

Pedigrees: Understanding Retriever Pedigrees — Part I

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Editor's Note -Reading and understanding pedigrees is vital to picking out a sound, healthy puppy. In Part I, Butch tells us how, to interpret a pedigree to learn about the "relationship of a dog to its ancestors." In [Part 2](#), Butch will tackle the acronyms - those few-letter prefixes, suffixes, and explanations that tell us of the dog's championship history, and health.

The 1958 Green Bay Packers had the worst record in the history of the franchise. On November 2, 1958, they were humiliated in Baltimore before a crowd of more than 51,000 by losing to the Colts 56-0. That season, they had lost their first game, tied the second, and then lost nine of their last 10 games. This miserable record prompted Pulitzer Prize winning sports columnist and Green Bay native Red Smith to write that they had, "*overwhelmed* one opponent, *underwhelmed* ten, and *whelmed* one."

In general, most retriever breedings we see today seem to have an only slightly better record than the 1958 Packers. Occasionally, there is the breeding that is, in fact, *overwhelming*; many are *underwhelming*; but most are simply *whelming*. Honestly, the majority of breedings tend to be pretty mediocre as far as field dogs go.

But there is a way to stack the deck in your favor when looking for a new retriever pup. You have to become overwhelming like the Packers did over the next decade. In the next seven years - when a relatively unknown assistant from the Giants named Lombardi took over as the Packers head coach in February of 1959 - they won 103 of 120 regular season games, and followed up with impressive victories over the Chiefs in Super Bowl I and the Raiders in Super Bowl II. They accomplished this by doing exactly what you have to do when you begin to seek out that exceptional litter of retriever pups: Do your *homework!*

Finding an overwhelming litter doesn't have to be a gamble any more than winning at football or, for that matter, winning at poker. If you know enough to control the odds, you certainly come out ahead, regardless of the game you choose. And controlling the odds comes from learning all you can about the game you are playing. You do that by doing your homework and paying attention to detail.

In your search for the perfect pup, the first step necessary in doing your homework is to learn to understand the often puzzling information on a dog's pedigree. Over the course of this two-part column, I'm going to teach you to go further than what the novice or inexperienced potential puppy purchaser sees on a pedigree in order to come out way ahead.

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A *pedigree* is a lineage or family tree in diagram form. It shows a great deal about the *line* from which a dog descends by listing all of the ancestors behind a particular dog or litter, and their accomplishments and genetic health clearances.

A pedigree reads from left to right. The particular dog or litter to which the pedigree pertains is listed on the left, with the parents listed above and below to the right of the dog's name. As we read the pedigree from left to right, each dog listed should have his parents above (sire) and below (dam) and to the right of his or her name. This same diagram form progresses throughout, no matter how many generations are listed. Therefore, the parents of a particular dog or litter are the first generation, the grandparents are the second, the great-grandparents are the third, and so on.

Any titles, certifications, and numbers clearing that particular dog of certain hereditary health defects will be listed in front, behind, or below that dog's name. Other distinguishing characteristics or notes about a particular dog might also be shown above, below, or behind a dog's name. Titles and clearance numbers are almost always shown in abbreviated form and can be difficult to understand, as can the placement of the letters designating a title, which can vary depending upon the organization awarding them. Part II will examine these further.

Breeders use and send out pedigrees to indicate titles and health clearances. But to the knowledgeable breeder and well-informed potential puppy buyer, a pedigree tells us much more than this. It is used to evaluate the relationship of a dog or a litter to its ancestors.

Science tells us that every puppy in a litter gets half of its chromosomes from each parent. Offspring can't possibly inherit all of the chromosomes from each parent, or it would have double the number allowed by nature. Nature solves this problem by merely passing along half of the number of chromosomes from the sire and half from the dam. Any combination of each parent's chromosomes could be inherited, whether they be good or bad, a roundabout way of saying that no two dogs - even if they are littermates - are identical to each other, nor to their sire or dam. The dilemma that the experienced breeder faces is to try to pass as many favorable traits as possible from an outstanding dog along to its progeny while trying to minimize the unfavorable ones.

The way the breeder accomplishes this is through the mating of close relatives in order to strengthen the genetic relationship between the ancestors and the offspring. This generally creates a uniform litter more closely resembling the parents and ancestors, and increases the opportunity to maintain the ancestors' favorable traits in future generations. The mating of close relatives is a game of genetic statistics, and understanding how the practice works is the first step in finding that exceptional retriever pup. This practice is called *linebreeding*.

Pedigrees reveal much of what you need to know about a pup's ancestry, but only if that pedigree has *depth*. And, that depth has to extend back at least three and preferably four or more generations so that it includes the parents, grandparents, great-grandparents, and, if possible, the great-great-grandparents. A pedigree of three generations will show 14 ancestors; a pedigree of four generations more than doubles the number to 30 dogs; add one more, or fifth, generation, and the number of ancestors shown escalates to 62.

"Okay," so you ask, "What good are added generations? My dog is so far removed from those dogs, he can't really directly inherit any of their characteristics, right?" That is probably true, but what we are trying to discover are family groups and relationships of ancestors - the more generations, the better. Those family groups, especially if they are linebred, will give us a better idea of what to expect of the uniformity of the pups in the litter.

All manner of breeders of domesticated animals have used linebreeding for centuries to improve upon a particular "strain" of animals. When it applies to dogs, the term "strain" labels a kennel as to the certain standards or traits that the breeder feels are important to his particular dogs. Emphasis on certain inherent characteristics can be readily seen within most long-established strains of dogs.

An expression frequently used by breeders is "like produces like"; similar animals produce similar animals. In other words, the characteristics that you seek to emphasize continue far back into the ancestry shown on the pedigree, you increase the probability of carrying those traits over to the pups in the litter and on through to future generations.

The only sure way of guaranteeing those traits is by the mating of close relatives or family groups - linebreeding.

Hold on," you say. "This sounds like a deceptive word for *inbreeding*, and I've heard stories about how inbreeding produces high-strung and aggressive dogs, or dogs that are otherwise unsound."

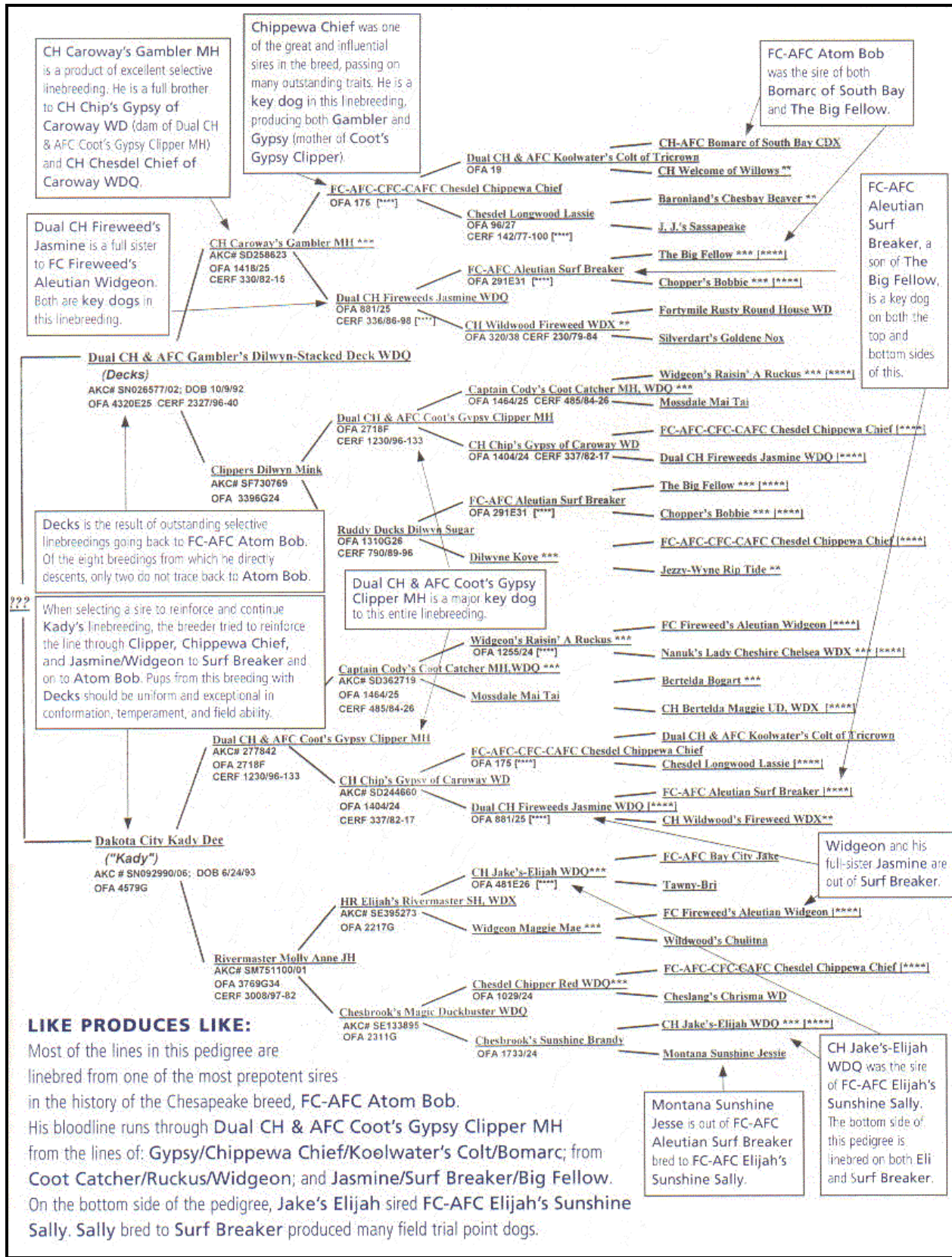
Yes, linebreeding is a form of inbreeding; but in it's truest sense, inbreeding is simply the mating of close relatives with no knowledge of the increased proportion of the genes coming from the ancestors of the sire and the dam. Inbreeding, without this knowledge of selection, is just as likely to pass along undesirable traits as desirable ones into future generations.

A common misunderstanding about linebreeding, is that because we are breeding dogs that are related, the offspring are going to be impaired in some way. This is not true. The genetics behind the sire and the dam completely determine the attributes of the offspring. If the family group is stable, the progeny will be stable also; if the line or family group behind the parents is questionable, those problems may intensify in the offspring.

Selective linebreeding can statistically increase the genetic relationship of the pups in the litter to certain chosen exceptional ancestors in the pedigree. The practice of linebreeding, in which undesirable genetic characteristics are selectively eliminated and desirable ones are carried on and developed, increases the likelihood that future generations will continue to show the desirable attributes that characterize a particular strain of dogs.

Let's take a look at the accompanying pedigree. It is an excellent example of selective linebreeding in Chesapeake Bay retrievers. We'll learn about the titles and certifications, their importance, and how to read the abbreviations for these titles and health certifications in [PART 2](#). But these don't tell the whole story. Perhaps the larger part of the story of what a pup or a litter will be like lies in the line or lines that they have evolved from, the linebred family groups and key dogs that the pedigree shows.

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Let me toss out one more thought: It seems that in recent years, breeders and the public have become enamored with a profusion of show and field titles shown on pedigrees. Show and field titles are certainly a credit to the owners, breeders, and the dogs that have attained them. But these titles mean nothing unless the breeder has the experience to know the individual dogs in the pedigree personally, and to know what traits each individual dog is known to produce - good and bad! Without this knowledge and the ability to selectively breed for desired characteristics, a pedigree is simply a piece of paper with "titles bred to titles," and letters and numbers printed on it.

Good luck picking your next "super puppy." Remember, you gotta start someplace, and a good place to start is by knowing what you are looking at when you look at the pedigrees the breeders send out.