

Choosing Breeding Stock, Part One

By Scott J. Gartner, DVM
The Hunte Corporation

Today's breeder has a big, important job in the raising of quality, healthy puppies. The breeder must be constantly vigilant in building of well ventilated, functional facilities, maintaining those facilities in a clean and safe manner, and in providing individual attention to the daily physical and mental well being of all the animals in his or her care. It can be daunting.

The selection of the sires and dams that will produce t quality healthy puppies is no less important, requiring a fair amount of skill, knowledge, and determination. The breeder must know and be able to recognize dogs that conform to breed standard, and must be informed about flaws such as hernias, and genetic problems specific to a breed. The breeder must also have the discipline and organizational ability to keep detailed records of pups produced from specific pairings to make sure that assumptions about the breeding pairs selected are consistent with the results. This two part article is intended to provide a useful outline for the breeder to build on in developing the skills necessary in choosing the right breeding dogs.

Breed Standard: The first rule is: know your breed. The breeder must be familiar with the breeds he or she is raising. The breeder of an individual breed must know what is expected within key features for that breed. For example, a Yorkie breeder must be attuned to features such as quality and length of hair coat, appropriate leg length, and ear set. Intimate knowledge of the history and reasons for the establishment of a particular breed is often helpful in cementing in one's mind expectations in such things as coat, muscling, and athleticism. For example, the Labrador retriever was bred for specific hunting purposes lending to the desirability of an animal with an athletic, strongly built, well balanced body. Illustrated standards provide detailed schematics of proportions which are extremely helpful in visualizing specific attributes as well as overall conformation for a particular breed. Illustrated standards can be found through specific breed clubs. Breeders should immerse themselves as fully as possible in all information available on a breed of interest. A last note is not to key in too heavily on any one feature. For example, a Rottweiler breeder would be ill advised to place too much emphasis on head size at the exclusion of all else.

Health: A good breeder must also be aware of potential health problems concerning dogs under consideration for a breeding program. Veterinary conditions such as hernias, hip dysplasia, knee laxity, and heart murmurs must be evaluated for potential breeding animals. The breeder can not be blinded by immediate outward aesthetics. A thorough physical examination of all sires and dams considered for breeding must be performed. Knowing your breed becomes critical in this aspect as well. Breeders must be aware of all health issues for which their breeds are at increased risk. The breeder that has this knowledge is not only more likely to avoid these health issues in potential breeding animals, he or she will also be more diligent in researching ancestors and littermates for the expression of these issues. Most health issues of concern are controlled by complex genetic factors and can be fairly insidious. For example, a female with perfect knees may

produce a full litter with perfect knees. Pair her with a different male in the next breeding and half the litter may have unacceptable knees. A breeder would do well to pick four issues of particular concern in their breed and give all of the diligence possible to eliminate the risk of those issues in future litters.

Choosing Breeding Stock, Part Two
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This is the second of a two part article to help breeders plan their selection of sires and dams for their breeding programs. Last month, I talked about the importance of breed standard and health issues generally. This month, some comments on using knowledge of canine genetics to assist in selecting breeding pairs, and about certification programs for dogs.

Genetics and heritability are often used interchangeably. The term heritability refers to how easily genetic traits are passed on to offspring. Heritability carries a deeper connotation of relative risk. That is, genetic traits, both good and bad, vary in their heritability. The breeder who knows the relative heritability for both good and bad traits can focus this knowledge to great advantage when choosing sires and dams for breeding. For example, the breeder who understands and accepts that litter size carries a low heritability would not put this factor high on the criteria list when selecting breeding pairs.

The breeder who does his or her homework before selecting breeding pairs should keep detailed records of the puppies produced. Those records will allow the good breeder to quickly rectify any errors in planning the pairing of sires and dams.

Genetics is complex and insidious, however, advances in genetics have given breeders some high tech tools to use in addition to their own records. There are now labs that can expose carriers for genetic diseases based on oral swabs. The list of diseases that can be flagged by these tests is large and continuously growing. Even if a breeder does not directly utilize this technology in his or her own program, acquiring breeding stock from programs that do would give the breeder more confidence in the source of breeding animals.

Specific certification programs now exist for certain genetic diseases. OFA (Orthopedic Foundation for Animals) and CERF (Canine Eye Registration Foundation) are the most notable. The breeder of German Shepherds or Rottweilers would be wise to look for OFA certification in the pedigrees of potential breeding animals. Likewise, a Golden Retriever breeder would be wise considering CERF certification in the pedigrees of potential breeding stock.

The depth to which a breeder can go to make decisions on what males and females will produce their puppies is obviously immense. This two part article is short and meant only to give the breeder a starting point in the selection of breeding animals. It would take several substantial text books to begin to expound on the topics touched on here. Those books do exist. I would encourage all breeders to begin by researching and becoming thoroughly familiar with their breeds of interest, and creating as complete a record system as possible to track all puppies produced in their breeding programs. Take the time to learn about advances in canine genetics and the state-of-the-art technologies available to

breeders. Due to the complexity of genetics as touched on in this article, I would dissuade a breeder from trusting that a male or female under consideration for breeding would be a great choice based simply on outward appearances or the fact that they are a champion. Again, the more that you can learn about littermates, ancestry, and offspring already produced, the more you'll know about what may lie hidden in an animal's genes.

Dr. Scott Gartner is a staff veterinarian for The Hunte Corporation. Dr. Gartner can be reached at (800) 829-4155.