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Texas AgriLife Research
Equine Embryo Laboratory

EQUINE EMBRYO VITRIFICATION

Equine Embryo Laboratory
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What is EMBRYO VITRIFICATION?

Embryo vitrification is a means to cryopreserve (freeze) embryos.

Small embryos, such as those produced by ICSI and embryos collected from mares relatively early (at ~ Day 6 after ovulation) can be vitrified without additional manipulation. Larger embryos (blastocysts), such as those recovered from mares on Day 7 or Day 8, require manipulation before they can be vitrified successfully. Blastocysts larger than 300 µm in diameter, which are fluid-filled, are collapsed by puncturing their outer layer. The vitrified embryos are placed in liquid nitrogen and can be stored indefinitely. Collapsed, vitrified embryos reform their shape quickly when warmed, and have resulted in good pregnancy rates (> 70%) after transfer.

Embryo vitrification makes it possible to obtain earlier foals from mares that, due to age or chronic breeding issues, do not provide embryos until late in breeding season, or from mares that foal late in the breeding season. The vitrified embryos can be warmed and transferred in the following years, at a time of the embryo owner's choice. Embryo vitrification also allows embryos to be stored if recipient mares at the appropriate day after ovulation are not available at the time the embryo is produced.

Please Note:

- We do not store embryos here in our laboratory; once they are vitrified, they are shipped to you or to an embryo storage facility that will bill you directly for charges related to storage.

- With our recently-improved vitrification technique (E-VIT), the vitrified embryos can be shipped in liquid nitrogen to the embryo transfer center, and can be warmed mareside immediately before transfer.

- If your embryo was vitrified before 2017, using our previous technique (MPT), the embryo must be warmed at a laboratory familiar with the technique, and shipped to the embryo transfer center for immediate transfer.

- Before participating in the embryo vitrification program, it is important for each owner/lessee to know the regulations of their breed registry regarding the possibility of registering any resulting foals, and any effect of transferring an embryo in a year other than that of the recorded breeding.

The amount billed by the Equine Embryo Laboratory covers the charges for vitrification, blastocyst collapse, genetic biopsy (see below), warming and shipping. **All charges related to the transfer of vitrified/warmed embryos to recipient mares will be billed to you, the client, by the embryo transfer facility performing the transfer and are not included in this contract.**

BIOPSY FOR GENETIC DIAGNOSIS

The Equine Embryo Laboratory at Texas A&M offers embryo biopsy, which is taking a small sample of cells from the embryo for genetic analysis. Embryo biopsy allows the owner to know the genetic makeup of an embryo before it is transferred. Knowing the genetic makeup gives the owner the choice to avoid pregnancies that will result in affected foals (e.g. homozygous for a recessive affected gene) or foals carrying the gene for a disease (heterozygous). In addition, the genetic analysis can determine the sex, coat color, and parentage verification ID markers of the upcoming foal.

COSTS

Fees are assessed for:

- Embryo vitrification ($300)
- Embryo micromanipulation for blastocele collapse, to allow vitrification of embryos greater than 300 µm in diameter ($300)
- Embryo biopsy for genetic diagnosis ($500)
- Packaging and submission of biopsied cells to genetic laboratory for genetic diagnosis ($95)
- Warming of a vitrified embryo ($150)
- Embryo shipment ($165)
- A surcharge ($200) is assessed for cases that entail embryo vitrification or embryo warming after hour (after 6:00 PM) or on holidays.

If you have any questions regarding the equine embryo vitrification program, please contact:

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