

-Please introduce yourself and your company (or breed organization).

*I'm Billy L. Smith, Executive Director of the American Paint Horse Association, the world's second largest equine breed association.*

-What it is that you wish you could do, but just cannot do today due to cost or lack of technology?

*Verification of the pedigree and the genetic profile of each horse registered would be invaluable. Genetic testing would help ensure that the parentage, as reported to APHA, was correct and allow APHA to develop alternative methods for registration beyond the classic pen and paper process. The cost, however, to the Association's membership could be cost prohibitive and ultimately reduce the number of registered horses.*

*At some point, the capacity to instantaneously identify a horse genetically would have profoundly positive implications to the horse community. We still largely live in an honor-based world. Current genetic testing requires owners to pull hair or blood, which has always created chain-of-custody issues.*

-What is/are the biggest current and 10-year challenge(s) to your industry that changing traits in your animals might be able to address?

*To promote and preserve the Paint Horse, the genetic profile of each horse could be used to encourage breeding practices that would give the best opportunity to preserve the coat color patterns characteristic of a Paint Horse. Current APHA rules allow the use of Paint coat color markers to aid in the registration process. This was the first step for any equine breed registry to define rather than identify horses genetically. We know, however, that there are probably other coat color markers that have yet to be identified and understood. Identification and understanding of the pattern markers would be beneficial.*

-Are there opportunities between different segments of the industry? For example, something that does not fall within the wheelhouse of the breed association/company or the meat industry (expand to any topic one can think of), but would be very beneficial for both industries?

*With the completion of the horse genome, research is now beginning to produce useful markers for quantitative traits in the horse. However, acceptance and use of genomic technologies in horse production has lagged behind the pace set by those in the food animal industries. Horse breeding represents risk. Identifying characteristics like speed, temperament, strength, propensity to skeletal failure, muscle mass and others help reduce breeding risk. Moreover, identifying other traits could reduce the negative risks associated with single-trait breeding that we've seen in all pure-blood breeding programs.*