SmartChart

Tool #2: Breeding Systems

1. Inbreeding increases homozygosity or the duplication of good (and bad) genes in the offspring.

2. To be inbred or linebred, a dog should have a common ancestor behind each parent in the first 3 generations.

3. Linebreeding that first appears in the 4th generation results in relatively little duplication of genes (homozygosity) in the litter.

4. Harmful genes may be brought to the surface by inbreeding. You need to know what's in your pedigrees. Novices should not attempt close inbreeding.

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5. Like-to-like mating can increase resemblance between parents and offspring but offspring may not be able to pass on their traits due to a lack of identical by descent genes.

6. Outcrossing is the mating of basically unrelated animals. It is necessary to restore vigor and fertility or obtain a sought after trait.

6. Outcrossing works best when the sire and dam are each inbred or linebred.

7. A dog's breeding value (BV) refers to its gene combinations. Better BV's result in better producing animals.

9. Inbreeding to more than one dog at once may be less effective.

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10. A pedigree in which dogs carry the same kennel name does not guarantee it's a linebred pedigree. Linebreeding requires a common ancestor to appear behind the sire and dam in the first 3 generations.

11. A dog who has proven its ability to pass on traits in a predictable manner is prepotent. Inbreeding increase prepotency.

12. Breeders may need to use a combination of mating systems in a single breeding.

13. To fix a trait, some form of inbreeding must be used.

14. Loss of genetic variation in a breed must be addressed by breeders and considered when planning matings.