



## Interview with Celeste Huston about "horses of color" and her passion for "genetic color testing"

Celeste writes: **"How did I become so excited by horses with color?"**

"In 1986 I had retired from showing in the Arabian horse circuit. I continued my breeding program with several *Sidi Brahim* gray Arab broodmares. I also had a truly fine Andalusian stallion, *Branbury's Toronado*, whom I stood to just a few outside mares.

*Fad A lad* was 26 when he passed on and the *Toronada* went to a fantastic owner as a gelding. I had lost a gray stallion prior to *Fad a Lad* to melanoma. I was determined to NEVER buy or breed another gray horse. Why? Melanoma is so prevalent in gray horse coats. My gray mares had small tumors, which metastasized, and several of those mares passed on from melanoma as well.

About this time, I received a call about a black and white paint stallion, which was being sold. I begged my friend to forget it and not call me back about this horse but alas, she sent me pictures of this outstanding specimen and I was smitten. Thus I bought my first COLOR horse, *Bold Win*, in 1987. Every year, was like Xmas for me, and my clients. I was getting the most exciting colors from *Bold Win* and now I know why; he carried a crème gene, therefore he was a Smokey black! I learned by experience and from breeding many mares with different patterns and solids, that my boy had something different, as the palominos and buckskins kept coming from this black tobiano stud. *Bold Win* was with me until 2007 and died at 28 years old

The crème gene was a mystery to me, until Dale Robertson, the actor, and I had a long discussion about it. He said "a true black stallion will not have any red in his coat when out in sunlight." *Bold Win* did have a tad of red, as does our AQHA smoky black *Colonels Gotaspot*. That is when I began to research color genetics. The test for the crème gene was not even necessary as the stallions proved to me they carried a crème gene and when bred to a dilute, I would get cremello color every now and again. I did, however, get into doing DNA testing in the year 2000.

I had moved to Santa Ynez in 1995, where I developed my dream ranch and began to have very big breeding seasons with the stallions. When we moved, I also brought an Appaloosa stallion, *Sweet Sir Vallant*, who took us throughout the Santa Ynez valley in our coach. I acquired another awesome stallion, a silver grulla, named *TM Cody B Smokin*, and a dun silver dapple stallion AQHA, a known *Son of a Cinnamon!*



What a fine band of boys that, had the ranch, raging with a rainbow of quality and color! All the pedigrees of these stallions were impeccable and foundation lineage of "bull dog- type, strong working cow horse pedigrees."

Several months ago, along came our new stunning palomino, *Real Cool Scotch* who will wow them, He is a 23-point halter winner at 2 years old and is on the AQHA circuit. I could not resist! We will stand him 2009, along with AQHA *Colonels Gotaspot*, a smoky black, our Black tobiano Gypsy Horse Stallion, *Huston*, and our Chocolate Silver Dapple Stallions, *St. Clarins* and his silver dapple son, *Sir Keith*, who also carries a crème gene, which is rare.

When the gypsy horses came galloping in to my life, I had to down size my Quarter Horse stallion population, to make room for my newest interest.

As responsible breeders, we have an opportunity, in North America, with this new breed, the Gypsy Horse. No, we have an obligation to ensure that we are breeding for the best characteristics and genetic make up of this wonderful horse.

It is with this mission in mind, that I dare editorialize on the Silver gene factor and its suspect contributions to genetic anomalies in the equine world.

The silver dapple color had always intrigued me, though not until I owned, stood and researched it did I find out how special this particular color is. It is probably the most exotic and unique color in the horse world. I had bred AQHA grullas for 6 years as I was becoming addicted to the gypsy. I was very excited by the dilute colors, however, the silver dapple Z gene, is in its own right a different genetic world.

I have had personal discussions with Dr Phillip Sponenberg, a foremost author of 3 volumes of Equine Genetics. He is a scholar and a world of information for me that I deeply appreciate so much what I have learned from him. We met when he emailed me asking if he could use 2 of my horses in his book Vol. 3 Equine Genetics, as representing the silver dapple. He used *St Clarins* and a tobiano spotting pattern, *Cici's Dottie Lady*.

As we spoke, I learned detail about the Z gene. Being a curious person who wants to do right by my breeding program, I learned that though beautiful a color, there is a danger in which indiscriminant breeding can provoke into a time bomb. What is there which could cause such a dramatic statement?

"SILVER DAPPLE OCULAR CHANGES IN HOMOZYGOTES <AKA> Z/Z FOR SILVER ALLELE"

This is taken from Dr. Phillip Sponenberg's 2nd edition of his book 'Equine Color Genetics' 2<sup>nd</sup> edition'-published in 2003 from the Iowa State Press.

*"Re. silver dapple ocular effects. Ocular changes are consistently associated with colors of this grouping many breeds in which this allele occur, so it is safe to assume that the ocular changes are indeed part of this allele. Detailed studies have yet to be done, BUT the anecdotal evidence suggests that when heterozygotes are minimally affected and vision is normal or nearly so. Homozygotes have profoundly affected eyes, and some are affected to the point where vision is NOT normal. A simple breeding strategy to avoid producing visually deficient horses of these colors is to mate SILVER to NONSILVERS. This can be tricky in some breeds in which this allele is common, because CHESTNUT and SORREL horses will not express the allele, but can carry it. They could pass it on to a foal and could therefore be responsible for producing homozygotes. In breeds in which this allele is common, it is safest to mate chestnut, sorrel or colors derived from these to bay, brown or black mates free of the silver dapple allele. This strategy assures that the production of homozygotes is avoided."*

"I also have spoken to Saskatchewan, Veterinary University's Bruce Grahn, DVM, Dipl. ABVP, ACVO, who is the head ophthalmologist & geneticist, and is leading a study of the silver gene and its effect on the eye of the horse, and is confirming new findings on the Z gene.\* I also spoke at length with the head of genetics at University of California, Davis. The 3 scientists all confirmed a strong belief that breeding the Z gene to the Z gene, is possibly resulting in a homozygous Z/Z color,

and is risking an ocular problem, which, could then be passed on through generation after generation. The Z gene has just been identified in the last few years and research is in its budding stages, however, certain facts are coming out and it is strongly suggested NOT to breed Z to Z and certainly NOT to breed relative to relative possessing the Z gene, without taking on this risk.

The gypsy world has but a few gypsy horses with the silver gene and all of them in USA are closely related. Most all are from the Boss horse line. I own 4 adult silver dapples, and have sold 3 of my silver dapple foals. I am very concerned that in our gypsy horses, we must be careful not to cause any problems which can result from breeding sons and daughters and aunts and uncles, let alone Z to Z! If I thought I was wrong or had any doubts, I would not be concerned, but I do have 2 fine gypsy silver dapple stallions that I intend to continue breeding and would rather not see indiscriminant, uninformed breeders make mistakes which could affect us all eventually. Our gypsy horses do not have a written history. Their true lineage is all by word of mouth, gypsy to gypsy, and dealer to dealer, so we had no real documentation until we decided to test DNA on the horses before registering them. This is thanks to the USA's gypsy breeders who want to set the record straight as much as we can! I also suggest NOT registering ZZ, homozygotes to the silver dapple gene.

There will be those asking about the Rocky Mountain Horse and Icelandic horse breeds. The RMH and Kentucky Mountain Horses, are more in abundance than the gypsy horses that carry the Z gene, therefore more research is available within those breeds. They have many ZZ running in their bloodlines, and the RMH do have ocular changes as do the Icelandic's with ZZ gene. If a ZZ horse does not produce a ZZ when bred to a Z mare or stallion, the ZZ horse will pass the ocular change on and it can lie silent in the Z horse. I have given the researchers from the Canadian Veterinary School permission to come and check out our horses, and have contacted as many other Silver Dapple breeders or owners that I know of, so we can help research the silver dapple color in the gypsy horse. We have but 15 or so with the Z gene in the USA who will be cooperative thus far. There is no charge for this service. It is research being done in a scientific fashion to help learn more about the Z gene and different breeds. All results are kept private.

If one is curious to speak with or write to me, I would welcome any questions and would provide answers, and or referrals to the proper persons who have the proper answers. Also, I would be happy to recommend the genetics lab where I have had my testing done for those wanting accurate information."

Contact Celeste Huston at by email or call 805-688-8020. You can visit her web site at [www.cieloceleste farm.com](http://www.cieloceleste farm.com)

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