

Health & Science

Are champions born, or raised? Scientists try to answer question

Argentine polo turns to genetics to produce champions

BUENOS AIRES: Are champions born, or raised? That's the question scientists in Argentina are trying to answer as they look to pinpoint the genes that make local horses the best in the world for playing polo. In Argentina, polo is a big deal, and big business, and to that end, cloning has already been used to reproduce the finest existing mounts. But scientists want to go one step further and map the entire genome of the Argentine polo horse in order to create the perfect specimen. From December, a group of five universities will analyze 80,000 horses from the breed as part of a project that will try to identify the ideal genetic balance that makes up a polo horse.

The Argentine horses used to play polo have been bred specifically over decades by crossing a Criollo line descended from the original pure-blooded Andalusian and Arab mounts brought to the New World by Spanish conquistadores, and English thoroughbreds, introduced at the end of the 19th century when British immigrants also imported polo. For veterinarian Guillermo Buchanan, the Argentine polos "are unique" because of their speed and durability, and because of their mix of explosiveness and docility. During a polo match these horses, also known as polo ponies due to their agility, "change direction at speed, slow down, turn, accelerate while turning," says admiring horse-breeder Pablo Trigo, who is also co-managing the project.

The Argentine polos distinguish themselves in their rate of learning and sensibility to their rider's desires. They are the most cloned animal in the world. At stud farms in the Buenos Aires area they are looked after as if works of art. And now science is being used to figure out how to reproduce the finest animals. The project is expected to start producing results within three years and will precede the launch of a genetic selection program aimed at optimizing the horses' physical and temperamental characteristics.

'Cutting edge' research

There's nothing new about using applied research and biotechnology to improve polo ponies but interest in the science is growing, as is the money people are prepared

to pay for its results. The clone of a legendary mare fetched a whopping \$800,000 at auction. According to estimates, there are around 200 cloned Argentine polos, many copies of elite level mounts. So far, all seem to be in excellent health.

Argentina "is absolutely at the cutting-edge of applied research into polo ponies," said geneticist Sebastian Demyda, one of the project's leaders. This includes every biotechnological technique from embryonic transfer to cloning and gender selection: mares are preferred because of their more docile temperament. Argentina's polo association accepts cloning—although not everyone considers this ethical, and one private clinic specializing in embryo manipulation has ceased its activities. "(Genetic) engineering is the limit," said Buchanan, who believes tampering with individual embryos is a step too far.

Cloning however has become common practice in polo—and while clones were initially used only for reproductive purposes, now they are used in competition too. Elite players can have up to six or seven clones in their pens. "The clones are doing very well, they're winning prizes," said Demyda. But cloning has its drawbacks, not least when it comes to the gene pool. "Clones narrow the race's genetic structure, they're like a photocopy," said Demyda. When it comes to the sport, they also distort the playing field. Cloning costs a minimum of \$30,000 meaning only the richest can benefit. "Cloning isn't available to everyone, it's very expensive and gives certain breeders an advantage."

'Special connection' needed

While science can help favor certain physical and even temperamental traits at birth, training maintains a crucial and almost mythical role in the development of polo horses. It can take seven years to train a polo pony as it needs to be programmed into acting against its natural instincts. Specialist Ezequiel Correa says "what's fundamental is that it has been well tamed," although without using violence. A horse needs to get used to the swinging wooden mallet brushing its sides, and the sound when it connects with the



LA PLATA: Researchers of the Genetics Veterinary Institute (IGEVET) make tests to a polo horse at La Plata University in La Plata, Argentina. Researchers in Argentina seek to identify the genome of the Argentine polo horse, considered as the best in the world. — AFP

metal ball. It's a painstaking art form that requires small steps of just 20 minutes training a day. "It's like teaching a child to read one letter at a time. If you make it read in front of the class, you traumatize it," said Correa, who at 33 has trained 20 horses. "If you expose a horse to polo before it's ready, you traumatize it and it's difficult to come

back from that." Once that's been achieved, though, the next step is to establish "chemistry" between horse and rider. "You need a special connection, there's a unique form of communication using the legs. If it works, you can have a champion." Science, it seems, cannot overcome every challenge. — AFP

France to reimburse condoms in fight against AIDS, STIs

PARIS: The French government said Tuesday it would take the rare step of reimbursing prescription-bought condoms to combat the spread of HIV and other sexually transmitted diseases. The measure, which covers French-made Eden condoms obtained on prescription from a doctor or midwife, was announced ahead of World AIDS Day on Saturday. Produced by Majorelle laboratories and sold only in pharmacies, Eden condoms cost a fraction of leading brands such as Durex or Manix at 2.60 euros for a box of 12.

They are the first to be approved for reimbursement by France's national health authority, one of the few in Europe to do so. In a statement the company hailed the announcement as "sending a strong signal that it (a condom) is not a sex toy but a real and indispensable prevention tool" in the fight against sexually transmitted infections. In July, a health department study showed cases of chlamydia and gonococcus—two common STIs—tripling in France between 2012 and 2016, with 15-24 year-olds particularly affected. The study indicated the rise was due to people having sex with "an increasing number of partners coupled with the non-systematic use of condoms".

Asked why its brand was selected, a spokeswoman for Majorelle, which was founded in 2012 with the stated aim of

reducing inequality in access to health products, said: "We were the first to ask".

Chlamydia cases rise

Agnes Buzyn, the health minister who is a trained doctor, sounded the alarm over the risk of HIV transmission among condom-averse young people. Around 6,000 new cases of HIV infection were diagnosed in 2016 — down five percent since 2013 — taking the number of people living with the virus in France to over 172,000. Buzyn warned that young people increasingly "use a condom the first time they have sex but not in subsequent instances."

Majorelle cited a study showing that 75 percent of young people would use condoms more if the cost was covered by the state. It said that the state would cover 60 percent of the cost of the condoms and hopes that top-up health insurance providers would cover the remainder. The news was hailed by NGOs involved in the fight against HIV/AIDS.

"Anything that facilitates access to prevention is good news," said Florence Thune, head of the Sidaction association. "There should be no financial obstacle, whatever the method," she said. "It's another string to our bow," said Caroline Izambert, a campaigner at Aides HIV prevention group. —AFP

S Korea successfully tests space rocket engine

SEOUL: South Korea yesterday successfully conducted a rocket engine test launch, news reports said, paving the way for the development of its own space launch vehicle. A liquid-fuel engine successfully propelled a single-stage rocket weighing 52 tons and measuring 25.8 meters (84.6 feet) long, from the Naro Space Center on the southern coast, Yonhap news agency said. The engine, designed and developed by the Korea Aerospace Research Institute (KARI) as part of a \$1.8 billion project, will be used to propel the country's first indigenous three-stage launch vehicle—the Korea Space Launch Vehicle-2 (KSLV-2). "This is a significant step forward in developing a launch vehicle with our own technology," a KARI spokesman said.

It is the first such launch in South Korea since 2013 when the country successfully put a small satellite into orbit following failures in 2009 and in 2010. But the significance of the 2013 launch was widely discounted as the launch vehicle had to rely on a Russia-developed engine for its first stage. On its launch-scheduled for 2021 —



GOHEUNG, South Korea: This handout photo taken yesterday and provided by Korea Aerospace Research Institute (KARI) shows a single stage rocket taking off from its launch pad at the Naro Space Center in the southern coast county of Goheung. — AFP

KSLV-2 will use five of the newly developed engines, a bundle of four for the first stage and another one for the second stage.

Yesterday's test was deemed successful as the engine combustion was maintained for over 140 seconds during the test launch, Yonhap said. The KSLV-2 rocket, which will be South Korea's first space vehicle wholly designed and built by itself, will be used to place satellites into the Earth's orbit and for other commercial applications. — AFP

Prostate cancer numbers take a leap in Kuwait

By Abdellatif Sharaa

KUWAIT: Head of the urology unit at Jaber Armed Forces Hospital Dr Mohammad Al-Ghanim said prostate cancer is fatal if not discovered early, adding that those aged 50 years and above should undergo tests and medical checkups. He said prostate cancer is the most widespread type of cancer among men in Kuwait, so awareness is very important for early discovery, which can save thousands of lives.

Ghanim said the cause of prostate cancer is unknown, in addition to other factors such as it being hereditary, in addition to old age and geography, as it mostly occurs in America, Africa and Europe than in Asia and the Middle East. He said the disease can be called a 'silent killer', because it does not have any warning symptoms, which makes early discovery very crucial, which can be done through periodical examinations for those aged between 50 to 70 in most cases.

Ghanim added that treatment of the disease is done in several ways, including surgery. New radiation treatments, done externally and internally, are also available. In many cases, patients are treated with hormones, which help the body stop producing testosterone, while some medicines also keep testosterone from reaching the cells. Chemotherapy and biological treatment are also available, but it depends on the severity of the disease.



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