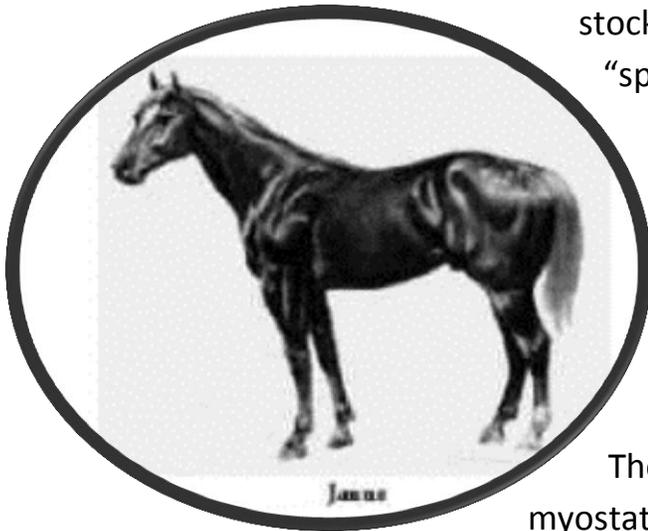


The Colonial Influence - Science

Janus was a thoroughbred racehorse that was brought back to the Americas from Britain. Breeders have been studying the “racing gene” for a very long time in their own specific ways. They did this with breeding programs and specialized



stock. However, scientists have now traced the “speed gene” in Thoroughbred race horses back to a British mare that lived in the United Kingdom during the mid-1700’s. These findings were published in the scientific journal Nature Communications from University College Dublin.

The origin of the “speed gene” (C type myostatin gene variant) was found by analyzing DNA from hundreds of horses, including DNA extracted from the skeletal remains of horses born in the 1700’s.

1. What is a gene?

Genes are the things that play an important role in determining physical traits — how we look — and lots of other stuff about us. They carry information that helps make you who you are: curly or straight hair, long or short legs, even how you might smile or laugh, are all passed through generations of your family in genes. Genes help determine our **traits** and they hang out on **chromosomes**.

2. What is a trait?

Traits are characteristics you inherit from your parents; this means your parents pass some of their characteristics on to you through genes. For example, if both horses (mom and dad) are fast runners, then the likelihood of their baby being a fast runner is pretty good. However, if the mother is fast and the father is slow, then the baby may or may not be a fast runner. Whether or not the baby is a fast runner will be determined with the help of his or her **chromosomes**.

3. What is a chromosome?

Chromosomes come in pairs, and there are hundreds, sometimes thousands, of genes in one chromosome. The chromosomes and genes are made of DNA, which is short for **deoxyribonucleic acid**, and can be found in a cell's nucleus.

4. What is a nucleus?

Chromosomes are found inside cells, the very small units that make up all living things. A cell is so tiny that you can only see it through the lens of a strong microscope, and there are *billions* of cells in your body. Most cells have one nucleus. The nucleus, which is sort of egg-shaped, is like the brain of the cell. It tells every part of the cell what to do. How does the nucleus know so much? It contains our chromosomes and genes. As tiny as it is, the nucleus has more information in it than the biggest dictionary you've ever seen.

