



## WHY DOES THIS HORSE GAIT?

Gary Seibert September 14, 2014

G Mystic Tatiana is 99.2% "Foundation" Morgan. Pedigree: <http://www.allbreedpedigree.com/g+mystic+tatiana> . She is a buckskin filly, homozygous for black and gait by UC Davis DNA tests. The photo was taken at four months of age. She is shown at 2 ½ months preferring to gait in the following video



<https://www.youtube.com/embed/uiDCbzBAT9Y?rel=0>

Tatiana's parents show no sign of gait or do any of her ancestors until Omar Sheriff in the fifth generation. The ancestors had many offspring and none have been reported as gaited except those by Omar Sheriff. Her gait can be explained by the **SYNCHROGAIT GENE TEST** offered by UC Davis. Using these DNA gene results the breeder will be able to project gait of offspring as shown in the below table or determine the gait gene of any horse.

The DNA test will ID the horse's gait genes as one of the following three.  
Homozygous AA --- the horse will perform ambling and lateral gaits.  
Heterozygous AC --- the horse will perform lateral gaits.  
Homozygous CC ---the horse will perform the walk, trot and canter.

AA X AA = 100% of the offspring will be AA

CA X AA = 50% will be AA and 50% will be CA

CA X CA = 25% will be AA, 50% will be CA, 25% will be CC

CA X CC = 50% will be CC and 50% will be CA

AA X CC = 100% will be CA

CC X CC = 100% will be CC

The SYNCHROGAIT GENE test is not subjective. It is scientific proof. The parents of Tatiana have not been tested for the Gait Gene, but since both did not gait. They should not be AA, but could be combination of only a CA X CA and she is one of the 25% who by the odds will be AA from such crosses. Tatiana has shown the distinctive characteristics of most AA

horses. She got up gaiting at birth and has only gotten stronger with age/maturity.

There are at least two sources to explain how to improve the gait of a gaited bred horse or train pure trotters to gait. One is the 1945 ASB book "RIDING AND TRAINING" by Earl Farshler. Similar techniques were described in an article written by Lee Ziegler in 2002 "Convert the Trot". Lee's article explains the processes to improve the gait of a gaited bred horse, but note her last sentence—"The methods explained here work even on non-gaited horses to produce easy gaits. Think how much easier it is to convert a trot to an easy gait with a horse that actually is bred to be gaited!" <http://gaitedmorgans.club/Articles/ConvertTheTrot.pdf>

The SYNCHROGAIT GENE Test done by UC Davis was developed by Capilets of Sweden. They found during the study gaited breeds like Icelandic had some C/A horses—heterozygous for gait. These C/A horses did not always gait while running freely. When using methods similar to those described in Lee Ziegler's article, the horse would normally gait under saddle.

If a foal starts gaiting at birth, but loses their gait before becoming yearlings. But then demonstrate gait after conditioning/training under saddle, are they A/A, C/A or CC? Prior to the SynchroGait Gene test it was a guess/supposition. Even today unless they are DNA tested, you do not know whether they were C/A heterozygous for gait or C/C---trot/walk/canter and taught to gait using methods well known for decades and written about in the book and article mentioned in this paper. If the seller has the horse DNA tested for gait, the buyer will know scientifically the gait genes or gene of the horse. This is simple Mendel's box science and not a subjective evaluation. You will know why the horse gaits.