

Darkstarr Rottweilers	Adult Males	Adult Females	Present Litters	Youth Males	Youth Females	Dogs Forsale	Favorite Links	Learn Center
---	---------------------------------	-----------------------------------	-------------------------------------	---------------------------------	-----------------------------------	----------------------------------	------------------------------------	----------------------------------

The Genetic Bottlenecking of the Rottweiler

By
Steven A. Robinson

Leo v Cannstatt

#29 IRZ

Plattenhardt kennel

Breeder: Gottlieb Haug

DOB: July 1908

Registered Offspring:

16 males and 12 females



Above is a picture of Leo v Cannstatt. A great dog in his day, but by today's standards, he lacks a lot to be desired. Even so, he and many of his sons were instrumental in the rebirth of our Rottweiler.

By the end of the 20th century, the population of our Rottweiler had dwindled to a critical number. Because of improvements in transportation and the outlawing of driving of cattle in Germany, two major purposes for our breed became obsolete. This started the Rottweiler's decline in numbers. The decline was so drastic that in 1882, at the dog show in Heilbronn Germany, only one poor example of a Rottweiler was present. An additional twenty years passed before systematic efforts to save our Rottweiler were in place. Biologists refer to this drastic reduction in the reproducing population of a species as genetic bottlenecks, diagram (1). It simply means that the overall reduction of a species's/breed's population has left only a relatively few number of individuals to repopulate. This results in a reduction in allele frequency or genetic diversity. A good analogy to understand the detrimental impact this represents to our breed is a tradesman. A tradesman is limited in what he can fix by the tools he possesses. Genes are the genetic tools used to make improvements or repairs. The quality of a tradesman's work is limited by the diversity of the

tools he has to work with.

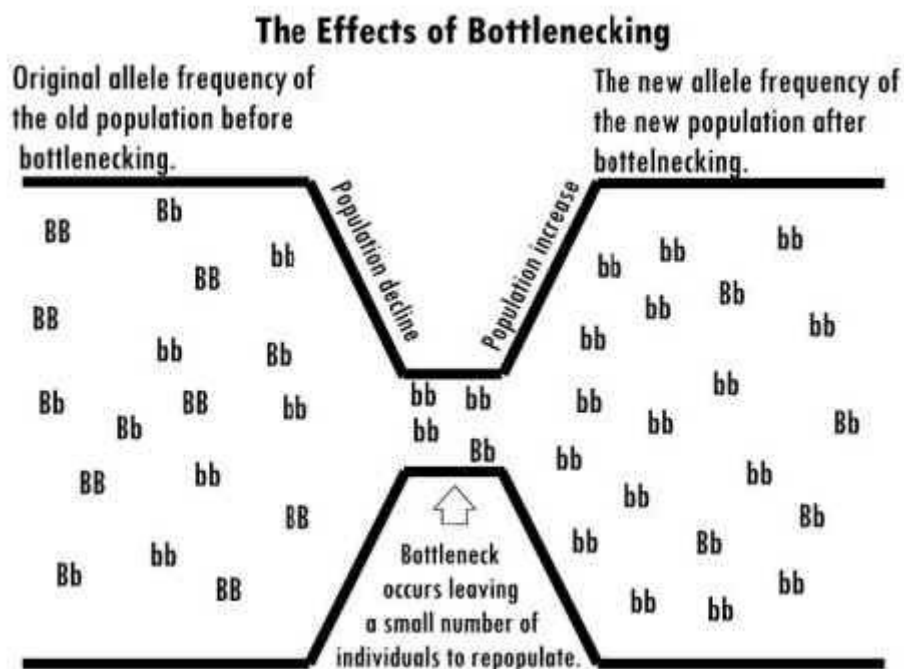


Diagram 1

As breeders, when we breed, we are just manipulating genes. A breed's variation in genes is totally dependent upon the number of individuals that a breed's population is based on. Despite our larger Rottweiler population today and almost a hundred years of breeding, we are still manipulating the same small gene pool that those earlier Rottweiler breed societies salvaged after our breed bottlenecked. New genes are not created through the years except in extremely rare occasions when a viable mutation occurs. Like it or not, we have roughly the same genetic diversity, or less, in our gene pool now as they had then. In even simpler terms, we are using roughly the same gene pool that was being used in 1907!

Out of concern for the Rottweiler, two breed societies were established in 1907. Until the establishment of these two breed societies, the German Rottweiler Club (DRK) and the International Rottweiler Club (IRK), there was no system for keeping breed books. Later, in 1921, these

two Clubs combined to form the ADRK, but I regress. During these critical years in which our breed's founding breeding program was established, only a handful of stud dogs were utilized. Among them, was Leo von Cannstatt.

Leo and some of his descendents were widely used and helped provide the genetic foundation of the modern Rottweiler. Leo v. Cannstatt was born in 1908 and, so, in addition, he represents a pedigree marker for the genetic bottlenecking of our breed. From his picture, Leo's phenotype is lacking in the refined breed type of our dogs today but apparently, from his and his descendent's prolificness, his genotype must have been the best of the best then. In all probability, there isn't a Rottweiler living today that doesn't descend from Leo. For example, I traced a line behind Ives von Eulenspiegel 19 generations to Leo and I traced a line behind Brando v Dattelner Hof 21 generations to Leo. What I find interesting, when looking at his photograph, is some of the faults he displays in his phenotype are the chronic reoccurring faults that plaque our breed from time to time. The influence of Leo and other founding dogs may help explain that. His long hocks, short second thigh, short upper arm, steep croup, and lack of angulation both front and rear, represent some of the more persistent structural faults in our breed. I also wonder about some of our present day health issues and how much Leo and other founding dogs, played a part?

Why is it important to know this?

What relevance does this bottlenecking have on our breed today?

It is important for us breeders to realize that our Rottweiler endured a huge setback 100 years ago, and because of this, his genetic diversity was detrimentally altered forever. Even though the chance of losing more genetic diversity through a second bottlenecking is unlikely, there are other ways in which genetic diversity is lost. One is the over use of a popular stud dog. In order to maintain this diversity in genes, there needs to be diversity among our breeder's breeding programs. We should seek out quality dogs from less popular lines and strive to be unique in the dogs we use. As breeders, it is hard sometimes to focus on the forest because of the trees, but it is the well being of that forest that matters most. It is essential that the genetic diversity our Rottweiler has left be preserved.

Source Acknowledgement:

STUDIES IN THE BREED HISTORY OF THE ROTTWEILER, Manfred Schanzle

Photo & excerpts with permission from Powderhorn Press, Hollywood, CA,

publishers of 1981 English edition.

Now, the point of all this is to demonstrate how many generations have passed since our breed bottle necked.

These are a few common dogs that many of you will find in your pedigrees. They will give you a reference in which to gauge how many generations have passed since Leo von Cannstatt generation.

Harras vom Sofienbusch = F17

Blitz vom Schloss Westerwinkle = F17

Ives Eulenspiegel = F19

Brando v Dattelner Hof =F21

For example, Ives = F19 means that 19 generations have passed since Leo von Cannstatt.

Disclaimer, these numbers are based one or several lines traced. It is possible for the number of generations to be less, if a line traced later is found to be closer to Leo.

Have fun digging up those old pedigrees <G>.

*****By the way, our Rocksand is F23.**

I would like you to think about these questions.

(1) How many generations are your dogs from our breed's genetic bottlenecking?

(2) How can we maintain the genetic diversity we have left and still breed consistent type?

(3) Is concentrating on one or two popular stud dogs harmful to maintaining our breeds genetic diversity?

(4) Even though you like what a particular dog is producing, because he is being bred to a lot of bitches, isn't it better to create a uniqueness in your lines by going to a possible undiscovered dog of less common lineage? How would this help maintain our breed's diversity?

(5) How does our breeds relatively low genetic diversity effect our ability to breed out such high incidences of ED and HD?

****Not for reprint without authors
consent****

BACK

E-MAIL US



Steven@DarkstarrRotts.com



1999-2004 Darkstarr Rottweiler. Darkstarr Rottweiler is TM 1999-2004.
All Rights Reserved And Vigorously Protected

