

REFRIGERATION OF LLAMA'S EMBRYOS

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South American Camelids (SACs) are represented by four species, two of which, alpaca (*Vicugna pacos*) and llama (*Lama glama*) are domestic, while guanaco (*Lama guanicoe*) and vicuna (*Vicugna vicugna*) are wild. The domestic and wild camelids played an important role on native inhabitants life of South America. After the European conquest of our continent, SACs population began a prolonged period of decline caused by the hunting of wild species and the replacement of domestic species by cattle, sheep and goats. However, as camelids evolved alongside the Andean and Patagonian ecosystem, they are particularly adapted to areas of poor forage supply and adverse climatic conditions. In addition, these animals are indigenous livestock resources because of their production of meat and fiber. In native countries of SACs, such as Peru, Chile, Argentina and Bolivia, as well as in the United States, Italy and Australia, there is a huge interest around the camelid world. Some of these interests result from the quality of vicuña and alpaca fiber, which are smaller in diameter than the sheep. In other cases there is just curiosity about the reproduction of these species, since they have many distinctive characteristics.

The aim of the application of biotechnological techniques in camelids is to handover these techniques to human groups involved in this type of production and interested in improving the quality of their animals through ecological-environmental awareness, training and technological advice. Because these species present a long period of gestation, ranging from 335 to 360 days, and only delivered one young per year, the application of biotechnologies to genetically superior females, such as ovarian superstimulation, embryo refrigeration and embryo transfer, would increase the production of a significant number of embryos of high genetic quality, would reduce the generation interval and improve the reproductive efficiency of these species, both domestic and wild.

There are few publications about llama embryos cryopreservation. One of the reasons is the large size that embryos have at the time of their recovery, making techniques such as freezing and vitrification extremely difficult to apply and with limited results. Faced with this reality, refrigeration is a useful alternative, easy to perform and with low cost, apt to be applied in the field. Refrigeration of embryos, regardless of their size, would allow the delay of the recovery-transfer time interval, transport the embryos without the need to have the recipients in the same location and also transport the embryos from the field to the laboratory and then apply freezing or vitrification methods.