

The Purposefully Bred Dog
Knowledge Management Program

SELECTING THE BREEDING PAIR

Dandie Dinmont Terrier Club of America



Strategic Advisory Committee



Selecting the Breeding Pair

Introduction

This report captures the collective knowledge shared by 64 breeders who have produced more than 1,600 litters and put more than 8,000 puppies on the ground. Our purpose is to preserve the collective wisdom of today's best breeders for generations to come. The survey, sponsored by the Dandie Dinmont Terrier Club of America, attracted some of today's best breeders – Dandie and other breeds – people who have dedicated their lives to breeding and have had significant recognition such as multiple Breed and BIS awards from Westminster and other prestigious shows. These experts reside in 4 countries and represent 59 breeds across all seven AKC groups.

This report is a companion to the 2019 survey we published, *Getting the Bitch Pregnant*. We shared that report widely and were pleased when other breed clubs used our questionnaire to begin capturing the knowledge of their breeds' experts. We are happy to pioneer this effort and share what we learn.

An unexpected outcome from this endeavor is that the breeders' responses identify and define the very essence of *responsible breeding*. Almost all the breeders said they are motivated to preserve and improve their breed. Almost three-quarters of them are motivated by the emotional satisfaction and enjoyment of producing great dogs. Their responses also dispel the myths that responsible breeders are driven by profit and are in pursuit of the ego-gratification of winning. That insight is even more important since all of the participants are fierce competitors once they get to the ring. Winning is *part of* the motivation for some breeders, but winning is not what motivates them to breed.

The knowledge captured in this report is meant to foster discussions new breeders have with their mentors. Both surveys reveal a high level of agreement among experienced breeders. We believe that *Getting the Bitch Pregnant* reveals the science of breeding, while *Selecting the Breeding Pair* begins to reveal the art of breeding.

Subsequent reports will focus on the subjects of Managing a Healthy Pregnancy and Raising a Well-Socialized Litter. Harvesting the knowledge of expert breeders is part of the DDTCA Breeder Knowledge Management Program.

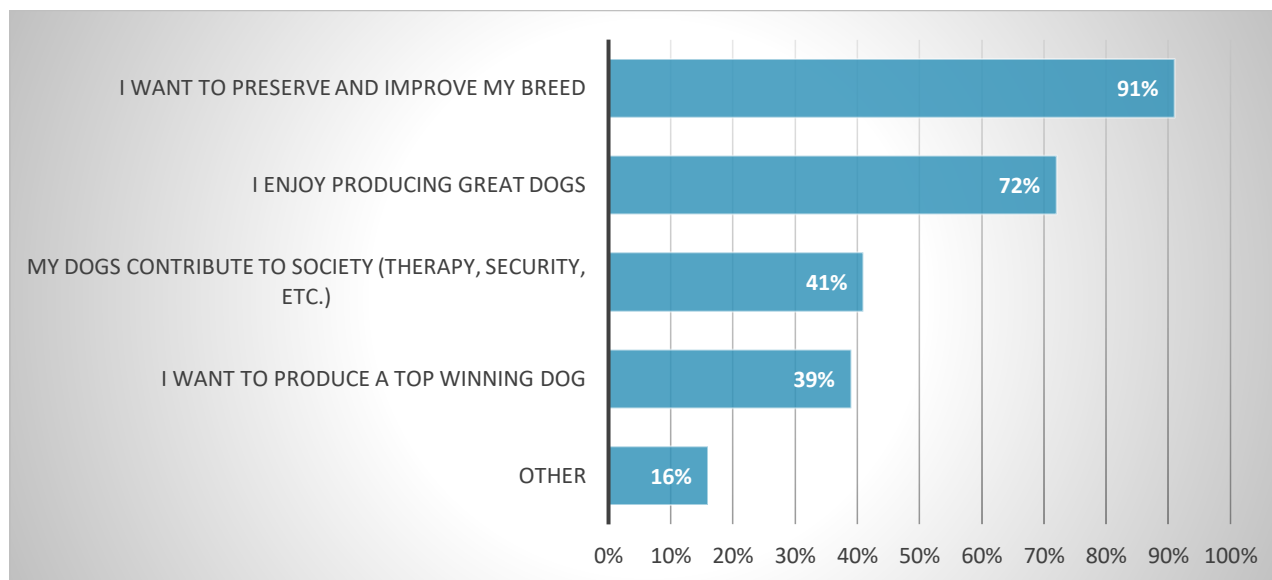
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Section 1: Approach to Breeding

Why Breeders Breed

The vast majority of breeders are committed to making a difference for their breed, but they also get genuine pleasure from breeding. We asked breeders to select all that apply. Not one breeder selected “produce a top winning dog” by itself. Without exception, it was selected in context with wanting to “preserve and improve my breed.”



How Today’s Most Experienced Breeders Learned

When they started breeding, well over three-quarters of the breeders learned from one or more mentors.

- 88% had a mentor
 - 59% made their own decisions but consulted with mentor(s)
 - 15% were satellite breeders for a mentor and learned through guidance from that breeder
 - 14% partnered with a more experienced breeder
- 12% started out on their own and learned through trial and error

Importance of Knowing What They Want to Achieve

Virtually all of the breeders Agree it is important to keep what they want to achieve uppermost in their minds.

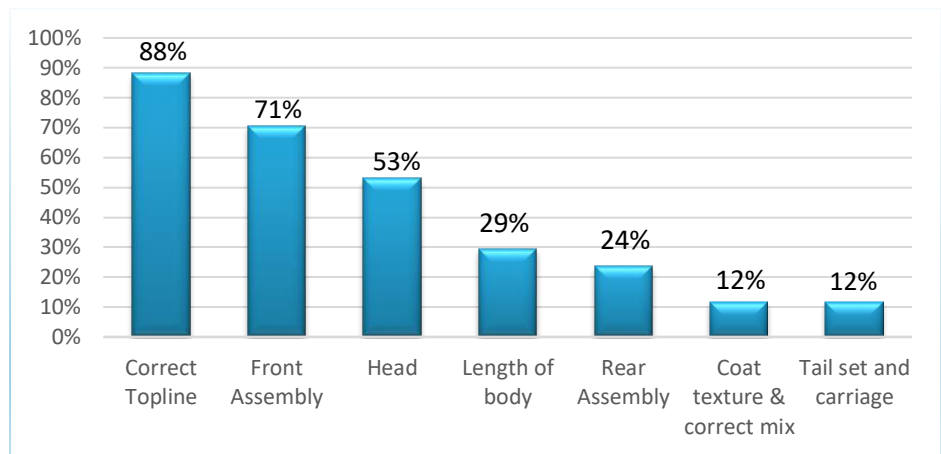
- 100% keep track of virtues they want to keep and faults they want to minimize
- 100% say they never lose sight of what they want to improve
- 97% work against a vision in their head of what they are trying to achieve

This single-minded focus acts as a Breeders’ Compass for the most experienced breeders.

Throughout this report we present results from all breeders, except where we highlight variances in answers by Dandie Breeders vs all Other Breeders. The following question about Dandie Dinmonts is the exception.

Most Important Characteristics to Achieve in Breeding Dandie Dinmonts

Dandie breeders were asked to select the three characteristics that are most important to achieve in a breeding program. More than two-thirds selected Topline & Front Assembly. More than half selected Head. More than half selected Head.

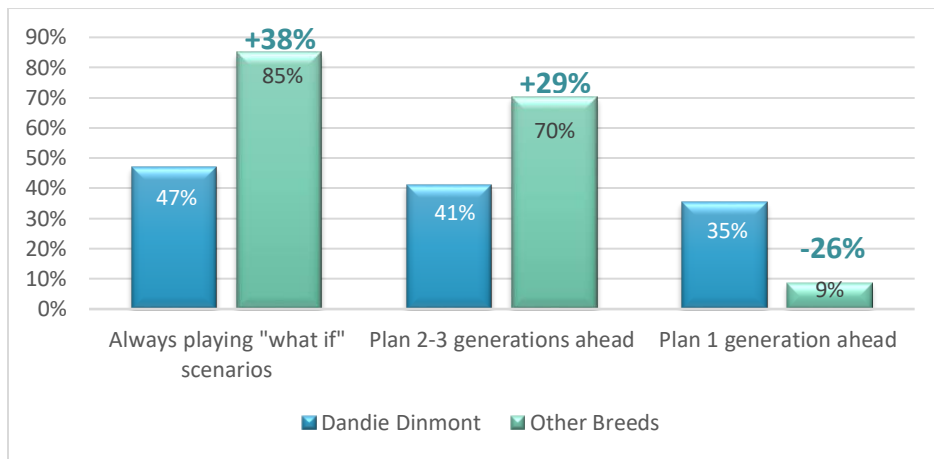


How Much Planning Breeders Do

- 75% said they are always playing “what if” scenarios in their heads
- 63% said they usually plan 2-3 generations ahead
- 16% said they usually plan 1 generation ahead
- 5% said they usually plan 4 generations ahead
- 5% said they seldom plan, instead they react to what they have

Dandie Dinmont vs Other Breeders

Other Breeders appear to spend more time thinking about breeding and tend to plan further ahead than Dandie breeders.



Except where noted, rankings across breeds and across groups are uniform.

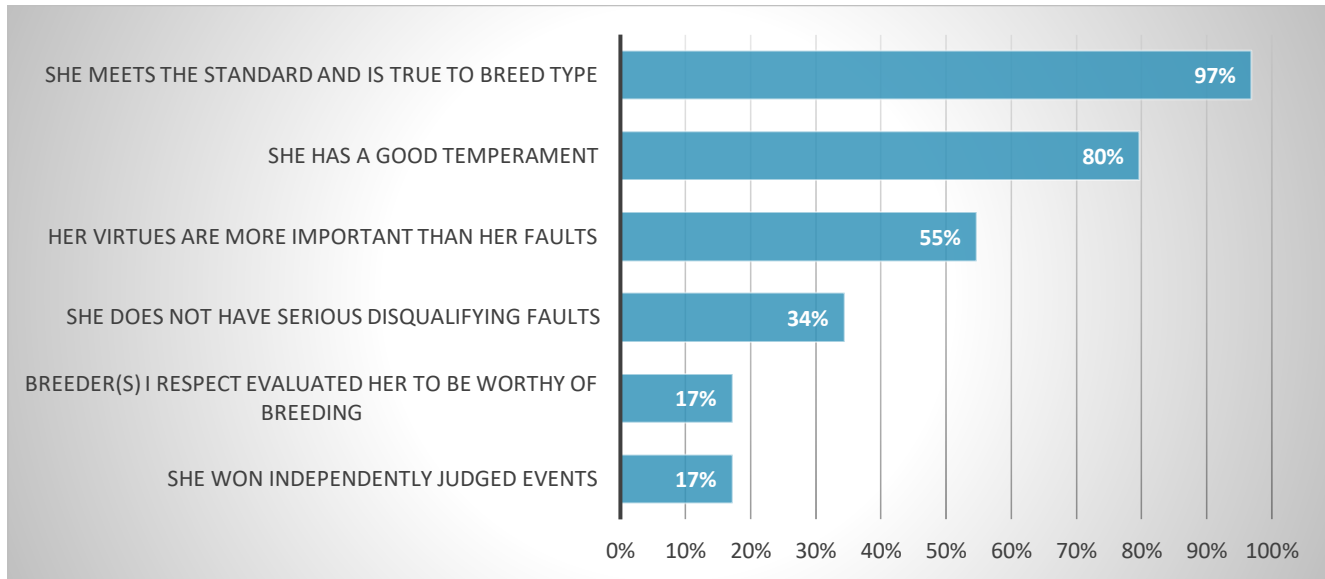
Concern about Genetic Diversity

- 84% of the breeders said they are somewhat or very concerned about genetic diversity in their breeds
- 75% do outcross breedings to help ensure genetic diversity
- 58% import dogs or semen
- 36% do DNA testing
- 13% selected Other, in addition to one or more of the above

Section 2: Getting Started

Selecting the Bitch to Breed

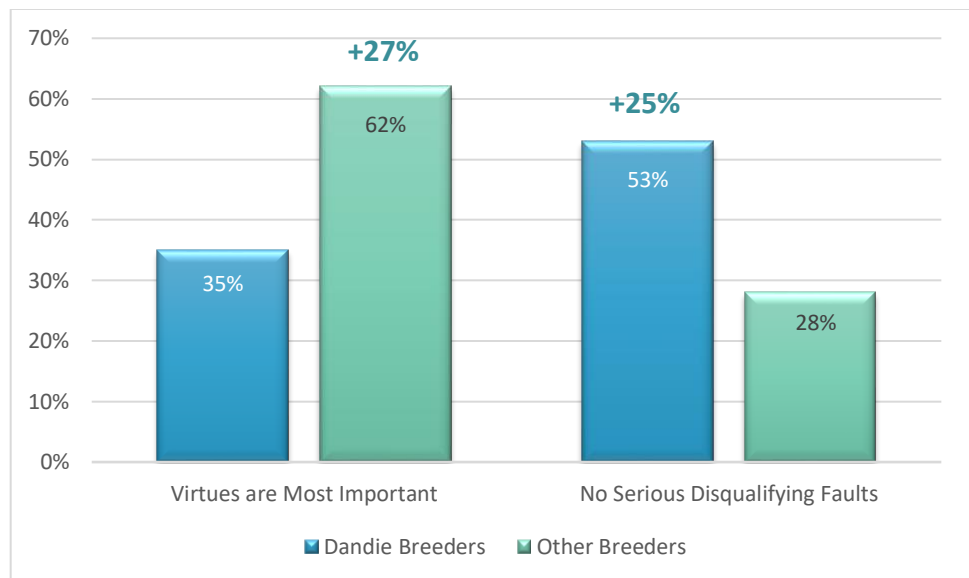
Selecting the Breeding Pair begins with selecting the bitch. We asked breeders to think back over the years and select up to three factors they acted on most often. More than half of the breeders said they have acted on the first 3 factors below.



The breeders who selected “won independently judged events” also usually selected “she meets the standard and is true to breed type.”

Dandie Dinmont vs Other Breeders

Agreement across all breeders is high except for the emphasis placed on virtues and faults. Significantly more Other breeders consider virtues to be more important. Whereas, significantly more Dandie breeders tend to act on absence of faults.



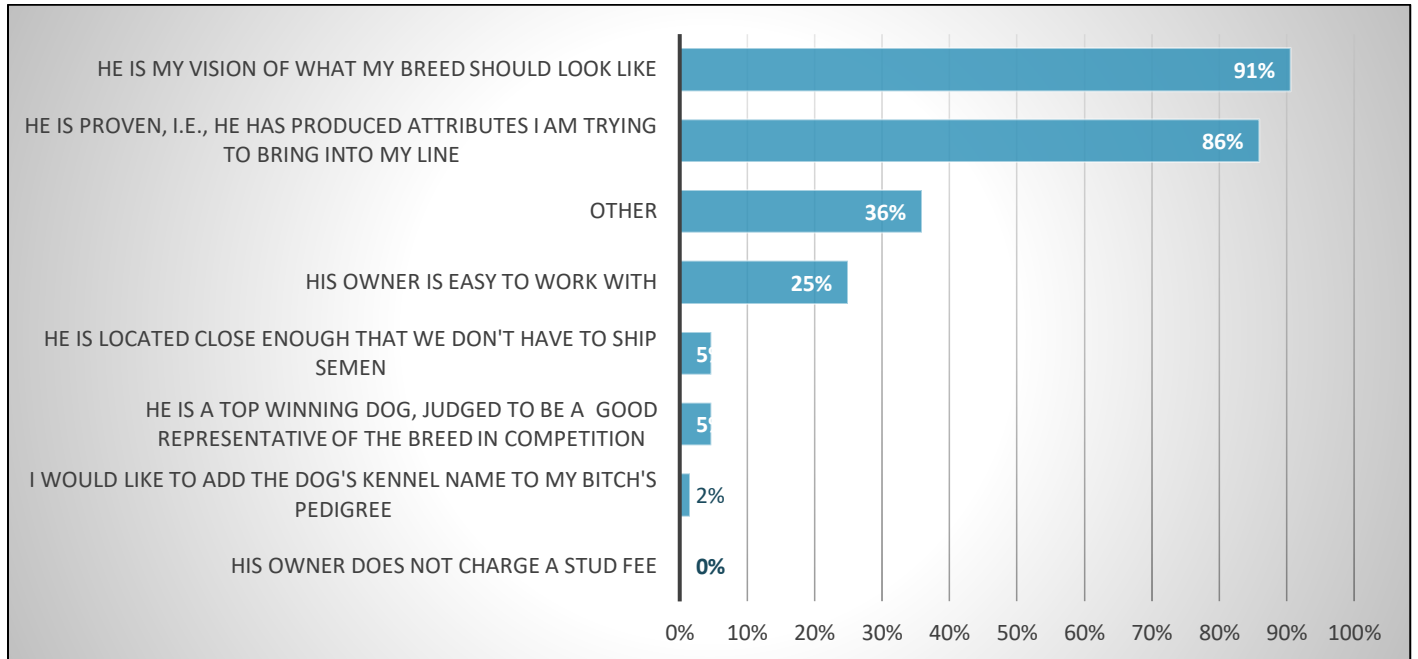
Number of Stud Dogs Considered

Recognizing that the choice of stud dog depends on the bitch, we asked how many stud dogs breeders usually consider.

- 69% usually consider 2-3 dogs
- 20% usually consider more than 4 dogs
- 11% usually consider only one dog

The Factors That Matter Most in Selecting a Stud Dog

We asked breeders to select all that apply.



A common perception is that breeders gravitate to top-winning dogs. Only 5% of the breeders selected this as a factor in selecting a stud dog, and always in context with one of the top two choices above.

The high percentage of breeders who selected “Other” indicates they consider factors beyond the ones listed above. We suspect some of those factors may be what shows up in the next section, Studying the Pedigree.

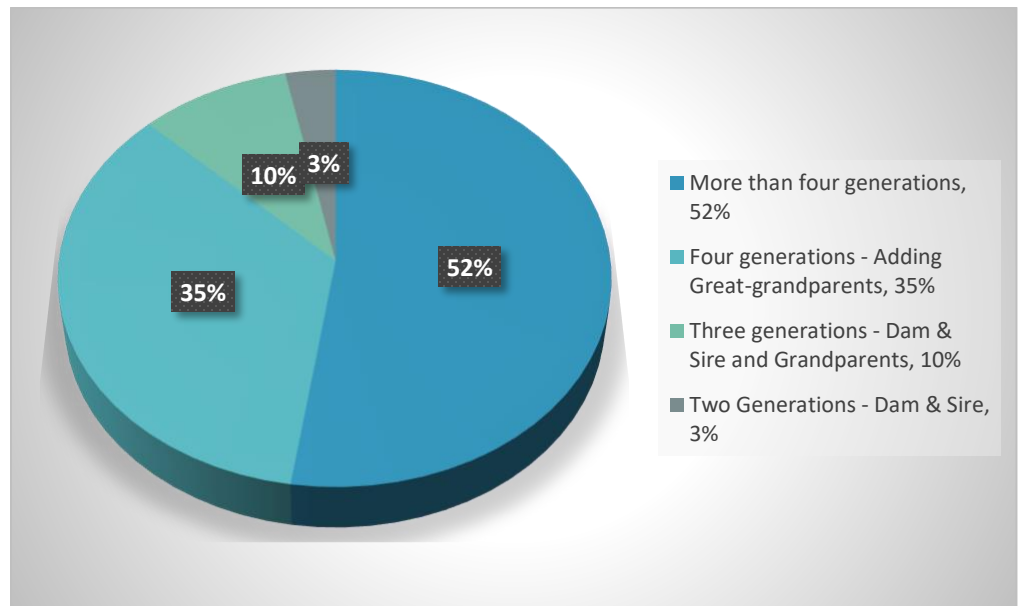
Section 3: Studying the Pedigree

New breeders are consistently advised to “study the pedigrees.” Our objective was to identify the specific qualities experienced breeders look for in pedigrees.

Number of Generations Breeders Look at When Planning a Breeding

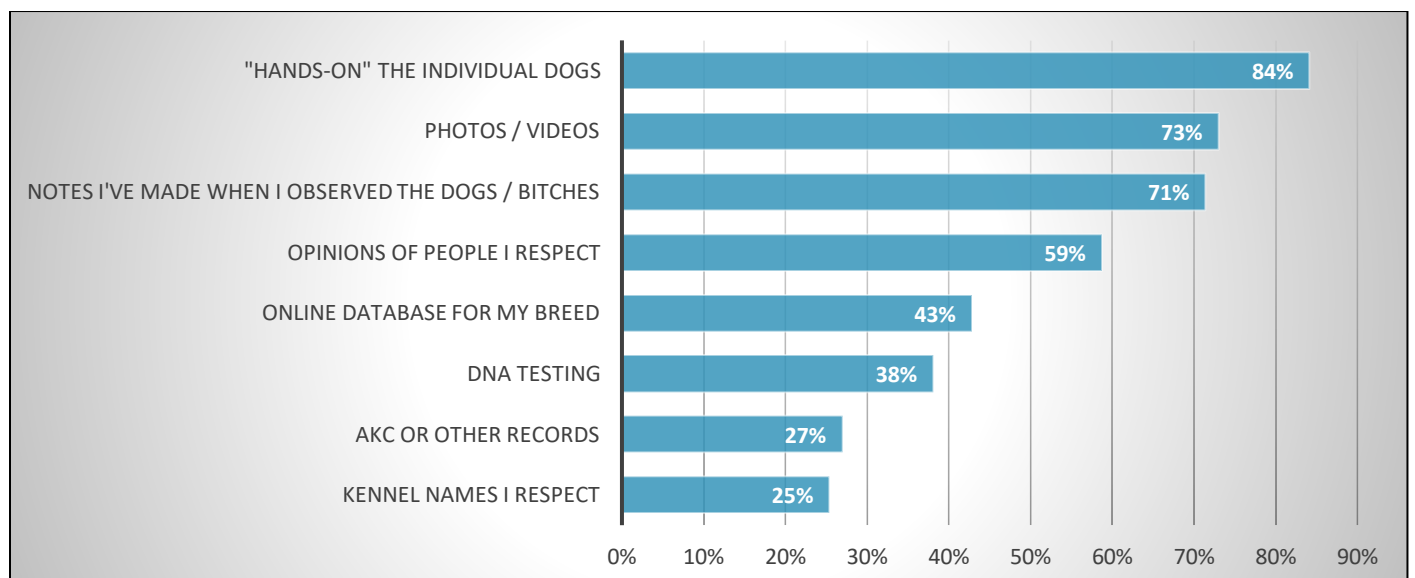
Studying pedigrees is important to all breeders. More than half of the breeders said they study *more than* four generations.

Not one breeder selected the option “Pedigrees are not important to their breeding decisions.”



What Breeders Use When They Study a Pedigree

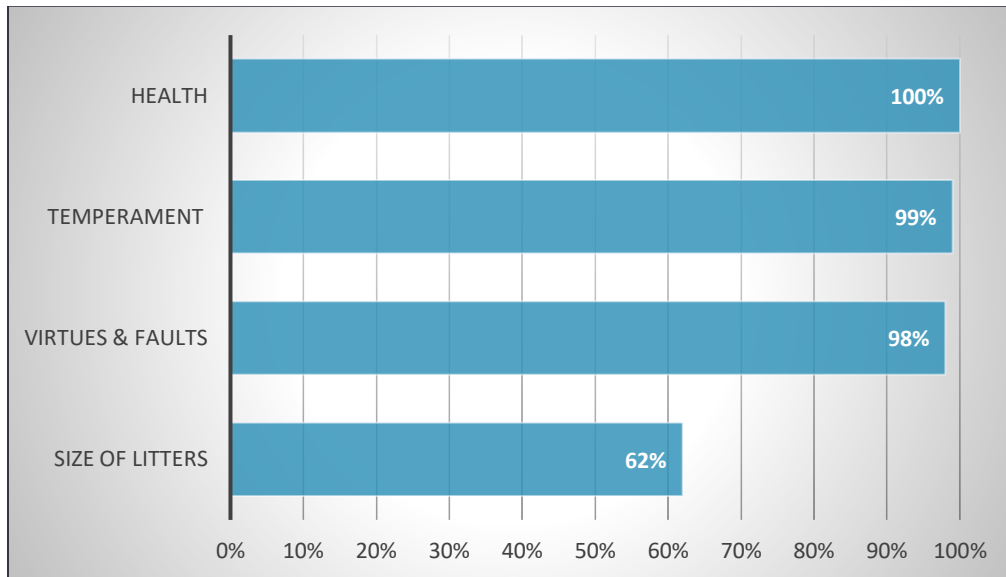
Experienced breeders often know all the dogs in a pedigree. Nonetheless, they provided us with great insight into the ‘tools’ they use to help their assessment of pedigrees.



Broad Overview of the Bitch's Pedigree

- 97% of the breeders believe the quality of the *litter the bitch came from* is Important, with 84% of them saying it is Very Important
- 96% believe the quality of *litters from other generations* in her pedigree is Very or Somewhat Important

Specific Qualities Breeders Look for in the Bitch's Ancestors



Health, Temperament, Virtues and Faults are considered Important by virtually all breeders. Litter size is Important to about two-thirds of breeders.

The Stud Dogs' Pedigrees

- 88% look for the same factors they look for in the bitch's pedigree
- 12% said the individual dog is more important than his pedigree

Studying the Bitch's and Dog's Pedigrees Together

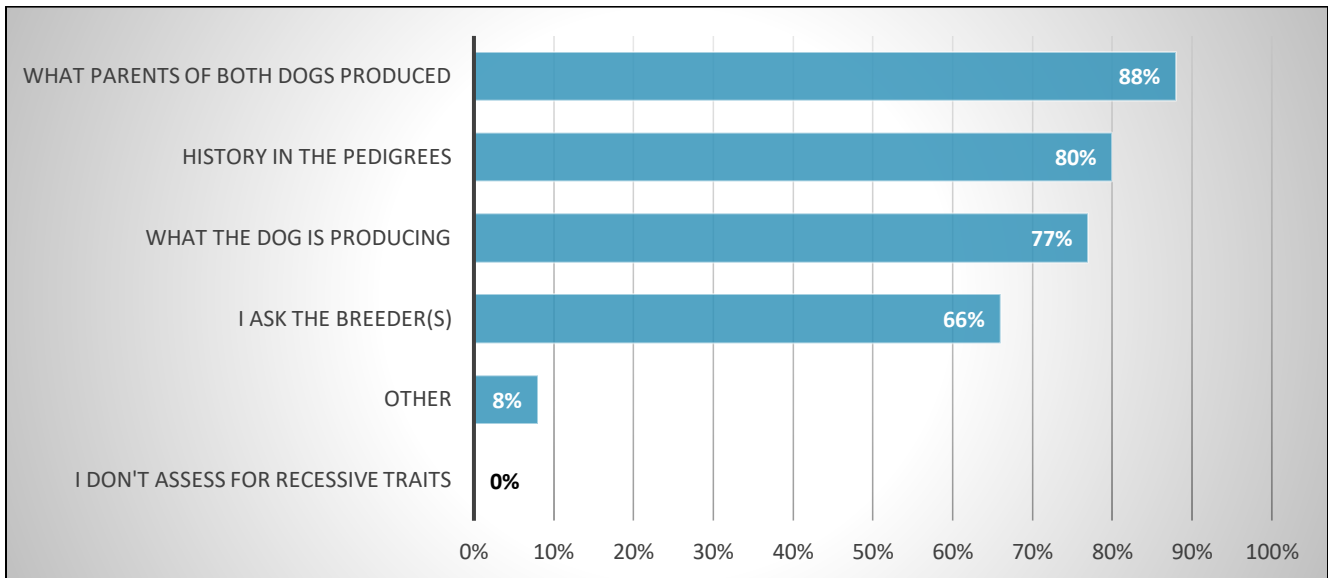
- 95% look for virtues spread across both pedigrees that breeders want to keep
- 73% look for some common ancestors
- 47% look for faults spread across both pedigrees that they want to avoid
- 13% look for minimal to no common ancestors
- 13% look for size of litters produced by bitches in both pedigrees
- 14% say the individual bitch / dog are more important than their pedigrees

Making the Final Decision on Which Stud Dog to Use

- 92% said that, after all their study, they use their best judgement
- 3% rely on opinions from other breeders
- 2% rely on DNA tests from services such as MARS
- 3% rely on Other

Avoiding Undesirable Recessive Traits That Are Not Visible

All experienced breeders assess for recessive traits. They have high agreement about what they look for in the breeding pair.



What Breeders Look For In Pedigrees

In Their Own Words

Their comments cluster into the following 5 categories:

General Characteristics

“I take a very close look at the 4 grandparents when planning a litter. I find the pups take after grandparents more than their parents.”

“The multiple appearance of top producing sires and dams in the first few generations.”

“The ability of the ancestors to produce their strong characteristics”

“Siblings and offspring of the dogs in pedigree, not just the two that you chose to put together.”

“I look to puppies produced by close relatives of the sire and dam, particularly if their breedings are similar to the one being considered (have common relatives).”

“I am also looking for faults I see transmitted through multiple generations that tells me it’s hard to eradicate.”

“I like to see how many champions versus pets are in past litters.”

“I look for certain kennels from the past that I feel have importance in our breed.”

“Consistency of type.”

“I like to know something about the littermates of the dogs in the pedigree with regards to health testing and if there are any really strong traits.”

“The overall ‘package’ that represents the breed honesty.”

“Type [to be preserved].”

“Well known confirmation-winning ancestors.”

“I like to have at least a couple common ancestors.”

What Breeders Look For in Pedigrees

In Their Own Words

	<i>"Depth of quality and production of dam side. I breed on female side of pedigree. On dam as well as sire's female line."</i>
Bitch's Pedigree	<i>"Quality bitches stand out." "Health and longevity of dam, grand dam. Size and sexes of litters produced." "Easy conception, and rather they were free whelpers." "Strength of the sire's dam." "Free whelping is a priority for me."</i>
Dog's Pedigree	<i>"I am looking for a male who is tightly line-bred who comes from a family of dogs who possess the traits I need for my bitch." "Dog's temperament and what he's produced." "I look for the most prepotent male in both her and the male's pedigree." "How well the dog has produced with past breedings / pedigrees."</i>
Both Pedigrees	<i>"COI – I like to be >15% especially on a particular bitch line I admire." "I do want to know breeding coefficients. I find them helpful to determine influential dogs and bitches in the pedigree."</i>
COI	<i>"I look at coefficient of inbreeding of puppies in the expected litter." "Coefficients and CHIC Certifications."</i>
Line Breeding/ Outcrossing	<i>"Line breeding; ties to influential dogs that I like; avoidance of lines that I personally do not like." "Inbreeding vs line breeding vs outcross in the pedigree generations." "Linebred pedigree with outstanding producers and specialty winners." "I have better results when there are common ancestors in her pedigree – more of a family group of dogs." "I like to look and see if it's a complete outcross or if there is any linebreeding." "I basically line breed, but there are times I need an outcross but one that still has my breeding line in the pedigree." "Linebred pedigree with outstanding producers and specialty winners."</i>

Section 4: Line Breeding / Outcrossing

Most breeders agree on the advantages and risks associated with Line Breeding and Outcrossing. We found more variance between Dandie breeders and Other breeders in this section than in any other.

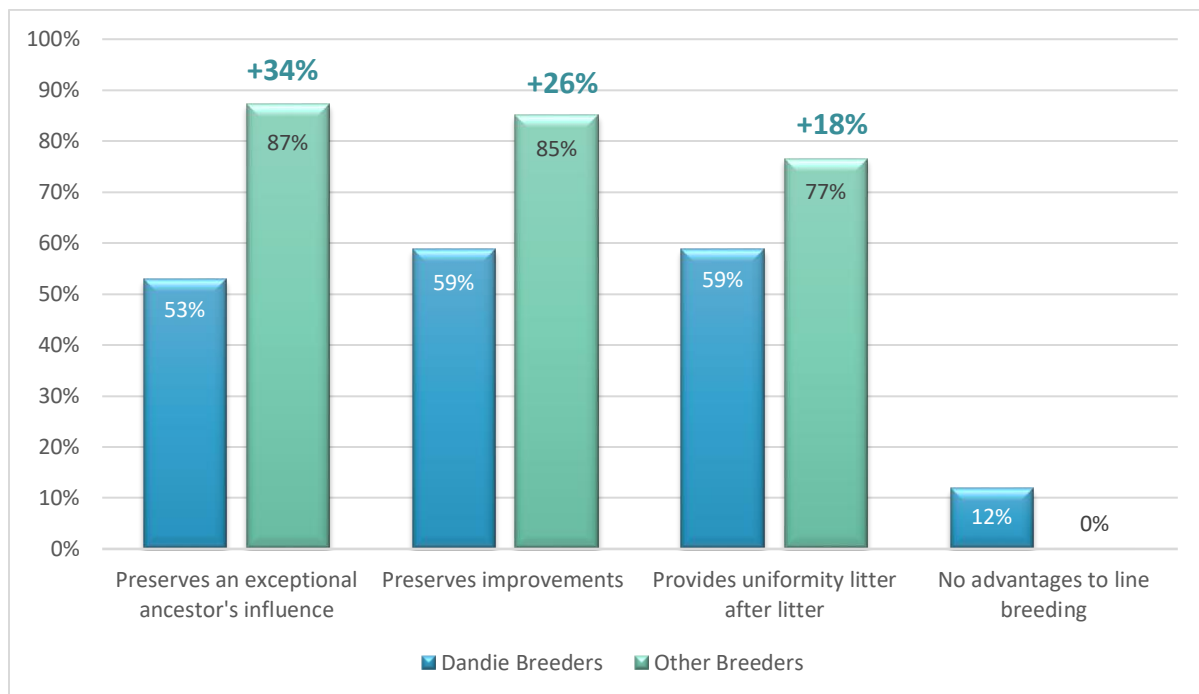
Advantages of Line Breeding

Almost all of the breeders see advantages of line breeding

- 78% said Line Breeding preserves an exceptional ancestor's influence
- 78% said it preserves improvements while attempting to make future improvements
- 72% said it provides uniformity litter after litter
- 59% said it produces vigorous prepotent dogs of correct type
- 12% chose the Other category, in addition to selecting one or more of the above
- 3% said they see no advantages of line breeding

Dandie Dinmont vs Other Breeders

We found significant differences in a few of the areas. While more than half the Dandie breeders see the advantages in these three areas, a significantly greater percent of Other breeders see the advantages. 12% of Dandie breeders said they see “no advantages to line breeding” compared to 0% of Other breeders.



Risks of Line Breeding

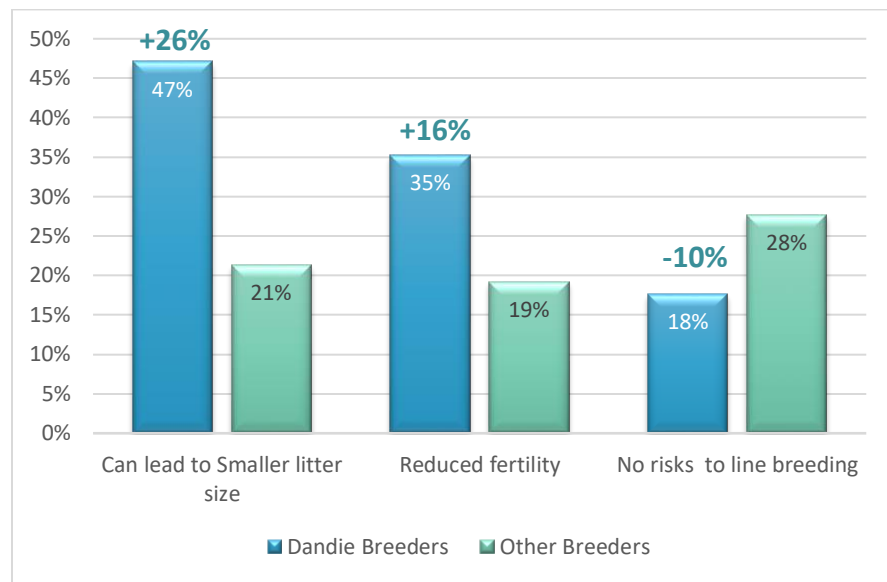
- 70% said too much inbreeding can double up on negatives, particularly recessive negatives
- 28% said it can lead to smaller litter size
- 25% said they see no risks to line breeding
- 23% said it can lead to reduced fertility
- 13% said it can produce temperaments not characteristic of the breed
- 11% chose Other in addition to one or more of the above

Dandie Dinmont vs Other Breeders

A higher percent of Dandie breeders associate two of the risks with Line Breeding than Other breeders

The variances in belief about litter size and reduced fertility explain the difference in belief about the risks.

Other than these three categories, Dandie breeders and Other breeders were aligned.

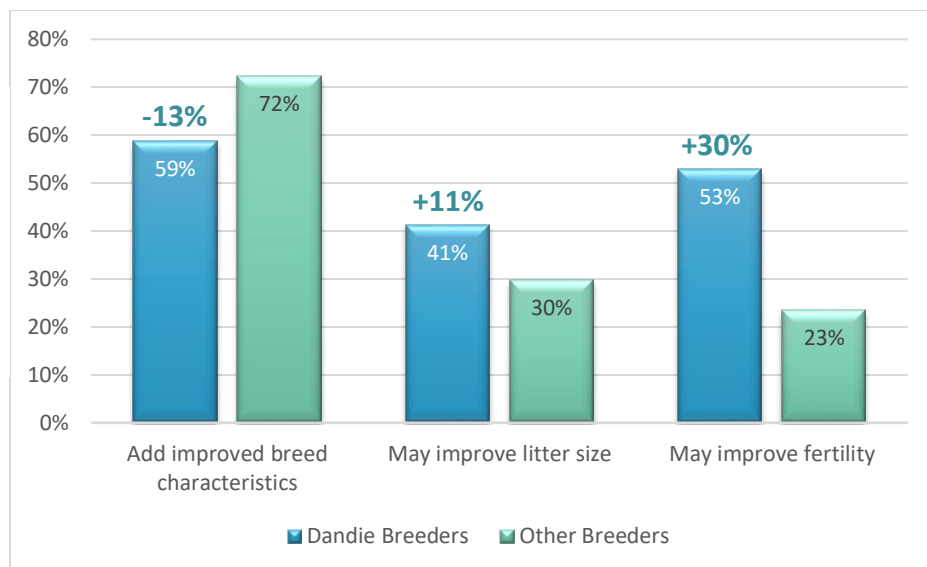


Advantages of Outcrossing

- 92% said Outcrossing brings new blood to a limited gene pool
- 69% said it can add improved breed characteristics to their breeding program
- 33% said it may improve litter size
- 31% said it may improve fertility
- 11% selected Other in addition to one or more of the above
- 2% said they see no advantage to outcrossing

Dandie Dinmont vs Other Breeders

The greatest variance is in the belief among many Dandie breeders that Outcrossing may improve fertility. A 30% variance is significant.



Risks of Outcrossing

- 81% cited uncertainty about what you will get
- 70% said outcrossing can introduce fault(s) breeders had worked to reduce
- 48% said it can lead to doubling up on an undesirable trait that had not been dominant in either dam or sire
- 11% selected Other in addition to one or more of the above
- 3% said they see no risk to outcrossing

Fewer Dandie breeders see uncertainty about what they will get as a risk of outcrossing.

	Dandie	Other	Variance
Uncertainty about what you will get	65%	87%	-22%

We wanted to gain insight into how close a breeding is *sometimes* or *never* acceptable and found a significant difference in attitudes between Dandie breeders and Other breeders. Note that, even so, the majority of Dandie breeders are aligned with Other breeders.

	Dandie	Other	Variance
I would <i>sometimes</i> breed a bitch to her grandsire	65%	98%	-33%
When I breed a bitch to a close relative, <i>sometimes</i> the next breeding is an outcross	59%	96%	-37%
I would <i>never</i> breed a bitch to her sire	100%	72%	+28%
I would <i>never</i> breed a bitch to one of her sons	94%	79%	+15%

Breeder Self-assessment

We asked breeders to identify which statement best describes their breeding

- 56% said, “I know what I will get from most breedings. My dogs look the same litter after litter.”
 - We assume this group does primarily line breeding.
- 44% said, “I try different combinations to improve the breed. I get what I want often enough.”
 - We assume this group tends to do more outcrossing than line breeding.

Distribution of Dandie breeders is slightly different from the Other breeders:

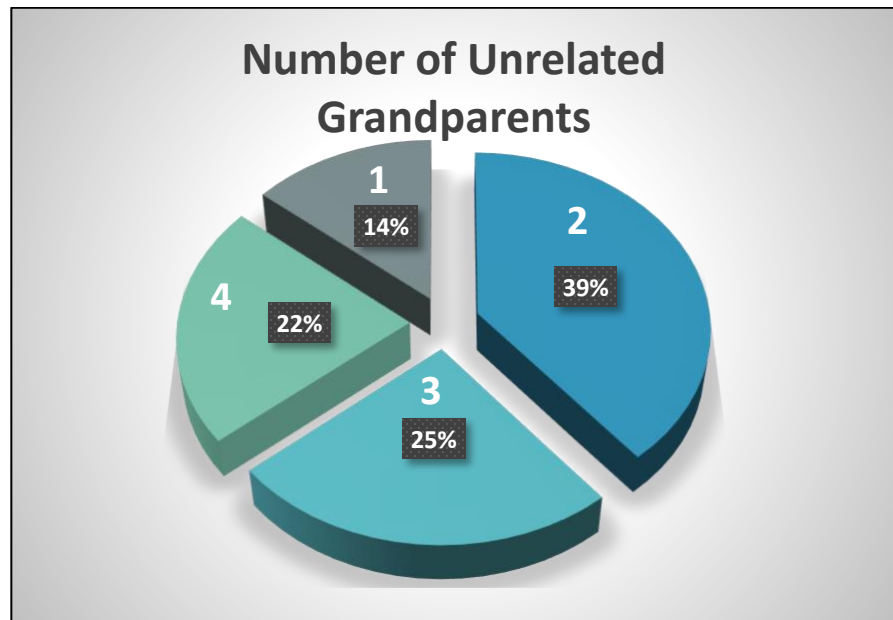
	Dandie	Other	Variance
I know what I will get	47%	60%	-13%
I try different combinations	53%	40%	+13%

How Much of an Outcross

We asked breeders who said they know what they will get, “When doing an outcross, how much of an outcross do you usually do?”

We specifically asked for their thoughts on one, two, three and four unrelated grandparents.

39% said two unrelated grandparents, 25% said three, 22% said 4, and only 14% said one unrelated grandparent.



In Breeders' Own Words

As a follow-on question, we asked breeders who know what they will get to tell us, when they do an outcross, why they choose that level. Below are their comments, clustered according to level of outcross.

1 Unrelated
Grandparent

14% of
breeders do a
25% Outcross

"I want to keep the type and virtues of the line. I only want to go out a quarter [1 unrelated grandparent], but keep what I have achieved."

"Where 1/4 of the pedigree is an outcross. That is enough to bring in something different while maintaining your line."

"The outcrosses I've incorporated in my line are from the UK. I make it a point of seeing the dog before importing it to the US."

"The outcross must have terrier attitude."

"Our gene pool is very small."

2 Unrelated
Grandparents

39% of
breeders do a
50% Outcross

"Two unrelated grandparents seem to keep the traits I desire, but still brings in new DNA."

"One half of the pedigree is unrelated."

"We only outcross occasionally. When we do, we will use an unrelated dog in a breed which has a small gene pool."

"I like to have at least a couple common ancestors."

"As far apart in relationships as possible."

"I want an outcross to be tightly linebred and usually I am outcrossing with someone who is using very similar if not the same lines."

"More control of unknowns."

3 Unrelated
Grandparents

25% of
breeders do a
75% Outcross

“Hopefully this is far enough out to bring in some variety, but close enough so it still ties together.”

“When we do an outcross, it is often a total outcross. That said, three unrelated grandparents would be fine. “

“I wouldn’t want the breeding to be too diluted.”

“You still have an idea of at least 25% of the genetic material being gambled with.”

“Reduces the coefficient of inbreeding enough to move forward with careful linebreeding.”

“Avoid undesirable recessives from being expressed.”

“Too far out and you can completely lose your type. Greater uncertainty.”

4 Unrelated
Grandparents

22% of
breeders do
100% Outcross

“By the definition I use, any common ancestor in 3 generations is a line breeding.”

“When I outcross, I do so to capture virtues. Most important is he is closely linebred.”

“4 grandparents completely unrelated to each other has never worked well for me. Health and temperament issues that I never had before almost every time.”

“My breed only came from 8 dogs after WWII. Same dogs, multiple times in generations 4-6 is very common.”

“Outcross to me is almost totally / totally unrelated.”

“Trying to keep my gene pool diverse but use dogs of similar type.”

“When breeding to a dog that has related dogs, that is still line breeding. Outcross is just that, no common dogs unless the gene pool is so small that it can’t be avoided. Then I go as far back as possible for related dogs.”

Section 5: Ensuring the Survival of a Vulnerable Breed

Two-thirds of the breeders shared their thoughts about how to ensure the survival of an endangered breed. That is about the same number as said they considered their breed to be vulnerable. One comment in particular summed up an approach worth considering as we go forward:

“I would think it would be crucial to get as many breeders involved focusing on the main issues and be in agreement on a plan to take care of a vulnerable breed.”

These breeders clearly have given thought to the way forward. Not surprisingly, they have high agreement about what to do.

Breed
Responsibly

Encourage and
Mentor

Be Honest
and Share
Experiences

Their comments add richness to these three actions. Following are representative samples of their recommendations:

Breed Responsibly

58% of the breeders' comments describe aspects of breeding responsibly.

“Do not breed because a stud dog is convenient or a top winner. Only breed to improve your breed. Learn all you can and trust your own instincts. Do not be kennel blind. Remember the small things other breeders mention.”

“Collect dogs that could in the future help the breed, and try to be consistent in moving forward.”

“Breed quality, not quantity. Ensure that all dogs that are bred are healthy and free of genetic defects.”

“Breed – you have to breed for a breed’s survival.”

“We must keep breeding and putting these dogs in the hands of the people who we can train to continue to breed even better dogs.”

“We have had great success incorporating [our breed] from England and Australia into our program bringing much pedigree diversity. We have also used frozen semen from 15-20 years prior for the same reason.”

“This is of the utmost importance in our highly endangered breed. I have been working with breeders in Europe and exchanged a dog for a bitch with genes rare to each country to expand the gene pool. We’ve since bred these dogs and exchanged puppies and exchanged them back.”

“Don’t sell breeding stock to idiots or puppy mills.”

“Breed more often. Breed the best to the best ... in type, health and temperament.”

“Breed your animals knowing you are responsible for the breed’s future.”

“With a small gene pool ... I now look for the number of dogs that reach old age in a pedigree. I prefer to breed to older dogs, and will use pedigrees that have many older dogs in them even if I am not crazy about the dogs phenotype.”

Encourage and Mentor

31% of the breeders’ comments discuss the importance of drawing new people to the breed and helping them succeed.

“Attract breeders ... real breeders. Breeders that stay in it because breeding is in his or her own DNA. If one comes into your breed, help them find appropriate homes for their pups until they are established.”

“Try to encourage other breeders to get involved in this breed as I did 15 years ago.”

“Share one’s knowledge and help new breeders.”

“Education, mentoring of new interested people and the public.”

“Mentors, breeders, impact future litters. Closer association with group. I have three ‘families’ I work with in each breed. I mostly stay within what we collectively know unless something specific is needed to be improved.”

“Educate the public and mentor new breeders.”

“I think parent clubs and older breeders need to support “newbies” in their breed. If you don’t get new people interested in your breed, where do you have to go?”

“Getting ahead of the backyard breeders. Education and showcasing the differences. Getting good quality companions out as much as show quality.”

Be Honest and Share Experiences

15% of the breeders urged these behaviors

“Be honest among breeders. In the words of Jerold Bell DVM, the days of hiding problems and denying health issues must be behind us. It is only by sharing what works and what co-combinations did that we can go forward.”

“Above all, breeders need to be honest with each other. Do not hide major faults or health issues.”

“The only way to help a vulnerable breed is to share your knowledge, share your dogs, and try extremely hard to interest new people into your breed.”

“Pass on knowledge to younger generations of breeders.”

“Share. Share information. Share pedigrees. Share buyers. Help breeders stay in the whelping box.”

“Open and honest communication among breeders.”

Addendum & Methodology

This report is part of the DDTCA Knowledge Management Program. We have adopted practices (proven in the marketing world) which recognize the importance of preserving knowledge gained by experts. By adopting this broader perspective, we have exponentially expanded our concept of a mentoring program.

The number of experienced Dandie breeders worldwide is too small to provide statistically accurate insights. In our quest to find additional experienced breeders, Betty-Anne Stenmark asked for volunteers on her Facebook page. Many highly experienced expert breeders stepped up. To those, we added a handful of other breeders who have demonstrated their knowledge through decades of consistently high-quality breedings. We sent an email invitation to 100 breeders, all of whom have distinguished themselves in the world of the purposefully bred dog. We utilized Survey Monkey’s platform to collect survey results.

We received 66 responses – an even higher return rate than that of the previous survey. Such a high return rate indicates a motivated group of breeders. We are grateful to them all. We rejected 2 responses because they were not complete. The resulting 64 breeders yielded the goldmine of insights documented in this report. Even though more breeds are represented, the basic profile of the breeders is consistent with the earlier survey. The highly select nature of the breeders ensures they represent the broader community of pure-bred dog breeders, particularly those interested in preserving the best in their breeds.

Results are generally consistent for both Dandie breeders and Other breeders, except for beliefs about line breeding and outcrossing. Those differences are well-documented in Section 4 of this report.

Here is a snapshot of the breeders who participated:

<i>Breeders’ Characteristics</i>	<i>Survey Results (n=64)</i>	
<i>They reside in four countries, with most respondents in the US</i>	US	86%
	Canada	6%
	UK	6%
	Finland	2%
<i>They represent all of the AKC breed groups; most breeders focus on one breed</i>	Dandie Dinmont Terriers	27% (n=17)
	Other breeds	73% (n=47)
	○ Terrier: 11 varieties	
	○ Sporting: Pointers, Spaniels, Setters, Retrievers	
	○ Herding: Corgis, Briard, Sheepdogs,	
○ Hounds: Afghan, Dachshunds, Bloodhound, Whippets, Beagles, Bassets, Irish Wolfhound, PBGV, Rhodesian Ridgeback		
○ Non-sporting: Bichon Frise, French Bulldog		
○ Toy: Pug, Chihuahua, Brussels Griffons		

- Working: Rottweiler, Siberian Husky, Doberman, German Pinscher, Akita, Giant Schnauzer

More than 2/3 of the breeders believe their breed is vulnerable. Other breeders less so than Dandie breeders

70% believe their breed is vulnerable.

- Dandie breeders: 100%
- Other breeders: 60%

The breeders have collectively bred more than 1,600 litters

Number of litters bred	% of Breeders	MIN	MAX
○ 5-10 litters:	15%	50	100
○ 11-20 litters:	22%	165	300
○ 21-30 litters:	22%	294	420
○ 31-40 litters:	16%	341	440
○ 41 or more litters:	25%	656	656+

All Dandie breeders produce average litter size of 3-5 puppies

About half of the Other breeders produce average litters of 3-5 puppies

Average litter size

- 1-2: 2% (Dandies: 0%; Other breeds: 2%)
- 3-5: 66% (Dandies: 100%; Other breeds: 53%)
- 6-8: 28% (Dandies: 0%; Other breeds: 38%)
- 9 or more (Dandies: 0%; Other breeds: 6%)

The DDTCA is committed to Preservation Breeding

*The goal is to breed Dandie Dinmont Terriers
that retain the temperament, health and sound movement to
become all-around healthy members of families and to
successfully compete in the activities that judge the soundness of dogs*

For more information, please contact the
DDTCA Strategic Advisory Committee at
DDTCASurvey@jmoxham.com