

## Ramblings

### The Backcross Project

*Joanne Nash*

*Los Altos, California*

We in the purebred fancy are our breeds' protectors, we hold the sanctity of the stud books dear, and we are determined to maintain the purity of our breeds. Although fanciers of animals such as horses, cattle, and cats do intentional crossbreeding with regularity, we dog people neither carry on nor approve of such practices. A purebred is a purebred, we say, and that's that.

We forget sometimes that the purebred, registered dog is a recent development, that while many breeds have been around since ancient times, no one was keeping exact track of breedings until the last hundred years or so. We don't like to acknowledge that early breeders used judicious crosses with other breeds to help establish desired traits. And we are hesitant about suggestions that certain breed problems might be solved through judicious introduction of blood from outside the breed's stud book ...



*RFBCN Blackeyed Susan CD*



*RFBCN Helen, a seventh generation backcross*

We dog folk are in some ways a fairly conservative lot, and we are often resistant to change. And so it has been in the world of Dalmatians with regard to the Backcross Project, a genetic research project intended to offer an option to breed Dals without the gene which predisposes this breed to unique uric acid calculi and urinary blockages caused by these stones.

Al Treen's article in the Spring Dalmatian Quarterly [1990] traced the project's development and the process by which AKC agreed to register two backcross Dals and then rescinded the rights of their descendants to be registered, after the Dalmatian Club of America took a vote which opposed the backcross registration.

Much of the controversy about the Backcross Project stemmed from misunderstandings about the project itself and from political considerations. Since the backcross dogs have been mentioned in the "Atlantic Monthly" and in Al Treen's article, here is a look at the project, with some history and some updates on where the project stands now.

### Background

Dalmatians have two unique genetic traits, the distinctive spotted marking pattern and the high level of uric acid found universally in Dalmatian urine. The high uric acid predisposes Dals to the formation of urate crystals, which can cause urinary blockages, most frequently in middle-aged males. The gene responsible for the spotting pattern and that for the uric acid level apparently are on the same chromosome, and in selecting for markings early breeders also inadvertently selected for the uric acid abnormality.

It has been suggested that breeders of Dals attempt to reduce the incidence of stones by selecting for lower levels of uric acid from within the breed. Unfortunately, this is not possible. All Dalmatians in the purebred gene pool have the recessive gene which produces high uric acid levels. Various tests over decades in England and the US, including a large survey done at the 1983 DCA National Specialty in California, have determined that high uric acid is always found in Dalmatians. There is no possibility of breeding dogs with the normal canine low levels of uric acid by using the existing Dalmatian population.

Would it help to check uric acid levels and attempt to breed those Dals which have levels at the lower end of the high range? Again, unfortunately, no. First, a dog's uric acid levels may vary from test to test, depending on a number of factors, including what and when he has eaten, etc., but if the dog is a Dal, his results will always be significantly higher than the normal range. The normal and high ranges do NOT overlap. Second, Dr. Ling of the UC Davis Veterinary School Urology Department did some 24-hour urine testing (the most accurate protocol) of Dalmatians, some of whom were stone formers, some of whom were not. He found no evidence to indicate that stone formers had any higher levels of uric acid than the non-stone-forming Dals. There is also some veterinary/geneticist opinion that a stone forming Dal is no more and no less likely to produce stone forming offspring than a non-stone-former - that the high uric acid predisposes the entire breed. (Bitches rarely have urinary blockages; they can form stones just as the males do, but the female urinary passage is much more open and crystals/stones are usually passed without incident.)

The Dalmatian-Pointer Backcross Project was started by Dr. Robert Schaible, a medical geneticist then at the University of Indiana. His goal was to breed dogs of Dalmatian type and temperament but with normal low uric acid levels. His theory was

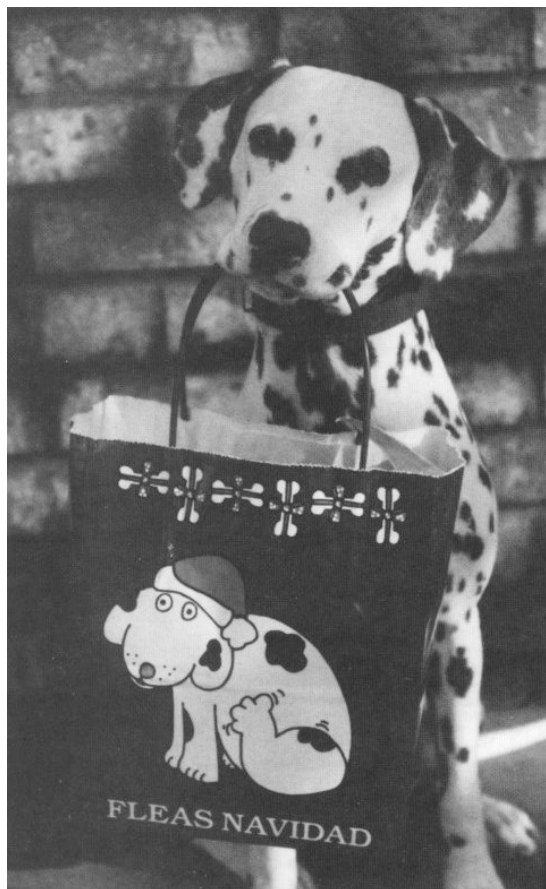
that the low uric acid dogs would be free from the predisposition to urate calculi and that improvements would also be seen in deafness and in certain types of skin problems. He bred a Pointer (the ONLY Pointer to be involved, now or in the future) to a Dalmatian, then bred one dog from that litter to another Dalmatian. He continued backcrossing to purebred Dals, selecting for Dalmatian characteristics and low uric acid. When he reached the fifth generation, puppies had 31 Dalmatians and 1 Pointer in the fifth generation of their pedigree.

At this point, the American Kennel Club agreed to register two of the fifth-generation the pups, a male and a female. Although the DCA Board of Directors had supported this decision, the registration became a very controversial issue among the Club membership. A DCA vote opposed the registration and AKC was notified. AKC let registrations of the original two dogs stand, but rescinded the right for any of their offspring to be registered.

### **Status of the Project Since AKC Decision Not to Register Offspring**

Backcross Dalmatians cannot be AKC registered nor shown in conformation at AKC events. However, backcross Dalmatians have been allowed to receive ILP's which permit them to be shown in obedience, and several have earned obedience titles. Some of you may have seen a backcross dog in the obedience ring recently. Jim and Linda Fulks' RFBCN Lidgate's Trierer Franc was High in Trial at DCA in southern California, with a 195 from the Open A class. He was also DCNC's HIT in 1988. Frank is a low uric acid backcross dog by Seaspot's Brandon of Lidgate CDX x RFBCN Blackeyed Susan CD. (The RFBCN in the names stands for Rambler Forrest Back Cross Normal, a designation included in the names of most of the West Coast backcross dogs.)

The registered backcross male was never bred; all sixth generation or greater backcross dogs are descended from the bitch, Stocklore Stipples. She was bred twice, first by Dr. Schaible in Indiana to Ch. Clockgate Beau Geste. A son, "Jake," was the only one from that litter to be bred. Stipples was leased to Holly Nelson DVM and Joanne Nash for her second and final litter, which was sired by Ch. Sunspot's Rambler-Ottomatic CDX. Two low uric acid bitches from that litter, RFBCN Blackeyed Susan CD (co-owned by Holly and Joanne) and Susan's liver sister RFBCN Cinnamon Stipple were the foundation for the "West Coast branch" of the project. Susan's granddaughter was bred to Cinnamon Stipple's son for the first low-to-low backcross breeding. The backcross litter by Forrest Douglas Fur x Snowdot's Swiss Forrest (backcross low), born this spring at Marilyn Moody's, is the first ninth generation backcross litter.



*Snowdot's Swiss Forrest  
This low uric acid liver, "Tobler,"  
is the dam of the first ninth  
generation backcross litter.*

The backcross project continues on a rather small scale. A litter or two is bred each year, and a total of about 90 backcross Dals have been born as part of the "West Coast branch" with a smaller number in the Midwest and other areas.

When a backcross Dal is bred to a registered Dal, about 50 percent of the puppies have low uric acid while the other 50 percent inherit the high levels. Those with high uric acid are just like the registered Dals. The low uric acid offspring are also typical Dals in type and temperament, except that the size of the spotting has tended to be slightly smaller. The spots, however are well within the dime-to-half-dollar size called for in the standard and are within the normal range seen in the show ring. Whether continued breeding will produce low uric acid Dals with larger spots remains to be seen.

Dals from the backcross litters have evidenced the same sorts of faults that show up in registered litters. Patches occur in the same percentages (and the same locations); bilateral and unilateral deafness has occurred, though more deafness has been found in the high uric acid level pups. The first totally deaf low puppy was in one of the most recent litters. Temperaments, structure, size, and movement are typical of Dalmatians.

Concern has been voiced that some undesirable trait, not present in Dals, might also have been introduced via the single breeding to a Pointer, along with the normal uric acid levels. No such characteristic has appeared in nine generations, including in the low-to-low breeding.

### **Points to Remember**

1. Although the Backcross Project has received continued support from many quarters, this is a controversial and emotional issue in many parts of the Dalmatian community.
2. One Pointer (a champion liver) was bred to one Dalmatian one time, for the purpose of introducing the normal uric acid gene. This gene is not found among purebred Dalmatians and could not be acquired without an outcross to another breed. No other Pointers will be used, ever.
3. If backcross Dals were allowed to be AKC registered, Dalmatian breeders would have the option of breeding to bring low uric acid levels into their lines in order to try to breed healthier dogs. Fanciers not interested in using the backcross dogs would continue to breed only from the traditional Dal gene pool.
4. AKC registration would allow backcross dogs to compete in conformation. The show ring is the logical place to determine if these dogs are indeed what they are believed to be by backcross breeders - typical good quality Dals who can be successful in the ring.

### Backcross Resolution

This resolution was recently passed by the Dalmatian Club of Northern California. A copy has been sent with a cover letter to the American Kennel Club, with other copies to the Dalmatian Club of America and regional Dal clubs.



"Resolved, the membership of the Dalmatian Club of Northern California has reviewed the Dalmatian Backcross Project and supports this effort to provide an option to correct a genetic problem in this breed, and urges the American Kennel Club to rescind the hold on registration of the descendants of the registered backcross bitch, Stocklore Stipples."

---

*Backcross low uric acid Dals "Tucker," "Daisy,"  
and their dam "Cinnamon Stipple."*

*This article first appeared in the Fall, 1990 issue of "The Dalmatian Quarterly"  
©1990 by Joanne Nash*