

# Mule wins the race to be the world's first cloned equine

By Robyn Rominger  
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The world's first cloned equine animal, a mule named Idaho Gem, is a racehorse replica who recently made his debut in California.

The mule, born on May 4, in Idaho, and his surrogate mother, a Paint horse named Idaho Syringa, were on display in front of the Cal Expo horse racetrack during this year's California State Fair and Exposition.

"It's a story of triumph," said Kate Snider, Cal Expo racing supervisor and secretary/treasurer of the American Mule Racing Association. "We're just very fortunate to be the first ones to exhibit the clone in California."

It was a worldwide victory for researchers at the University of Idaho and Utah State University, who collaborated on the project.

The team faced competition from research teams in England, Italy, Louisiana State University and Texas A&M University.

"Every step of this has been on new ground," said Gordon Woods, UI professor of animal and veterinary science and a member of the research team. He is also the director of the Northwest Equine Reproduction Laboratory, based

on the UI campus in Moscow, Idaho.

Basically, research scientists took an unfertilized mare egg and removed the genetic material (DNA), and then replaced it with mule DNA. A short electrical shock was applied to the egg to cause cell division. The resulting embryo was surgically placed in the fallopian tube of the surrogate mother.

Idaho Gem also has two younger brothers: Utah Pioneer, the world's second equine clone, was born on June 9 and another clone from the same DNA, Idaho Star, was born July 27.

"We're committed to studying these three cloned mules for life," Woods said.

The birth of the cloned mules was five years in the making. The DNA for all three clones was acquired from skin cells cultured from a 45-day mule fetus collected in 1998.

Woods explained that Post Falls, Idaho, businessman Don Jacklin, who serves as president of the American Mule Racing Association, helped finance the cloning project because "he wanted a mule to win that race" to become the world's first cloned equid. Jacklin, a longtime UI benefactor, owns a famous racing mule named Taz, who is a brother of Idaho Gem.

Part of the interest in cloning a mule

Photo/Robyn Rominger



University of Idaho researchers Gordon Woods and Jessie Williams observe the world's first cloned equine animal, Idaho Gem, during his appearance at the California State Fair.

is the fact that a mule, which is a cross between a horse and a donkey, is sterile. Cloning also offers hope to those who want to perpetuate the bloodlines of geldings.

Earlier this year, a thoroughbred racehorse named Funny Cide won the Kentucky Derby—the first gelding to do so since 1929—and then he won the Preakness. He placed third in the Belmont Stakes, which dashed hopes that Funny Cide would win the Triple Crown. Nonetheless, there are people who would welcome the chance to put Funny Cide's genetics in their breeding program.

In addition, there is some interest in applying this technology to endangered species such as the Przewalski's horse,

also known as the Mongolian wild horse, of which only 300 survive, after being hunted to near-extinction.

There is also a connection among mule cloning, calcium and cancer. The mortality rate for horses with cancer is lower than it is for humans with cancer. In addition, members of the horse family have a lower amount of intracellular calcium than humans. The mule-cloning project provided an opportunity for researchers to test their theory that the low intracellular calcium in horses led to low cancer mortality in horses. Woods said he believes that the cloning of Idaho Gem has the potential to increase the understanding of cancer, diabetes and other age-onset diseases.