THE SAMOYED QUARTERLY

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Samoyed people

The Samoyed Quarterly
Talks with
Marion McNeil
STERLING
Plantsville, Connecticut

This interview was conducted at the home of Marion McNeil in September 2008 by Lynne Robertson.

Let's start with your personal history, how you got involved in dogs and in this breed.

I grew up in Cambridge, Massachusetts and had a pet dog when I was a kid. Of all the kids in my family I was the one who liked animals, I just kind of grew up that way. As an adult, I moved to western Massachusetts to work at the University of Massachusetts, I was married at the time and my husband went back to school. I used to hang around the obedience training classes in town but I didn't have a dog.

What do you mean, "hang around"?

I would go to the obedience classes every week and watch the people with their dogs. After awhile the trainer said, "You come every week but you're not with anybody and you don't have any dogs, what are you doing?" I said, "I just want to be around dogs and I can't have one. I like dogs." He asked if I wanted to help him and I told him I didn't know how to do obedience training, so he said he would teach me. I worked with Wally Chevalier for years training dogs in his obedience classes. I learned a lot from him.

I started training other people's dogs and it just drove me crazy. My landlord had a no pets policy but I asked him anyway. I said, "I can't stand it, I have to have a dog. Will you let me have a dog?" He said, "Oh, all right." That's when I got my first Samoyed.

What drew you to Samoyeds?

I always liked Collies because of Lassie. I had watched *Lassie* as a kid. I liked German Shepherds from watching *Rin Tin Tin*. The German Shepherd is the only breed of dog that bit me, so I thought, "I don't think I want one of those."

I would go up to any dog and pet it, not realizing they may be aggressive. I didn't like the change of the heads in the Collies. I liked the old-fashioned Collies. My husband and I both liked Siberians. *Yukon, King of the North,* you know, another television show. I liked that breed, but you can't run around in the woods with them or they'll take off. Then I looked in a book and saw a Samoyed. It said it would be more of a people oriented dog, not as wild but still a northern breed that could pull sleds. I like that wintry, sled pulling, hairy quality all rolled up into one kind of dog. So now we had decided on the breed but we couldn't find one.

About what year was this?

This was in 1972 or '73. We got our first dog by going to dog shows and watching. I found somebody who knew of a litter and we got pick puppy, a male named Chance. He ended up not being shown. I did obedience with him and then got another show quality dog in 1976 from Gail Mathews at Nordic Samoyeds. Gail was wonderful. That dog, Kodi, was in a car accident and broke his leg, so he couldn't be shown. I did obedience but I wanted to show in the conformation ring and I could never get there. Gail was kind enough to replace that dog with a dog from a breeder out here in New England. Her name was Mia. I had found what I liked after five or six years of looking at Samoyeds and told her what I wanted, so she told me she would get it for me. Mia was related to her bloodlines. That became my first champion and the first dog I bred. I've been going ever since.

She was your foundation?

Yes. Her name was Ch. Nentsi's Nordic Mia-Kis. Nentsi was the breeder and Gail Mathews' kennel name was Nordic. That was 30 years ago. I didn't have a kennel name at that time.

How did you decide on your kennel name?

I liked something with silver. I had a list of names and many of them were taken. I decided on the name Quicksilver, I put that in a magazine and then found out that somebody in Texas had that kennel name. They wrote to me. (laughter) Uh oh! I guess I have to find another one. Then I chose Sterling. I like it for the silvery image and also because of sterling character. Nobody had that name.

Ch. Nentsi's Nordic Mia-Kis, "Mia," 1982.

From that first dog could you synopsize your career? What was your focus in the '70s?

When I had Mia I only bred her twice. We had two champions from her first litter and there weren't any in the second litter of two boys. Different things happened to those boys. I ended up with just one female from my first litter from Mia.

Ch. Sterling's Little Dickens, "Angel," BOW, South Windsor KC, 1989. She produced six champions. Co-owner, Mary Ellen Fydenkevez.

She went on to carry on the bloodline. My early life in dogs was having one female to go from one generation to the next. I didn't have a lot of dogs. Now I do – I was married then. (laughter) I was restricted then, but I was also working and in graduate school.

My interest in dogs was aimed at becoming a veterinarian, but that didn't work out in those days because women didn't become veterinarians. Look how things have changed. I was discouraged with that, and then I went to graduate school as I always liked science and research and genetics, breeding. I used to breed guinea pigs, gerbils, chickens, pigeons, anything. I was a breeder.

How do you get gerbils to breed, do you just put them in there?

Well yes, they do it by themselves. Actually it's hard to stop them from breeding!

You don't have to do progesterone testing. (laughter)

No. They're very easy to breed. It seemed I was always breeding things, I was always making more of them. When I went into genetics I focused on microbial genetics to get into basic DNA research. It's very interesting, I just love that stuff. I wanted to do microbial research or pathogenic diagnostics or something like that in veterinary medicine.

What exactly is that?

That's kind of combining all my interests. It would involve testing for bacterial diseases, genetic problems or studying disease problems. But I wanted to do everything with animals, so I went over to the animal science department where I had graduated from college and said that was what I would like to do. They said, "You're overqualified to do that, they just need lab techs. Why don't you enroll in a PhD program?" I said, "I don't know if I want to go to school forever." They said, "Nobody ever complained that they got a PhD." Well, that's true! (laughter) After much discussion I decided to go back to school again.

At that point I was studying an autoimmune disease in chickens, vitiligo. The chickens that I worked with had pigment and then they would fade to white. They had eye problems, thyroid problems and those kinds of things. It was interesting to study.

I started in microbiology working with viruses that live inside bacteria, then I worked with chickens that had more complex DNA and learned more population genetics. After I got my PhD studying diseases in chickens I got a job with The Seeing Eye in New Jersey, working with dogs. I started with the little teeniest tiniest genetic component and ended up working with dogs, which is where I wanted to go all along. It was really an interesting pathway to get there. When I worked at Seeing Eye, I directed their breeding program for ten years. We produced thousands of guide dogs for people with vision problems.

What breeds were they?

They were German Shepherds and Labradors. It was really a very groundbreaking breeding program because the colony was closed to the introduction of any new bloodlines. I had only the dogs that were in residence to use for breeding, then their offspring, then their offspring, based on a really complicated, computerized system of record keeping.

What was the population?

I think we had about 35 to 40 dogs in the beginning, probably 22 Shepherds and 18 Labradors.

Were you making all the breeding decisions?

Yes.

What were you generally selecting for?

We had a computerized record keeping system that was developed from livestock work.

I was familiar with it from working with chickens. In dairy cattle breeding they have computerized records on things like milk protein, butterfat, pounds of milk produced per day, all these complicated systems of figuring out which is the best bull to breed to. The bulls aren't around anymore, they're on ice. This record keeping system was based on that breeding value system, but for dogs. What we used for criteria was hip quality, because they had to be able to walk so we didn't want any hip dysplasia. We wanted to breed a trainable, easygoing temperament in German Shepherds and Labradors. Those were the two main traits, and then we worked to make sure there weren't any other diseases coming through, things that had known inheritance.

Each dog that was born got an estimated breeding value according to its family. As you get a larger and larger number of individuals in the computer program it becomes very accurate predicting what a puppy might be when it grows up as far as producing good hips and good temperament.

Was it pretty accurate?

Yes, it was a very successful program. It was very reliable in making progress.

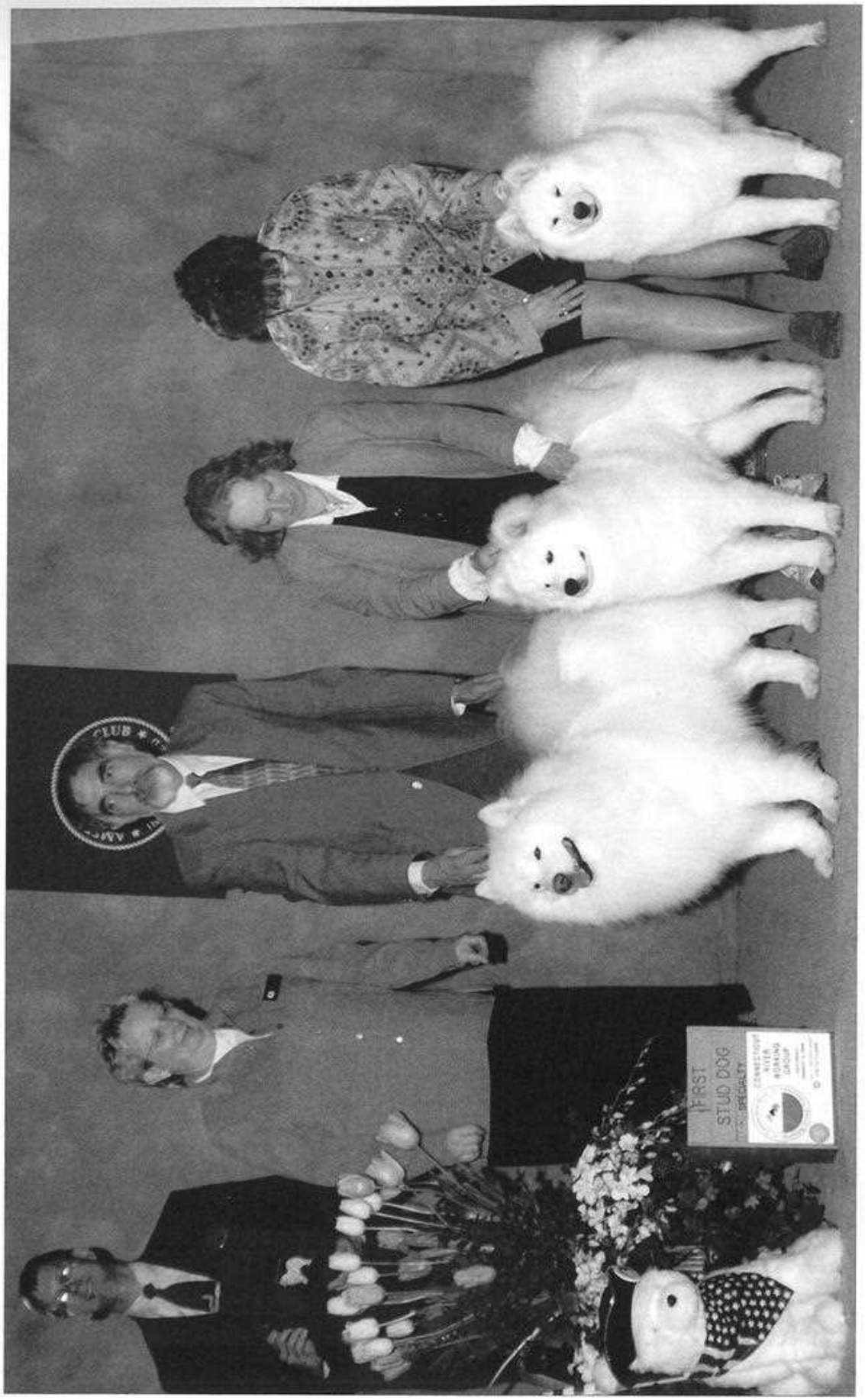
Nobody does computerized dog breeding though, do they?

I think these programs have become more available now, but I'm not in the business of guide dogs anymore so I'm not sure what breeding systems are utilized today.

It might be more for large populations.

You have to have hundreds and hundreds of dogs. They might do it in the companies that produce lab animals such as inbred Beagles for research. They might use that kind of system, I'm not sure what they do.

Int/Am/Mex/Can/Ber/Bah/Grand Costa Rican Ch. Sugarhill's SS Copperfield, BIS, BISS, "Copper," BOB, Woodstock Dog Club, 2002.



But you need hundreds of dogs, and you need to test all of them and the traits have to be evaluated consistently.

It's one thing when you can find out everything you need to know about every single dog that you've produced from every single breeding, AND watch it grow up until it's two years old and recheck those values for every single dog in every single breeding. You'll get thousands of pieces of information. But there's no way people who breed show dogs can really do that. It's really an ideal system to be able to make progress, even if you wanted to make progress in disease processes, show attitude, structure and movement, hunting ability, agility, speed, racing – you could do that. But nobody has records on every single puppy of every single breeding of every single combination for, say, ten years. It could be done but it's unachievable, really, because the pups are sold and are raised very differently by their owners.

You think it's unachievable?

I think people who breed show dogs, sporting dogs, or companion dogs, that sort of thing, they just don't have all the information. But they couldn't. You sell a puppy as a pet and it moves to another state and you never find out what happens to it.

A really important point I could make in breeding for something like hip quality is that if we would only breed a dog with the highest rating from a family with a high rating, so if every

Left to right: Am/Can Ch. Christmas Spirit D'Artagnan, Ch. Sterling's As Good As It Gets, Ch. Sterling's Pied Piper, first Stud Dog, Connecticut River Working Group, 2004.

Ch. Sterling's Copperkist Goldilox, "Delilah," 2002.

dog for three generations had great hips then the offspring from that third generation would have a really good potential to produce good hip quality. If people kept track of all of the hip evaluations in all of the dogs they'd ever bred for, say, ten years, they could pick the best puppy to eliminate hip dysplasia in their bloodline. But it's very hard to get that information, and then that might not be the best show dog. It might not have the prettiest head. It might not have the right attitude. It's kind of a moving target for people to breed dogs to eliminate specific health problems and want them to be show dogs.

But it's possible for a population like, for example, in The Seeing Eye, because you're just selecting for a couple of qualities.

Right. There were very specific criteria within the basic, overall dog.

Hips and temperament/trainability are the two qualities there?

Those were the most important, yes. Also if you select for four or five different characteristics you'll lose the value of intense selection against the most important ones. The most important problem is what you want to go for, so if you dilute that by looking for too many different things you won't make progress on the most serious problem. Things would balance each other out so that it just wouldn't work as well. Progress would be slow.

How does that principle translate to show dog breeding? Should they go for one problem in one breeding rather than change or correct more than that?

The problem is that it's a litter at a time. When you're breeding 500 dogs per year you can make progress and you can see sort of an average improvement. If you breed a litter, that's six dogs. You could repeat exactly the same litter and get six completely different dogs. You can't really make an average population shift in that small number of dogs. Some things come through very strongly in particular dogs, and that's a lucky dog. (laughter) It's a lucky breeder who has one of those, a dog that can make a change or stamp its type on its offspring.

So do you think breeders who have bred dogs that stamp give themselves too much credit for the success of those?

No, I think they're smart

enough to know what they have. Even at the guide dog school we had special dogs that were like that, that were incredible, that whoever they were bred to their puppies were successful. There's that unmeasurable quality that comes out in certain dogs that, if you know what you have, you're very fortunate to have that dog, whether it's male or female. People who are very successful in certain breeds know what they have and how to keep it going. They're lucky but they know they're lucky. They keep getting lucky because they know what they're doing.

It's hard. I think sometimes people will look at a particular dog because it's winning in the ring, but it might not be the best dog to breed to their dog. You have to look at your own dog and then pick the right type of dog for your particular dog, even though you might love that dog that's winning out there. It just isn't going to mesh with your dog as well.

You must have a bit of an edge on the average breeder, having a PhD in genetics.

I think I can see things more objectively, and also analytically. You'll hear a lot of people talking about a certain dog causing a problem. You don't really know that, and it's not productive. It's so common for people to blame somebody for the problem that they have, and really what they should look at is, "I have a problem, how do I get out of it?" Not blame it on so-and-so, because you don't really know. It could come from the sire, it could come from the dam, it could be from the combination of the two. It could be just a threshold thing that builds up that neither one of them have, and it came out in your dog.

What do you mean by "a threshold thing"?

Many different genes can build up in a certain pattern and then you find a problem, but it was never obvious in either of the parents. People will say, "So-and-so causes a problem," but the breeder of the parents will say they've never seen that problem before. They're not lying! I've seen so many different things where you really don't know whether it's genetic or not, and you have to be very cautious about jumping to conclusions, because a lot of the heritability of diseases in dogs isn't known.

What is known about inheritable disease in this breed? Is there anything known for sure to have a genetic

Cuvée's Bridgette Bordeaux, seven months old, multi Group placer, daughter of Ch. Sterling's Artistic Blend, 2008. Co-owners, Karen and Ken Allison.

Ch. Sterling's Pied Piper, 2006. Co-owner, Kathy Colton.

link and be inheritable for this particular breed?

That would be a big order. I wouldn't even be able to list them. There are a number of sources for that kind of info: vet schools, books, researchers, online chat rooms. Some genetic tests are very successful in identifying dogs that carry certain problems, which is great. But there are a lot of other problems that they're never going to be able to get a gene test for, that you still have to work on.

What would be in that category?

Hip dysplasia for one. I doubt if they'll ever get a genetic test for hip dysplasia. There is so much environmental influence. Maybe they will, but I don't know. That's a tough one. You really have to look at family history and that sort of

thing to make progress on some of those. Samoyeds don't have as many endemic problems as some other breeds. They're pretty healthy dogs.

Just from what I've heard a lot of the northern breeds, like Samoyeds, Siberians, seem, on the whole, to have fewer health problems.

They have occasional things. If you have a dog that has a problem it's a tragedy. It's a terrible thing, so you'd really like all the dogs to be healthy and happy their whole life, but certain things turn up. Hip dysplasia, PRA, kidney problems have a hereditary nature. There are some autoimmune diseases that are a problem. Glaucoma, sebaceous adenitis, which is more common in Poodles but it's come up in Samoyeds. There are a lot of different problems that you hear might be inherited in certain ways, but I'm not sure. I really couldn't tell you. There is probably a list of diseases someplace that has that, but I don't have it in my head. I've never done genetic studies on Samoyeds, just on Labradors and German Shepherds. Those are the breeds I learned on.

Can you tell me anything else about your work as a geneticist for the Seeing Eye for ten years? Talk some more about that; even though it's not Sammy related, it is interesting. Did it help you become a better breeder now and a more knowledgeable dog person in general?

I think so. One of the things I've learned, as I said, is that you can get a special dog sometimes that is really prepotent for the qualities that you want, that's a really good dog.

Did you notice whether that was more toward females or males?

The males had much more influence on the population because they were used on many females, and they could produce many more offspring than the females. Females could only have a few litters so the males were the most important animals as far as controlling the quality of the offspring.

I'm interested in behavior too, and sometimes we would have large litters with Shepherds, really large, and small litters with Labradors. Labradors basically just lie there and feed their puppies. It's like, "Feed me, and I'll feed them, okay?" (laughter) The Labrador pups would just get fat. The Shepherd moms would jump up and go, "Who is that? Did you hear that?" So the puppies had a little harder time. Sometimes we would take the Shepherd puppies off a mother that had too many and put them on a Labrador that didn't have enough. When you would see the Shepherd pups they would just be nursing and nursing, you couldn't get them off their new "mother." I wondered if the Shepherds were thinking, "I want to live life as a Labrador." (laughter) It's like that old commercial, "I want to live life as a blonde."

I never kept track of the Shepherds that were raised by Labradors to see if the personalities were different, and I wish I had. The Labradors were never stressed, all they had was their mother to feed them. They didn't have to chase her around or anything. I wish I had kept track of that to see if that early nurturing ability of a Labrador changed the Shepherd temperament. If it would you could do that and make some really low-key Shepherds. It would not be a genetic change, though!

Most Shepherd breeders want that little bit of edge.

You could see it was such a different lifestyle for those puppies on the Labradors. That's another thing, people say, "Oh you can't swap puppies between mothers." They love them. They love stealing somebody else's puppies. They thought that was the best thing. Motherhood is motherhood, they like that.

I know zoos are doing a lot of that now. I read about some exotic animal, I think it was a tiger cub, and one zoo took it and put it on a Lab or a Golden.

That could have been an interesting study.

Mainly what you did at Seeing Eye was make breeding decisions, then?

Yes. The system was set up so that we would have breeding values on each offspring that would go into the 4-H program and then they would come back to training. When they came back to training we would select the breeding stock out of those dogs. We would take maybe ten dogs a year out of 300 so that selection pressure was very intense. You had so many dogs to choose from you could get the very, very best. Then they had to qualify as a guide dog and have clear hips, eyes, health, size, temperament – everything had to be in those dogs that came up for breeding, but once that was done and they came into the breeding colony, they were bred randomly. Each sire bred to the next female in season; sire two to the next one, etc.

Why was that?

When you're breeding a population of dogs you want 300 good puppies, not ten good puppies – it's so tempting to take the best male and the best female and make the ten good puppies, but what you wanted to do was make a population of great dogs, not just a few, so you would take the best male and breed him to maybe a lesser female, and that would increase the potential in her offspring to be better. You would spread all the good genes and gradually build up everybody to be really good. That's how it worked ideally.

Couldn't you do that in the show world too? If all the top winning dogs spread it around they'd bring the population up as a whole.

Yes that could happen. I hear people saying, even if you don't have a great female that breeding her to a top sire will make an improvement in the next generation.

A lot of breeders won't do that.

Well, they're not making populations, they're making individuals. That's why it's a whole different concept. But that's what we did at that time and it was an experiment, nobody had ever done that before. It worked beautifully. I was proud to be a part of it.

What were some of your major achievements there during that time?

One of the most dramatic problem was very clear in the beginning. The German Shepherds, as most people know, had a high rate of hip dysplasia. The requirements were demanding for the students to have dogs with good hips. About 30 to 40 percent of the dogs would be eliminated before they even went to training because of the hip quality. That's a lot. That's why the breeding value for hip quality was so important. That's a very important criterion when you lose 30 to 40 percent of your dogs right off the get-go; they don't go to training, they just get adopted.

In six years, four to five generations, we decreased the number of dogs eliminated for hip dysplasia to about six percent, so that was a huge improvement that gave us a lot more dogs to work with. It was a number of generations but the population responded very quickly. What happened was, in a genetic pattern the chart of hip ratings would go up and then down, then up, then down. Eventually it would just go up in the long run, but you have to give something like that a lot of time and patience, and not get frustrated. That's really what happens to people, they just can't. They'll go three or four years and give up, but you can't, because you're selecting certain gene complexes and then the other ones are coming through at a higher rate, and then you get rid of those. Then you go up again, and then the bad genes filter through and you get a lot of bad dogs. Then you go up again. It's really hard to explain.

Is that a common pattern for breeding populations?

I think that's what happens when you're doing that kind of selective breeding, because you're bringing together the good genes, but the bad genes are coming together too. Then you can identify those dogs and not breed them.

Did it work out like Mendel's peas?

No. Nothing's that simple in dogs. The traits are controlled by many genes, not just a few.

What's acceptable as far as inbreeding coefficients?

I don't believe that inbreeding is really a good thing to do for show dogs because all dogs have genetic problems. If you want to find them, you'll find them by inbreeding, and then what do you do? (laughter) You've found your problem. That's an experimental breeding. If a person wants to go and do experimental breedings they have to take the responsibility of dealing with the problems that they will find. You're lucky if you don't find any but if you do, are you going to sell those as pets, are you going to raise them yourself, are you going to be able to put them down if they have problems? That's a personal choice. I believe that a 12.5 percent inbreeding is fine, grandson to grandmother, half brother to half sister, cousin to cousin, those kind of things.

Kelev, multi Group placer, 2008. Co-owners, Jonah and Allison Barasz.

Sire to daughter I just don't think is a good idea.

How many generations do you use to figure out those COIs? One inbreeding, two inbreedings, to find out what your problems might be?

It depends on the degree to which that gene is in the population, i.e., gene frequency. If you are looking for a particular problem that is recessive, if you breed two parents with the recessive trait you're looking for you'll have one in four puppies that have that recessive trait. That is by the books, like Mendel's peas, but when you do a litter you might have six puppies and none of them have it. It's a numbers game. You would have to breed twenty to 30 puppies from the same parents, looking for that same trait, to determine that you had clear parents, so it's a big job to do that kind of test breeding. It's something that should be done by veterinary research people. They can have colonies of dogs. For an individual to do that would be difficult.

Some people do it though, not to that degree but maybe one test breeding.

Then they'll feel that they've assessed that they don't have a problem, and probably most of the time that's true. I just personally don't believe in looking for problems. I look to avoid them. (laughter)

I think the most exciting thing right now is that they're developing genetic tests, which is great – if you had frozen sperm stored from a sire that might have had problems, or produced problems that you didn't know about at the time and nobody wants to breed to him because he had this problem, you could go back later and find out what the genetic inheritance of that problem is, once they get a genetic test. I like the technology aspect of genetics now, that you can do frozen semen, take blood and freeze it, keep it for a long time and then use it later for a test. Not everything though, as I said, is going to be found to be testable, but I think a lot of things will be.

Do you do that with your dogs, take semen and blood and put it away?

No. Well, I have a beautiful dog and he does have frozen sperm in the tank.

But it's not something you would do on every dog?

No, because I don't breed

that much. But it is theoretically possible. People can store blood and semen, even dog body parts like a spleen, and then use it later for testing.

What's your opinion on the dog cloning that's going on?

You don't know how many times I wish I could bring back a dog that way. That one on the wall, "Glitter," when she was dying of cancer I spent a fortune keeping her alive. She did well for a year. I thought of taking some tissue and keeping it, but I didn't. The technology was available then.

You have to have tissue to do a cloning? You can't do it off a hair?

No, I think you need cells, like tissue.

Did you hear about the dog that was cloned in Japan?

I know they've cloned sheep and I know they've cloned cats. A dog ... I think I did hear about a dog being cloned, but the thing is, it will look the same but it won't be the same.

She was excited when she saw it.

Yes. People have asked me that before, like for racing dogs, "We'd love to clone these Iditarod lead dogs, what do you think?" Well, you COULD, they'd physically be there, but their experience in the world would be different. The mother would be different, the litter would be different. You'd be different. The way they're raised would be different. They may not have that mental ability to be the dog that goes to Nome because it was just raised differently. It'll look the same. It could probably run really well. But you can't clone the mental ability of the dog either, so you can't get exactly the identical dog. It's going to look like that dog – though I would really like to know how these cloned animals do.

Do you think that cloned animals will ever be genetically as perfect or as healthy, as some have said?

I don't think it would make any difference. Why would it? I'm not in that technology, I'm not in that science, but I don't see why, if you have the DNA and you have the cell, and you get it to divide and it grows and differentiates into all the different parts, why it would be any different from any other way?

I know this is a little off the topic, but what about genetically altered food. Do you think it's worrisome in a procedure where it's interacting with other stuff?

It's probably okay. It would be more worrisome for the plants if some odd genes got into a different kind of plant and then took off and over-competed with what you had. I don't know anything about plant genetics, but I'm sure they are very careful as to how to control what they're changing in the vegetation. It's more likely to have a problem with the plants than us. I don't really think about that, I just go to the grocery store and buy what I need. (laughter)

You're also an expert on fiber optic insemination and you're one of the few in the country. Tell me a little about that and how that came about.

That's a very interesting thing too. When I left The Seeing Eye I was hired by Paul Keymer. He had a foundation in Minnesota called Minnesota Guide Dog Breeding Center. He wanted to provide the guide dog schools all over the world with the technology to share the best breeding animals. He set up a laboratory at Guiding Eyes for the Blind in New York and hired me to set up the cryogenic laboratory. There we collected and froze semen on a lot of their stud dogs and stored them. Because it's expensive and difficult, and often requires surgery to use frozen semen in a traditional sense, guide dog schools really didn't want to get into breeding dogs using frozen semen. The trick to making it affordable to use the cryogenic system was to be able to have a technician or the vet who worked at the school to be able to use the frozen semen on their own without surgery.

With fiber optic endoscopic insemination there's no anesthesia involved. You do the same kind of blood work testing, progesterone testing, vaginal cytology testing, that you'd use for any breeding. Then you use a pediatric endoscope that you can put a catheter through and go right into the cervix of the bitch without surgery. It is a really cool technology. Guiding Eyes had trained many different people from all around the world to use this breeding technology.

Basically you put the female into a stand so she's held by the collar, and put a belly band around her just to help her stand up. You would have a television monitor so you could watch.

There was a camera at the end of the endoscope?

Yes. You can watch as you put the scope through the vaginal tract. It's really interesting to see all the bubbles and the folds. You go up to the cervix, which is at the very end of the vagina, and then you can see. It's a little pouch that's the opening to the uterus, like a little purse. You move the scope up there and you wiggle it around so you can find that little opening. Then you push the catheter through. You then have somebody melt the frozen semen, put it in a syringe and then just send it right in there. Then you pull out, everything's done and the dog walks away. It takes about ten minutes. No surgery, no anesthesia. The bitch is in heat so she doesn't care, she thinks it's a boy. It's really awesome technology.

The procedure was developed by Marion Wilson in New Zealand. There are other people who use different techniques. George Govett uses a pipette but he doesn't use an endoscope to look and see. He can feel the cervix.

How can he feel it, with the end of the pipette?

No, with his hand. That technique was developed in Norway to breed foxes for fur. It's been a process to develop the technology; breeding experts in the world developing a little piece here and a little piece there. Then Marion Wilson put the endoscope together with the camera so you can see what you're doing.

A lot of people were trained in the technology and got the equipment. I went around and set up laboratories for them. It was really an awesome thing. Then my work was done and I bought my kennel.

It's been about fifteen years since that project ended. Now they have information on all the sires' progeny, their success rates as a guide dog, more information about genetic diseases that might have come through and now genetic tests. If you have a tank full of 100 dogs you can go through and just pick the very best dogs and disperse them around the world to improve all the guide dogs. That was the point of the cryogenic project. I hope they're doing it.

Is that a common procedure in veterinary offices now?

Now it's available, yes. It's available at cryogenic practices. Dr. Hutchinson in Ohio, for instance, can do it, or he can do a surgical one. My vet here in Suffield, Dr. Huntington, can do either/or, or both. Dr. Truesdale in Rhode Island can do a trans-cervical as well. It's become an option. One of the nicest things about it is that you can do repeated inseminations. If you do a surgical insemination with frozen semen you really should only do it once, because you're doing surgery. This way you'll use more straws but you may have a higher rate of success because you can inseminate them more than one time. The frozen sperm only lives a few hours and the numbers are low because they can't swim that well anymore, so if you can do two different breedings you have a better shot at getting a big litter. That's all relative too. It's all in the timing, the testing, and hitting those eggs when they're fertile and at the optimum time for the sperm.

Do you do progesterone testing here with your bitches?

I do if I want to do a frozen breeding or a special breeding, then I will, but with the natural breedings the sperm lasts for days and days, so you don't really have to be that tight on it. With chilled it lasts fewer days, and with frozen it lasts a very short time, so you have to be much more specific on the timing of the breedings when you're using that kind of process. I don't think people realize how complicated a frozen breeding is, it's very complicated.

I've heard a lot of people say that they haven't had very good luck with it.

It's very tricky. With the endoscope method you use more straws. You can only put about two to four straws in, so if you miss the timing on the eggs, if they're not ripe, they just slide by each other and nothing happens. If you can do it two times, you'll use more sperm but you'll have a better ability to catch the eggs at the right time.

It isn't just that. The female should be fertile. The sperm should be in good condition and should have been collected from a young dog, not a ten-year-old dog, that's not going to work usually. And the timing needs to be right. There are so many different elements that all have to fall together precisely to have a successful outcome.

Fiber optic insemination has

Left, Am/Can Ch. Christmas Spirit D'Artagnan; right, Ch. North'Star Tundra Mist.

its applications. The people have to be trained on it so it's not something that every vet would want to bother with. Some of them would do surgical inseminations because they're just really good at that, and don't want to bother with all the equipment, which is expensive. It was a technology that was dispersed so that it would be more achievable for people in the guide dog schools to use frozen semen. That was the whole point of it.

During all this time were you breeding your own Sams?

During all those years I was so involved breeding everybody else's dogs. People said, "Don't you get tired of dogs?" Absolutely not. My own dogs are my own dogs, the others are work dogs, which I also loved very much. I didn't really breed that much though because I was so involved with traveling and my work. I didn't really get to do a lot of my own breeding. I'd have, say, one litter every two or three years just to get another female so I could keep going, until I got here.

What changed when you got here?

I decided it was time to do what I want to do, and I made a list of things, positives and negatives. Did I want to go back into research? Did I want to do artwork? Did I want to work with horses, or do something totally different? I wanted to be able to stay home and work; I preferred not to drive to work. I wanted to be able to have my dogs with me. I wanted to work with dogs, so I figured I had to get a kennel. (laughter) Since that's the only thing that had all those criteria, that's what I did. I never thought in my whole life that I would have a boarding kennel, never.

How has that worked out?

It's fun. It's really great. I see so many different kinds of dogs now. I love all the little dogs. I never thought I would like little dogs, but they're so cute, so clever and so manipulative, especially the Dachshunds. They're just cool. I'm enjoying that a lot, and now I can breed my own dogs. But I still don't breed very often because I just get so attached to them. Then I end up keeping one, and then I have a lot of dogs. (laughter)

Once you moved here, did you start showing more as well?

Yes, I was able to. I've also shown in different countries, which I love to do. That's so enjoyable.

Where, for instance?

Copper has six international titles. He went to Bermuda, the Bahamas, Mexico, Canada and Costa Rica. So he has six titles in different countries and qualified as an International champion too. I have a lot of fun traveling to the different countries and basically take the dogs on vacation. People ask me, "Where does the dog stay?" Well, they stay in the room with me! In the fancy hotel. They come with me, they have fun. They go to the pool.

To be continued ...