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SYNCHROGAIT® TESTING APPLICATION

SYNCHROGAIT® TESTING IS OPTIONAL.

Horse's Name: _____

Registration Number: _____

The SynchroGait® Test can only be requested by the owner or lessee of the Morgan horse.

I understand that upon receipt of this application and the appropriate fee, the SynchroGait® Test will be requested directly from the lab. Should the lab run out of sample, a replenishment kit will be sent to the owner/lessee. Results will be mailed/emailed to the owner/lessee.

I understand that the SynchroGait® Test report is the exclusive property of The American Morgan Horse Association and all new DNA records may be tested against DNA on record to affirm parentage. I further understand that the results of this test may be verbally disclosed upon request; however the results will not be interpreted by AMHA. The results will not appear on the registration certificate for the subject horse nor any of its descendants.

Signature of Owner(s) or Lessee (or Authorized Agent)

X_____ AMHA Number: _____

X_____ AMHA Number: _____

Telephone: _____

	AMHA MEMBERS	NON-MEMBERS
Fee	❑ $115	❑ $115
Fee to record VGL test with AMHA *(Previously recorded with VGL only)*	❑ $25	❑ $120

~ Fees Must Accompany All Applications ~

Make all checks payable to: The American Morgan Horse Association®
We accept VISA, MasterCard, Discover and American Express✦

❑ VISA ❑ Mastercard ❑ Discover ❑ American Express ❑ Credit Card on File ❑ Check/Money Order Enclosed

Card Number: _____

Expiration Date: _____ CVV: _____ Amount: $ _____

Authorized Signature: _____

✦*Effective Jan 1, 2025, a 3% processing fee will be added to all AMHA credit/debit card transactions. No processing fee is required for payments made by cash, check, or ACH.*

If this transaction is not completed within 120 days, the work will be returned and a cancellation fee will be assessed. Current eligibility and Registry fees will apply upon resubmission.

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(OVER PLEASE)

SYNCHROGAIT® Learn about your horse's natural ability for different gaits.

Get help from the DNA-test SynchroGait® to learn about your horse's genetic potential for gaits. The test is very easy to use and by using information from the test, you are able to plan breeding to maximize the chances of getting offspring with the gaits that you prefer. It also provides valuable information for matching the right horse to the right rider and discipline and lays the foundation for a successful relationship between rider and horse.

Text: Lisa S. Andersson, Capilet Genetics and Kim Jäderkvist, Swedish University of agricultural Sciences (SLU).

Background

In 2012, the discovery that there is a single gene with a dramatic effect on horse locomotion was published. A change in this gene allows lateral gaits in a variety of breeds and permits horses to trot at high speed without proceeding to gallop. Due to this change, two variants of the gene exist and they were called A and C. A horse carries two copies of each gene and can thus be AA, CA or CC. It was initially shown that flying-pace has a very simple inheritance pattern in Icelandic horses and that a horse needs to be AA to perform this gait. Since then, the effect of the gene on other gaits and in other breeds has been studied extensively and the high impact on different gaiting abilities has been established.

Today, anyone can test his or her horse using the DNA test *SynchroGait®*. The research and test have helped people working with horses worldwide both in the selection of horses for competition and breeding and to customize training schemes and adjust expectations.

Summary About the Three Different Genetic Classes

AA Horses

Are most often easy gaited horses. In a study of Morgan horses, we had only three AA horses but they were all classified as five-gaited (walk, trot, gallop, amble, and pace).

AA Icelandic horses have the potential to perform flying pace—given other factors such as correct training, conformation and character. They can also amble and most of them do so easily and naturally. There is a high frequency of AA horses in gaited breeds worldwide.

CA Horses

Can often but not always amble. In Morgan horses, almost half (41%) of the CA horses were classified as three-gaited and 55% as four-gaited (ambling + basic gaits).

In Icelandic horses, the vast majority can amble, but they cannot perform flying pace. On average they obtain higher scores for the basic gaits than AA Icelandic horses (CC horses unavailable for comparison). Some of the CA horses may not show ambling easily at the beginning of their training. The genotype may therefore be "hidden" in a three-gaited horse because the horse has not been trained to amble.

CC Horses

Classical three-gaited horses. Probably the optimum genotype for horses used for show jumping, eventing, high-level classical dressage, heavy pulling, and gallop racing.

Locomotion is a Complex Trait

Gaits in horses are influenced by several factors, both genetic and environmental. The summary above is what we see most often, but there are exceptions. Horses can to some extent be trained to re-shape their natural pattern of locomotion. Conformation also has an impact on the gaits and we have had reports of CC horses that are gaited and AA horses that seem unable to perform pace. However, these instances are quite rare and the gait-gene has a proven dramatic impact on horses' gaits.

When Is It Good to Know the Horse's Genotype?

For Morgan horse owners, the information from the test can be used in different ways depending on the discipline the horse is used for. In general, the test can be used:

- To plan mating in order to maximize the chances of getting a horse with the pattern of locomotion that the owner prefers.
- To predict the gaits of foals and young horses (i.e. for buying/selling youngsters).
- To match the right discipline, training, and rider with the right horse.
- To avoid pressuring a CC horse in attempts to amble or pace.
- Keep a distinct part of the population as classical three-gaited horses or as gaited horses by taking informed breeding decisions.

For Those Preferring Classical Three-Gaited Horses

- Test youngsters before buying/training to check if they have the best prerequisites (CC).
- For horses used in breeding. We have seen that some CA horses largely behave like three-gaited horses. However, when these are used in breeding they may produce different kinds of offspring compared to CC horses. If they are crossed with a CC horse half of the offspring will be CA and might amble. If they are crossed with another CA horse, 25% of the offspring will be gaited AA.
- Test stallions used for breeding and show that they don't carry A.

For Those Preferring Gaited Horses

- Test youngsters before buying and/or training to check if they have the right prerequisites (AA or CA).
- Choose suitable riding horses. AA horses are naturally gaited (usually amble very easily). CA horses are less lateral in their movements. They are sometimes more difficult in the initial phase of amble practice, but usually have no problem after some training. The fact that CA horses are in general less gaited usually means that they have better basic gaits.
- For horses used in breeding. A horse that is presented as four-gaited can be either AA or CA (or in very rare cases CC, if the horse has unique conformation and is trained very much). The genotype is then important information for breeders to know. For example, if you have a gaited CA mare you do not want to cross her with a gaited CA stallion because 25% of the offspring will be CC and therefore very likely "non-gaited."

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