

MGI Tech partners with UNALM and Inca Tops to Strengthen Peru's Textile Industry

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A genetic sequencing project involving 1,500 alpacas aims to refine the quality and fineness of their fiber through molecular marker identification within their genomes. In Peru, alpaca fiber has become a flagship product driving the fashion industry. Highly valued for its exceptional softness, quality, strength, and authenticity, this raw material is covered in the world's most exclusive stores. According to national reports, nearly \$200 million worth of products made from alpaca fiber, including fabrics, garments, and other derivatives, are exported each year to the United States, Europe, and Asia.



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In their effort to advance the Peruvian textile industry, MGI Tech Co., Ltd., a company committed to building core tools and technologies that drive innovation in life science, along with Universidad Agraria de La Molina (UNALM) and Inca Tops, are spearheading genetic research on 1,500 alpacas from Puno. This initiative focuses on DNA analysis to identify molecular markers within their genomes, that optimize fiber quality, enhance fineness, and maintain natural colors.

MGI to contribute to the sequencing of alpaca fiber genes. By providing high-quality data through cutting-edge, highly efficient, and cost-effective technologies, to harness the potential of agri-genomics to enhance industry competitiveness in developing countries. The research commenced in June 2024 and will continue until March 2025 in the districts of Melgar and Huancayo.

Carlos Carpio, MGI's Commercial Director for Latin America, states that the implementation of genomics contributes to the development and growth of the alpaca industry, enabling scientists not only to identify and analyze genes and their characteristics but also to conduct more efficient processes for optimization.

"Latin America has become a strategic region for advancing next-generation genetic sequencing research, particularly in agriculture. In the case of alpacas, genomics facilitates the enhancement of key physical traits and disease resistance, ensuring the long-term health of the animals and the consistent quality of their fiber. This benefits breeders by improving the profitability and sustainability of alpaca production, while also promoting more efficient and environmentally friendly agricultural practices."

Carpio also underscores that the technology MGI is employing for genetic sequencing accelerates research in industrial crops like alpaca fiber. In this project, sequencing is performed on MGI's high-throughput sequencer DNBSEQ-T7RS. Libraries are prepared on the MGISP-960 using library prep reagents, and data analysis for variant calling is conducted on MGI's Megabolt.

Dr. Gustavo Gutiérrez, a faculty member and researcher at the Department of Zootechnics at Universidad Nacional Agraria La Molina (UNALM), who oversees the DNA extraction from these animals, highlights the global significance of alpaca fiber. Alpacas offer 23 natural shades in garments without the use of dyes.