meeting	July 23	South Hill, VA

*This table lists some, but not all, upcoming sporting events sponsored by Purina.

Pro Club Policy on Blocked Calls

Purina Pro Club member service representatives will not be able to reach you if your phone does not accept blocked calls. If you have called Pro Club on an issue expecting a telephone response, the issue resolution will be entered in your account. When you call again, a representative will be able to share the information.

Want to Reach the Editor?

Have comments about *Purina Pro Club Update*? Send them to us at: *Purina Pro Club Update*, c/o Editor, Nestlé Purina PetCare, 2T Checkerboard Square, St. Louis, MO 63164 or via e-mail at today'sbreeder@purina.com.

Send Us Your Questions

Have questions about your Purina Points or how to redeem weight circles for rewards and rebate checks? Contact *Purina Pro Club* at 877-PRO-CLUB, or 877-776-2582, between 7 a.m. and 5 p.m. Central time Monday through Friday. You also may visit www.purinaproclub.com to review and redeem Purina Points.

'Beckham' Leads the *Pro Plan* Champions Cup Award Program

The No. 1 dog in the country, a Black Cocker Spaniel named "Beckham," is leading the standings in this year's *Pro Plan* Champions Cup award program, based on points earned through April 30.

The 3-year-old, GCH Casablanca's Thrilling Seduction, is owned by Bruce Van Deman, Carolee Douglas, Mary Walker and breeder Linda Moore. Professional handlers Mike and Linda Pitts campaign Beckham.

The yearlong *Pro Plan* Champions Cup award program includes more than 200 Purina-sponsored all-breed dog shows. The winner will be announced in early 2012 based on points tabulated from Bests in Show and Group placements earned in 2011.

The *Pro Plan* Champions Cup winner will receive a \$10,000 cash prize, original oil painting by dog portrait artist Linda Draper and a

keepsake *Pro Plan* Champions Cup trophy. A permanent *Pro Plan* Champions Cup is displayed at the Purina Event Center in Gray Summit, Mo., along with a plaque engraved with the winners' names.

Cash prizes also will be awarded to the top-placing dogs as follows:

- Second place, \$5000

- Third place, \$2,500
- Fourth place, \$1,250.

To view a tabulation of individual dogs' points and a complete list of qualifying shows, visit the *Purina Pro Club* website at www.purinaproclub.com. The *Pro Plan* Champions is sponsored by *Purina Pro Plan* brand dog food. ■


2011 <i>Pro Plan</i> Champions Cup Standings		
Dog	Breed/Variety	Points Earned*
GCH Casablanca's Thrilling Seduction	Black Cocker Spaniel	147
GCH Palacegarden Malachy	Pekingese	124
GCH Cragsmoor Buddy Goodman	Skye Terrier	84
GCH Winfall Brookwood Styled Dream	Boxer	83
GCH Bandheim's Captain Crunch	German Shepherd Dog	75
GCH Banana Joe V. Tani Kazari	Affenpinscher	73
GCH Wynmoor Champagne Supernova	English Springer Spaniel	70
GCH Saks Hamelot Little Drummer Boy	Bichon Frise	62
GCH Protocol's Veni Vidi Vici	Doberman Pinscher	59
GCH Mysharas Dream Girl	Australian Shepherd	55

*Points earned through April 30, 2011.

Purina-Sponsored Dog Shows* May to July 2011		
Event	Date	Location
Atlantic Shore Memorial Cluster (Plainfield Kennel Club)	May 27-30	Freehold, NJ
Mississippi Valley Kennel Club/Rhineland Kennel Club Dog Shows	June 2-5	Purina Event Center Purina Farms Gray Summit, MO
United Kennel Club Premier	June 17-19	Kalamazoo, MI
Rolla (MO) Kennel Club Dog Show	June 17-19	Purina Event Center Purina Farms Gray Summit, MO
Central Florida Cluster (Central Florida Kennel Club)	June 23-26	Orlando, FL
Oklahoma City Cluster	June 30-July 3	Oklahoma City, OK
Blue Crab Cluster (Southern Maryland Kennel Club)	June 30-July 4	La Plata, MD

*This table lists some, but not all, upcoming show events sponsored by Purina. These events are part of the 2011 *Pro Plan* Champions Cup Competition.

PURINA Pro Club Dalmatian Update



**Your Quarterly
Purina Points Summary**
Account Activity through April 30, 2011

Point balance may not reflect
current account activity

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