

What are the services offered by Trans Ova Genetics?

At Trans Ova Genetics, breeders can:

- Produce females (or males) from their in-vitro fertilization (IVF) donors
- Supply frozen semen from any sire to be reverse-sorted
- Transfer embryos into Trans Ova Genetics' health-certified recipients
- Choose the "live calf program" to pick up 30-day-old calves of pre-determined gender

Which females are the best candidates for the IVF program?

In-vitro fertilization (IVF) can be safely and effectively used on both cows and cycling heifers. The ideal donor is of average age and in good physical and reproductive health. Pregnant donors (between 40 and 100 days) can also be safely utilized for IVF. Also, some breeders have had success with IVF on their "problem" cows that may not perform well with A.I. or a conventional ET program due to abnormal reproductive tracts.

How do the IVF procedures occur at Trans Ova Genetics?

First, your donor must be housed at a Trans Ova Genetics' facility offering IVF. Donors receive IVF procedures approximately three times per month. During these procedures, the donor's ovaries are stimulated, then the follicles are gently aspirated (non-surgically removed) with a trans-vaginal ultrasound probe guided by a trained technician. The follicular fluid is placed in a dish and searched for oocytes (eggs). The harvested oocytes are placed in a Petri dish with maturation media, and then they are fertilized with semen of the owner's choice. The embryos develop for seven days in an incubator and are then evaluated. The viable embryos can be transferred into Trans Ova Genetics' health-certified recipients or frozen for later use.

What are the benefits of IVF at Trans Ova Genetics?

IVF coupled with reverse-sorted semen is a tool that offers extended options to propagate the genetics of elite cattle.

- Nearly any sire may be sexed to create heifer (or bull) calves/embryos from your donors.
- Two units of sexed semen can be applied to oocytes from up to five donors—depending on semen quality and quantity – so breeders can share in the cost of sorting the semen.
- IVF may maximize the potential of your donor in a shorter time period, due to the shorter interval between procedures compared to traditional ET.

What is reverse-sorted semen?

Trans Ova Genetics is equipped with the technology to thaw frozen semen from any bull and sort it for X (female-producing) sperm cells and Y (male-producing) sperm cells. This means that breeders can provide frozen semen from nearly any sire of their choice, have it sorted, and use it on their donors' oocytes to create heifer (or bull) calves. Trans Ova Genetics is licensed by XY Inc. to sort the semen – just like several of the AI companies who sort fresh semen on some of their bulls. The semen-sorting machine is located at Trans Ova Genetics' headquarters in Sioux Center. No other company offers the exciting technology combination of IVF and reverse-sorted semen!

What sires can be used in conjunction with IVF to create calves?

Nearly any sire you want. Breeders must supply two units of frozen semen. The quality and quantity of the semen does influence sorting results and fertilization. Breeders can take advantage of cost-sharing by using reverse-sorted semen that other breeders are using. Using IVF allows oocytes from up to five donors to be fertilized with the same two units of semen. Many well-known donors are already at Trans Ova Genetics making heifer pregnancies from top sires. Rare semen may also be used for IVF, either reverse sorted or conventionally, depending on semen quantity and quality. Commercially available sexed-semen is another viable option for use with IVF.

What percentage of heifer calves can breeders expect? What about conception?

Breeders using IVF combined with reverse-sorted semen at Trans Ova Genetics can expect over 90 percent heifer calves. Conception occurs in the lab, so it is not left to chance or the intricacies of heat detection and A.I. The average pregnancy rates with the transferred embryos are approximately 45 to 50 percent.

What about freezing IVF embryos?

The option to freeze IVF embryos does exist, and the success rates are becoming more comparable to the success rates achieved when transferring the embryos fresh. Currently, because of the unique IVF freezing and thawing methods, only Trans Ova Genetics' trained technicians can transfer the IVF embryos.

Is large calf size still an issue with IVF?

Thanks to a change in the IVF culture process, large calf size has been greatly minimized for breeders using IVF technology on their donors. Trans Ova Genetics has produced thousands of calves since making this change, and the birth weight distribution by breed is very acceptable. This said, breeders should still be conscientious of bloodlines that contribute to increased calf size.

What are Trans Ova Genetics' health-certified recipients?

Trans Ova Genetics has over 6,000 Angus-based cows available annually. They are two to six years old and have been screened for Johnes, BVD, Neospora, Brucellosis, BLV and Anaplasmosis. The recipients are reproductively sound, receive a strict vaccination regiment, and are culled for poor dispositions.

What if I don't want beef recipients?

This is why Trans Ova Genetics offers the live calf program. We will gestate the recipients and care for the newborn calves. We follow strict gestation and newborn standard operating protocols, and you pick-up and purchase the 30-day-old live calves. If using reverse-sorted semen, you will only pay for the calves of the gender you requested.

How much will IVF with reverse-sorted semen cost?

The costs are on a per procedure basis. Each time a donor goes through the aspiration process, expense is incurred. The total expense also depends upon how many different donors' oocytes can be fertilized with two straws of semen. This is because the cost for semen-sorting can be shared among several clients. How well the donor responds and makes embryos also factors into the cost. Although the investment may seem greater than traditional embryo transfer (ET), the end value is greater through creating offspring of desired gender from your chosen sire and elite donor cow.