

Managing Herefords

DNA Q&A



AHA's DNA Policy for Walking Herd Sires

In November 2010 the American Hereford Association (AHA) Board implemented a new policy requiring DNA on all future walking herd sires.

The policy states: The AHA will require all Hereford sires born after Jan. 1, 2011, to be DNA genotyped at the official AHA DNA laboratory before their progeny can be registered.

This policy was adopted to improve the quality control of pedigrees. Numerous times during the year AHA staff identify pedigree mistakes, and the discovery comes at times when it is very difficult to make a determination of correct parentage of an animal. Genotyping walking herd sires will be very beneficial toward minimizing this issue in a cost-effective manner.

The following are some frequently asked questions and answers about the policy.

What is the purpose of the new DNA Sire Policy?

The seedstock industry estimates that there is anywhere from a 5% to a 15% error rate in pedigrees, most of which are due to sire misidentification. There are a host of reasons for such mix-ups; frankly, it's easy to do. The new policy is designed to make quick corrections in pedigrees through DNA evidence that can quickly give us an accurate answer as to who the correct sire is on a mislabeled pedigree.

How does this policy differ from what AHA has required in the past?

From the beginning of the registered pedigree livestock business, the AHA has relied solely on the record keeping of individual breeders to determine the accuracy of pedigrees. The AHA has, in the past, only required artificial insemination (AI) sires to be confirmed back to parents through blood typing and in recent years DNA profiling.

As AI and embryo transfer (ET) use has increased over the last decade,

breeders and AHA staff have found a significant error rate in pedigrees that are, for the most part, corrected once we have an understanding of the sire possibilities. If the probable sires have DNA profiles on file then the problem can be resolved very quickly. Many times AHA cannot determine the correct sire, which causes a great deal of marketing problems, particularly if a bull has been used across more than one owner. Having every walking herd sire on file will solve nearly all of the questions regarding pedigrees once an error has been detected.

What is the difference between a DNA profile and parentage verification?

A DNA profile is simply one test on an individual animal that identifies the unique DNA markers that basically fingerprint the animal. A parentage test would create a DNA profile that would confirm or deny the accuracy of the pedigree not only on an individual animal but also on the sire and dam of the individual. The new policy does not require parentage verification but only an individual DNA profile on the herd sires.

Will every bull calf that is registered be required to have a DNA profile on file?

No. This is the most misunderstood fact of the new policy. Only bulls that will become herd sires and thereby sire registered calves will be required to be DNA profiled.

What about the range bulls I'm selling to commercial cattlemen?

Range bulls will not be required to be tested if they are simply going into a commercial herd. However, if that range bull is pulled out of a commercial herd and used as a sire to produce registered progeny, then he will be required to be DNA profiled.

When will the new policy take effect and what age of animals will be required to be DNA profiled?

Only bulls born after Jan. 1, 2011, in other words bulls being born this spring calving season and beyond that become seedstock herd bulls will be required to be DNA profiled. All bulls born prior to Jan. 1, 2011, are grandfathered in and will not be required to be DNA profiled unless they become permitted AI sires. Bull calves born today will likely not be in production for at least a year, and their calves are at least two years away from being born, so the AHA has provided some lead time.

What will this cost a breeder?

Today, the cost for a DNA profile is \$32. This includes a status report for all three known genetic abnormalities.

Has any other breed association adopted this policy?

The Canadian Hereford Association (CHA) adopted this policy five years ago. Today, reports from CHA management and breeders confirm that the policy has made life much easier for breeders by effectively resolving pedigree mistakes in a rapid and very inexpensive manner.

What other benefits might come from this policy?

As DNA technology advances in the coming years, DNA tests may be adopted to enhance the current Pan-American Cattle Evaluation. The AHA is collaborating with scientists to discover gene markers that might add accuracy to the expected progeny differences (EPDs) of different economically relevant traits. If this comes to fruition, then having DNA samples on file will make it easier for breeders to go back and retest herd sires for various informative DNA markers.

For more information, contact Jack Ward.