The Alpaca Breed Standard - A Path to Genetic Poverty
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Breed: A group of animals whose phenotype (the way individuals look) sets it apart from others of the same 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 is no longer a totally accurate fit.

Statement of Purpose: I believe that the adoption of a breed standard will ultimately lead to severe health problems for the alpacas and indirectly to 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. Several reasons in support of my strong feelings are outlined below.

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 20 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. Individual housing/pasture practices differ widely between farms, even those located in the same area. Again, each environment favors specific traits.

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

Muzzle size correlates with feed capacity (proven in cattle) – 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. (Are alpacas a breed or species? That depends on your definition.)

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.

4. Other livestock industries have standards. Other livestock industries take their products to the slaughterhouse. Physical uniformity is important for livestock bred for consumption (18% of USA beef is processed by 4 companies, 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, rose-grey alpacas ("mix of predominantly brown with white and black fiber"). Does this mean rose-grey alpacas without black fiber are not considered rose-greys? Let's hope not. The gene coding for "grey" (it directs the "stripping" of melanin) is a separate entity from the genes coding for the base colors red and black.

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.

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

8. Genetically uniform populations are vulnerable to environmental stresses. Industrial stocks (the most uniform due to AI!) are the most vulnerable.

Examples: Avian flu in industrial chicken flocks. In contrast, many of you sit here today because your ancestors' 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).

10. Genetically uniform populations 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.

Examples: The SA fiber industry has existed for centuries without a breed standard. Proof of latter statement: llama breeders putting "alpaca" fiber on typical llama phenotypes.

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.

Examples: Rose-grey (roan) alpacas with minimal expression of grey are now (2004) judged as "contaminated reds". Not funny!

14. The mapping of the alpaca genome has only 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 CCRS gene in humans protects individuals from AIDS.

15. Advocates call for input from the entire industry. Many breeders are not yet familiar enough with terms used to describe information and movement to make meaningful contributions.

Example: 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 !!

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 (in this case fiber) is detrimental to an animal population. (In case you do, I hope you really like your vet. You'll see plenty of him/her.)

Examples: Dairy cows, angora rabbits.

17. A breed standard puts too much emphasis on show wins. Show results should not be the determining factor in a breeding program, only a small component. An

added problem is the ridiculously small number of judges certified for AOBA sanctioned shows.

Examples: Spiderleg syndrome (Suffolk Sheep), "fake" testicles, clever grooming, minor surgical "corrections". Show results tell you nothing about reproductive soundness, immune issues, mothering skills, or recessively carried defects.

18. 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.

New research: MHC genes – major histocompatibility complex – 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.

19. "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

20. Will a breed standard be crafted by influential breeders with personal motives? (Forget the "input form the entire industry" – witness One Voice after members voted to keep AOBA and ARI separate.) The industry's Spin Masters are very busy promoting their opinions on desirable alpaca qualities. To name only a few, we are told that lack of crimp and presence of guard hair correlate with coarse fiber. While this is true for Merino sheep, it hardly applies to camelids.

Examples: Vicuna fiber has no crimp and fleeces have guard hair. It also has a micron count of 12-13 and sells for $400-$600 per kilogram (1kg = 2.2 lbs.) Re alpacas: "Average fiber currature is negatively correlated with age, body weight, fiber diameter…" (Angus McColl – emphasis mine).

21. Spin Masters tell us that we need crimp for sales to commercial mills. I'm not sure which mills they're referring to, so I can't comment on that one. However, according to Eric Hoffman, this requirement does not apply to SA mills. Again, will personal motives rule?

Example: "When I asked Derek Mitchell the CEO of the largest processing mill in the world what were the premium qualities breeders should keep in mind when thinking about alpaca fiber, he thought for a moment and said, "Smooth handle, absence of guard

hair, fineness, sheen and density." Later I interviewed the heads of the other large mills and each cited the same criteria." (Eric Hoffman, author of the Complete Alpaca Book). Crimp was not mentioned. Crimp is actually removed during the process of spinning to create fabric for suits. Crimp is only desirable for the woolen process as in, for example, the production of sweaters.

22. At least one influential industry leader (who obviously likes to spin a good yarn) tells buyers that certain physical traits are a sign of "llama blood". DNA testing unraveled that particular yarn ball.

Example:

"The other thing we discovered is that it's not possible to tell whether an alpaca or a llama is purebred by looking at it. It's necessary to do DNA tests to certify purity" (Dr. Jane Wheeler, scientist and undisputed expert on camelid research). Roughly 90% of all tested alpacas had llama genes.

23. 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 (primarily the owners of big show winners), there is no real purpose in adopting a breed 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

24. 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 a standard.

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

25. It is possible to have breed disqualifications without a standard. Disqualifications could be 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.

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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.