

IN VITRO FERTILIZATION Q&A • SMALL RUMINANT

WHAT IS IN VITRO FERTILIZATION?

In Vitro Fertilization (IVF) is the process of creating embryos from oocytes (unfertilized egg cells) by fertilizing them with semen in a Petri dish. Oocytes are first collected from the ovaries of donors by laparoscopically guided follicular aspiration. They are then matured in a Petri dish and fertilized 20-24 hours later. Conventional or sexed-frozen semen may be used for fertilization. Oocytes then develop in an incubator for six days, at which point the resulting viable embryos are transferred into recipients.

WHAT RESULTS CAN BE EXPECTED ON EACH IVF CYCLE?

Results vary with each donor, but we typically expect to collect around 15-20 oocytes from a doe or 5-10 oocytes from a ewe, per aspiration. On average, 25 to 30% of these oocytes will develop into a viable embryo. Thus, we expect about 2 to 5 transferrable embryos per IVF cycle on average. Donors that produce greater numbers of oocytes and oocytes of higher quality may see larger numbers of embryos produced, whereas donors with compromised reproductive conditions may have lower results. Development rate will also vary greatly depending on the sire and semen used.

WHAT DONOR FEMALES ARE CANDIDATES FOR THE IVF PROGRAM?

While reproductively sound donors are most likely to achieve success in IVF, we have worked with donors with a variety of reproductive conditions, including those unable to achieve success in conventional ET. Donors that tend to make unfertilized or degenerate embryos are a common type with which we have had success.

HOW OFTEN CAN OOCYTES BE COLLECTED?

Oocytes can be collected every three to four weeks as long as the attending veterinarian believes this is best for the donor. This fact makes it possible to create a significant number of pregnancies in a given period of time.

WHAT ARE THE PREGNANCY RATES WHEN IVF EMBRYOS ARE TRANSFERRED FRESH?

On average, we expect fresh IVF embryos to achieve about a 45-50% pregnancy rate. This will vary somewhat depending on the time of year, type of recipient, and recipient management.



CAN IVF EMBRYOS BE FROZEN?

Good-quality IVF embryos may be frozen with very acceptable results. Pregnancy rates from frozen IVF embryos in Trans Ova recipients have averaged 40-50%. If clients would like to freeze IVF embryos, Trans Ova will be very selective on the quality of embryos that are frozen. Embryos that do not qualify for freezing should be transferred fresh or discarded.

HOW WILL IVF EMBRYOS BE FROZEN?

IVF embryos will be frozen with one of two methods: 10% glycerol or direct-thaw. Our data indicates that clients can expect very similar results with both freezing methods. Clients should visit with their client service representative about embryo freezing options before the work is performed.

WHAT RECIPIENT OPTIONS ARE AVAILABLE?

Client-owned recipients can be utilized if they can be hauled into a Trans Ova Genetics center for transfers. Clients may also utilize our Fresh-Ship Program to have IVF embryos shipped to them to be implanted into their recipients on-farm.

WHAT IS THE FRESH-SHIP PROGRAM?

The Fresh-Ship program allows IVF embryos to be shipped fresh to clients' farms to be implanted into recipients. Embryos are packaged one day prior to transfer and loaded into portable, battery-powered incubators. The embryos continue to develop in the incubators during shipment (by Fed Ex, UPS, or courier), and arrive the next day having developed to the proper stage for transfers. Clients' local practitioners or a Trans Ova Genetics team can then perform the transfers into recipients. Ask us for more detailed information on this program.

WHERE ARE IVF SERVICES AVAILABLE?

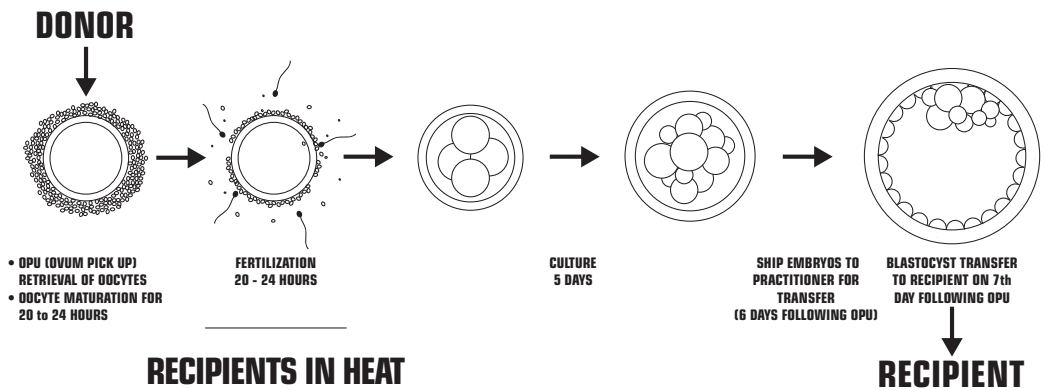
Trans Ova Genetics has IVF labs at its Iowa, Maryland, and Texas centers as well as fully staffed IVF labs in California and Washington. All small ruminant laparoscopic OPU's (Ovum Pick-Up) are performed by the small ruminant team based out of our Chillicothe, Missouri location. Please contact this team at 800.372.3586 to better understand your IVF service options!



WHAT ARE THE RISKS INVOLVED WITH IVF?

Although the incidence is very low, there are risks involved with IVF that clients should be aware of. Aspirations are procedures that can cause bleeding and infection. This creates the risk of the development of ovarian adhesions. On very rare occasions, the bleeding caused by aspiration may result in loss of the donor. Also, while we are able to get positive results with most donors, not all donors will produce viable embryos each time they are aspirated. Please discuss these risks with your Trans Ova Genetics representative prior to beginning work with your donors.

IVF (IN VITRO FERTILIZATION) TIMELINE



HOW WILL BILLING BE HANDLED?

Clients will be billed for services from Trans Ova Genetics on a monthly basis. Discounts are available for prompt payment of services.

HOW DO CLIENTS ENROLL A DONOR IN THE IVF PROGRAM?

Clients should begin by contacting a client service representative at our Missouri Trans Ova Genetics location. These representatives will work with you to complete a client service agreement and obtain all pertinent donor information. Depending on where the aspirations will occur and the state from which the donor is coming, there may be specific health testing requirements that need to be completed prior to the donor's entry into the program.

QUESTIONS?

Our goal is for your experience with our IVF program to be not only one that creates value for your business, but one that you clearly understand. We encourage you to seek clarification on any questions that you might have with one of our client service representatives. We look forward to working with you!

HEADQUARTERS

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SMALL RUMINANT HEADQUARTERS

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