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Researchers at Mississippi State and Cornell Universities have announced that the male bloodline carrying H.E.R.D.A. is that of Poco Bueno, a prolific and outstanding sire of show, performance and cutting horses. One of his greatest and most heavily used sons, and now a known carrier of the disease, was Poco Tivio, foaled in 1947 and who happens to be the great-grand sire of our now retired stallion, Big Mac Tivio. Poco Tivio gained ascendancy as a superb broodmare sire with numerous daughters being bred to Doc Bar. One of those daughters, Poco Lena, produced the famous Doc O' Lena, who was a "prolific carrier" according to the researchers. So much so that, for a time, the disease, at least at a popular level, carried his name.

Problems arose when breeders, thinking that "more was better" and attempting to "set" desirable traits and to balance less desirable ones, started linebreeding by mating close and not-so-close cousins and even more intense inbreeding by mating brothers to sisters, mothers to sons, and dads to daughters. Even though HERDA is a recessive characteristic, such breeding practices guaranteed a strong concentration of carriers resulting in numerous and tragic active cases of the disease. The ease of shipped semen and the demand for certain "foundation" stock percentages are exacerbating these genetic concentrations. Researchers are sadly expecting a future "explosion" of HERDA.

AQHA bloodlines are now host to two nasty diseases (the other being HYPP, genetically dominant, through Impressive), which, in spite of pressure from high-dollar breeders, it must curtail. AQHA is funding research at the University of California, Davis, attempting to not only identify the gene but also to provide a simple genetic test to identify carriers. As with HYPP, it is our hope that AQHA will demand such testing on all breeding animals whose pedigrees contain known carriers (any horse which has produced *one* HERDA foal) with the results to be posted permanently on the registration forms. And of course all breeders must be encouraged to report any foals with proven (by biopsy) cases of the disease to AQHA so that both sire and dam can then be listed as carriers.

Genetic diversity is of vital importance to the vigor of our domestic livestock (and not only livestock!) but is unfortunately being overlooked in the quest for homogeneity for variously stated "important" reasons. While it is true that top performance lines must be fostered and nurtured, room also needs to be made for the careful insertion of other lines with similar aptitudes yet different genetics or we risk further debilitating outbreaks of yet unknown diseases.

We take a very holistic approach to all disease. Of great interest to us is the fact that genes are not immutable. Rather than being "writ in stone", they are writ in living molecules which can be affected by other sources including environmental toxins and nutrition. Toxins can include not only industrial wastes

or natural occurrences of radioactivity (such as Radon here in CO), but also that which we provide without understanding their possible deleterious effects such as artificially fertilized or moldy forage and grains; over vaccination (the AVMA is stating that over-vaccination causes severe problems); ingestion of neuro-toxic chemicals such as Ivermectin; and the like.

A fascinating experiment occurred in Russia over 50 years ago showing fast genetic mutation. A researcher was attempting to discover how canids were domesticated and started breeding Russian foxes for non-aggressive behavior. As the adrenal hormones were reduced in kits, surprising physical traits such as spotted coat color and lop ears became prominent in subsequent litters. Here was a clear case of internal chemical re-balancing actually affecting how an animal looked!



The eruption of Mad Cow Disease (see FAQ), at least according to some researchers, seems to have a definite link to the use of organophosphate chemicals applied to cattle as pesticides which appear to be one of many possible factors in produc-

ing prions. Much research needs to occur to find out just how our increasingly chemicalized modern society may be contributing to serious health declines in all areas.

Nutrition is far too frequently disregarded as important to genetic health. However, we have seen for ourselves what the addition of appropriate and balanced minerals, the minimization of known toxins, and evolutionary appropriate nutrition can do. While we always fed naturally and avoided virtually all toxins, we witnessed our stallion's get improving each year he was on optimum nutrition and mineralization when we began using *DYNAMITE* products. The foals were born with better bone and achieved faster maturation without any decrease of soundness each year he was on the program. This was with both our own mares and outside mare. Reports from others always included the familiar words, "strong," "large," "mature," and such. We think that his sperm was actually becoming stronger and what is sperm but a major genetic, DNA, carrier?

Because Mac has only one trace back to Poco Bueno with the rest of his pedigree including a variety of the strongest and most athletic bloodlines available, we believe his get will all prove to be perfectly genetically clear.

Our recommendation at this point is for all to test at risk babies early (see original HERDA FAQ), avoid much linebreeding (has there *ever* been a stallion so line-bred as Poco Bueno?) let alone inbreeding, feed optimally by following the *DYNAMITE* program and avoid toxins to the best of your ability. Also encourage both reportage of incidences to AQHA and research into all possible mitigating factors. ■

Thanks to Jane Alexander for her welcome notification and invaluable link to www.thehorse.com/news.asp?fid=5037 where the original source material for this FAQ may be found.