

# ***The Alpaca Breed Standard - A Path to Genetic Poverty (2006)*** **by Ingrid Wood - Stormwind Alpacas**

Credentials:

- Breeding sighthounds since 1973
- Breeding Huacaya alpacas since 1997
- Author of “Investigator Profiles” in Alpacas Magazine written on behalf of the Alpaca Research Foundation and Morris Animal Foundation
- Author of *A Breeder’s Guide to Genetics-Relax, It’s Not Rocket Science* and numerous camelid specific articles
- Charter member of Alpaca Heritage Events, Inc.

“The loss of genetic variability in agricultural plants and animals could result in disaster if a disease struck susceptible high-producing genetic lines.” Dr. Temple Grandin

**Statement of Purpose: I believe that the adoption of a breed standard will ultimately lead to severe health problems in the alpaca population. High veterinary expenses related to lack of vigor will result in high financial losses for most of the North American breeders. I hope to convince other breeders to work actively against the adoption of a standard by the voting members of the AOBA and the ARI.**

“Natural selection has been at work for thousands of years to mold each species. In the attempt to rapidly change a particular trait, we risk upsetting the inherent genetic balance that is present. This is why animal breeding still remains an art as much as a science.”

D. Phillip Sponenberg D.V.M., Ph.D.  
Carolyn J. Christman

*Breed:* A group of animals whose phenotype (the way individuals look) sets it apart from others of the same species.

*Are alpacas a breed or species? That depends on your definition:* My choice is to identify them as a breed since they produce fertile offspring with other SA of their species.

*Breed Standard:* The definition of a breed – its phenotype and performance traits. Animals are expected to exhibit the specific traits chosen by those who wrote the standard.

*Feral Breeds:* Offspring of domestic livestock that escaped or were released into the wild.

*Landrace Breeds:* Members of landrace populations are similar enough in phenotype to be recognized as belonging to a particular breed but still show considerable variation in conformation. Landrace breeds are formed by a combination of natural and human selection pressure.

*Standardized Breeds:* Members of a breed are expected to show great uniformity in breed type and performance. Animals must be registered. Genetic diversity is reduced.

*Industrial Stocks:* Animals are selected for maximum performance. There is hardly any genetic diversity. Selections of breeding stock are determined by corporations and are highly guarded corporate secrets.

North American alpacas can presently be identified as a phenotypical landrace breed under the umbrellas of registries and owners and breeders organizations. Due to monetary considerations, human selection pressure is presently probably greater than for other landrace breeds, so this label may not be a totally accurate fit.

“Fashions in all breeds will go through cycles. Traditionalist breeders who can survive through thin times will usually have others come to appreciate the historic types of animals once again.”

D. Phillip Sponenberg and  
Carolyn J. Christman

1. The USA is a huge country with a wide range of climates and terrains. Diverse environments call for diverse population traits. A single breed standard cannot meet the requirements for such environmental extremes.

*Examples:* Fiber density, size, importance of leg conformation.

Galapagos Islands finches evolved different beak structures depending on climatic changes and food availability in a span of only twenty years (research by Rosemary and Pete Grant).

Rambouillet Sheep: no standard “due to the variation in climatic and feed conditions under which Rambouillets are raised”. (Breeder Association 1978)

2. Infrastructure (housing, size and quality of pastures) differs widely between farms, even those located in the same general area. Again, each environment favors specific traits.

*Examples:* Lean “show” sheep (small stomachs – require large amounts of grain) versus barrel shaped “easy keepers” raised primarily or exclusively on only pasture (require no or little grain for rapid growth).

Muzzle size correlates with feed capacity (proven in cattle) –this may become an issue with large fiber herds on rotational grazing programs (and maintained without additional grain supplements) in the future. Food for thought (pun intended) for alpaca breeders!

Smarty losing to Birdstone – study their phenotypes.

3. Other species have many breeds (some in the hundreds). There is only *one* alpaca breed (two varieties – Huacaya and Suri). If we create a “national” genetically uniform herd, we don’t have other breeds to bail us out if our industry’s needs and focus change. Re-opening the registry would be one option, outcrossing to llamas another – not palatable choices to most breeders.

*Examples:* Dairy farmers started using breeds other than Holsteins after switching to rotational grazing.

Human males with high levels of aggression and reckless behavior were once considered premium “stock” by European royalty who sold thousands of them as mercenaries. Today, such males are considered emotionally unstable and are warehoused in jails. Colors other than white in sheep and alpacas were selected against at various times and locations. In this country, we like variety.

Cattle researchers are presently working on finding genes that code for resistance to parasites.

4. Other livestock industries have standards. Most livestock industries take their products to the slaughterhouse. Physical uniformity is important for livestock bred for consumption (uniformity makes it easier to slaughter and provides the uniform cuts that consumers demand). Is this a hidden motive for those advocating a breed standard? When will you hug your “huggable investment” good-bye...before or after you load it on the truck?

*Example:* Visit your butcher shop.

5. Although most standards are extremely specific in their focus, certain descriptive words will always be vague (moderate length of head, steep croup, long loin etc...). This leads to individual interpretations by breeders (not bad) as well as breeding for extremes (very bad).

*Examples:* Spiderleg Syndrome (sheep), muffled/woolblind faces (sheep, goats), exaggerated rear angulation (German Shepherd).

6. Industry “experts” can be self-serving or just plain wrong. Without a standard, choices made by individual breeders are more apt to maintain a healthy balance.

*Examples:* “Folds” of the Merino sheep, black noses on liver-colored dogs, woolblind fiber goats.

*True Story:* AKC judge speaking to owner of the Nr. 1 racing whippet in the USA: “Your dog has poor conformation. It would not be able to do the job it was bred for.”

7. Genetic linkage: seemingly “unrelated” physical traits can be genetically linked and are passed on as a unit. If you select against one, you will lose the other trait as well. A breed standard can easily lead to a loss with yet unforeseen negative repercussions.

*Examples:* Red eyes and normal length wings in the fruit fly, reduced size and extremely fine fiber in sheep (an important lesson for alpaca breeders!)

The breed standard for Saanen goats in Germany in 1930 called for polled goats until it was discovered that polling is genetically linked to spermiostasis (males become infertile after only a few breedings).

8. Genetically uniform populations are vulnerable to environmental stresses. Industrial stocks (the most uniform due to AI!) are the most vulnerable. Industrial stock farms do not permit casual visitors and are forced to employ extreme biosecurity measures.

*Examples:* Avian flu in industrial chicken flocks. In contrast, many of you sit here today because your ancestors’ diverse genetic make-up led to their survival of the Black Plague during the Middle Ages.

9. Genetically uniform populations are prone to suffer from immune system deficiencies and the expression of genetic defects.

*Example:* Von Willebrand’s disease in Doberman Pinchers (only 20% tested clear in the late nineties).

MHC genes – major histocompatibility complex – are similar to bloodtypes. These genes are involved in *immune responses to infections and are linked to the ability to resist parasite infections*. Breeding animals with similar MHC genes leads to less healthy specimens.

10. Genetically uniform populations often have major fertility problems.

*Example:* Cheetahs are the most extreme in mammals (that I am aware of).

11. Adopting a breed standard will most certainly lead to a rapid increase in the breeding of non-registered alpacas, possibly multiple registries (with each representing a specific “type”), or a true landrace breed registry with emphasis on preserving genetic diversity and traits promoting health and fertility. This is not bad, maybe even desirable, from the alpaca’s standpoint. Will it benefit the industry as a whole? I doubt it. There’s strength in numbers and unity.

*Examples:* Virtually all other livestock industries.

12. Advocates for a breed standard state that it is essential for commercial fiber production. Somebody forgot to tell the South Americans about this. Fiber can be improved on a variety of phenotypes. For example, llama breeders are putting “alpaca” fiber on typical llama phenotypes.

*Example:* The SA fiber industry has existed for thousands of years without a formulated and written breed standard.

13. Advocates for a breed standard claim that a standard can be changed at any time. True! Picture this: you spend \$30,000 for a show champion. Three months later, the new standard calls for the elimination of a trait previously considered desirable.

*Example:* Rose-grey (roan) alpacas with minimal expression of grey are now (2006) judged as “contaminated reds”. Not funny!

14. The sequencing of the alpaca genome has barely begun. Calling for a breed standard before specific information on genetic sequences is available is putting the cart before the horse. The phenotype you’d like to see removed from the alpaca gene pool may include individuals with genes of great importance to future alpaca generations.

*Example:* The CCR5 gene in humans protects individuals from AIDS.

15. Advocates for a breed standard call for input from the entire industry. Many breeders are not yet familiar enough with terms used to describe conformation and movement to make meaningful contributions. Many are not aware of conformational “pitfalls”.

*Examples:* An article written by a prominent breeder advised buyers to purchase alpacas with straight fronts. Ouch !! (A “straight” front lacks proper angulation. What she probably meant to say was to buy alpacas with straight legs.) Another advised readers to

breed a post-legged individual to one with exaggerated angulation to even things out. Double ouch!!

Ads in auction and sales catalogs often make bizarre claims as to color genetics.

Many alpaca breeders don't realize that total lack of guard hair will lead to the fiber matting and felting unless the animals are groomed *extensively*.

16. Some breeders believe that a standard will promote "health" and "reproductive viability". Nonsense! A standard is about production and performance levels. Pushing for maximum production/performance has proven detrimental to other animal populations.

*Examples:* Dairy cows(mastitis, Ketosis), angora rabbits(reproductive issues), sheep (spiderleg syndrome).

17. A breed standard's goal is uniformity. This is achieved through line – and inbreeding. Be prepared to cull extensively under such a program.

*Example:* Dog breeds – often only one pup in a litter is retained for breeding purposes.

18. "Breeding for Diversity" under a breed standard is an oxymoron. A breed standard is *not supposed to result in a variety of sizes, headshapes etc...* Get the picture: you can't have your cake and eat it too on this issue. Either you want diversity or you want uniformity.

*Examples:* None needed

19. We presently have the best of both worlds: alpacas in the USA are a phenotypical landrace breed under the umbrellas of the AOBA and the ARI. Aside from serving the financial interests of a few, there is no real purpose in adopting a breed standard! We are certainly not alone in *not* having a standard.

*Examples:*

Cattle: Florida Cracker, Pineywoods, Randall Lineback, White Park.

Goats: Spanish, Tennessee Fainting.

Horses: Florida Cracker, Mountain Pleasure, Rocky Mountain, Spanish Mustang

Pigs: Choctaw, Guinea Hog, Red Wattle.

Sheep: Barbados Blackbelly, Gulf Coast Native, Navajo-Churro

20. Concern for the future: as the alpaca population grows, with the inevitable drop in prices, hybrid vigor and health will become increasingly important to the average breeder. Unless we are willing to turn our businesses into a hobby (and pay for the pleasure of owning alpacas), we should be interested in *maintaining genetic diversity*. **That means opposing those who wish to standardize the alpaca phenotype.**

***Suggestion:*** Ask a sheep breeder when was the last time he/she paid for an IGG.

21. It is possible to apply breed disqualifications without a standard. Examples are: gopher ears, dwarfism, and males without both testicles fully descended into the scrotum.

*Example:*

Whippet racing: although an AKC standard exists, most breeders involved in racing make breeding selections based on *performance*. Breed disqualifications apply: height, bite, eye-color.

22. Americans are accustomed to and demand variety and choices in the products they purchase. Divergence is an important marketing concept. Is it wise to limit choices for potential customers?

*Examples:* Clocks, bikes, sneakers... virtually all products on the market. What's wrong with alpacas diverging by size, color, fleece type, temperament, body type, and fleece coverage?

23. A breed standard tries to ensure "genetic purity" (whatever that is). The alpaca industry demands DNA testing to protect the North American alpaca population from further hybridization. Shouldn't that be sufficient?

24. We already have quite a well stocked, not so little "shop of horrors" in the alpaca gene pool. I suggest we sort out and get control of genetic defects before further narrowing the gene pool.

*Examples:* In many dog breeds, breeders are so desperate to maintain what little genetic diversity they have that many wisely follow the advice of population geneticists to breed to identified carriers of disease genes. This is expensive!

“Fanciers have a great responsibility to keep faith with 5,000 years of true breeding – they must shun man’s natural tendency to “improve” ...

Rita Laventhall Sacks, breeder of Pharaoh Hounds

A big “Thank You” to Scott McKelvie (Alpacas of Sunset Fields) for preparing a Power Point presentation from my lecture notes.

“Man’s mind stretched to a new idea never goes back to its original dimensions.”

Oliver Wendell Holmes

Permission is granted to distribute this work without restriction.

Ingrid Wood  
Stormwind Alpacas  
1862 Jacksonville-Jobstown Road  
Columbus, New Jersey 08022  
609-261-0696  
email: [stormwindalpacas@comcast.net](mailto:stormwindalpacas@comcast.net)  
website: [www.StormwindAlpacas.com](http://www.StormwindAlpacas.com)

Wood’s book (Co-authored with Denise Como), [A Breeder’s Guide to Genetics – Relax, It’s Not Rocket Science](#) is available from Quality Llama Products. For orders call 1-800-638-4689.