

# FREQUENTLY ASKED QUESTIONS

## What is IVF?

IVF stands for in vitro fertilization, that translates into fertilized outside the organism, like in a test tube or culture dish. In IVF embryo production, not only does fertilization take place outside of the body of the cow, but so does the 24 hours of egg/oocyte maturation and the seven days of culture for embryo development. Conventional embryo recovery, or flushing, is when the cow acts as the incubator, producing in vivo embryos, meaning "inside the organism."



## How is IVF different than conventional embryo collection?

- IVF offers more opportunities to collect elite donors, as young as seven months of age, during the first trimester of pregnancy and as often as every two weeks
- A more efficient use of conventional and sexed semen
- Conventional semen can be reverse sorted, allowing calves of the desired sex to be possible from nearly any bull
- Oocytes are shipped to the lab and fertilized the day after collection
- Embryos are cultured in media designed to mimic the uterus for six days then shipped for fresh transfer within 24 hours or kept at the lab for freezing on day seven

## What is the preparation and collection process?

- The veterinarian begins the donor set up by either giving GnRH or performing dominant follicle removal, then provides the client with a shot protocol for each donor, specific to her breed, age and stage of gestation

- 100% compliance to the shot protocol is important to optimize oocyte quality and the number of resulting embryos
- Oocytes are collected by the veterinarian then evaluated and placed in media for transport to the lab by a trained embryologist

## How do I get semen to the lab?

- Conveniently, Boviteq will order semen in five-unit increments from our local AI company representatives
- You may send semen at any time to the lab and we will place it in your inventory. Sending it with other clients may save shipping charges; be sure to check in with your veterinarian before shipping

## Which females make the best donors?

The ideal donor is reproductively sound and free from the stresses of lactation, heat and nutrition. However, we can work with donors that may not perform well in a conventional flush environment, as well as young and pregnant donors.

### What is pooling?

At Boviteq, oocytes from 2-3 donors can be placed in a dish together as long as they are being mated to the same sire and there are less than 60 oocytes. This saves on IVF cycle costs for the producer. The resulting calves will need to be DNA tested to determine the dam.

### Does a certain kind of semen work best in IVF?

There are several factors that affect semen quality and fertilization in IVF. Most impactful are the age of bull at collection and how the semen has been handled before it arrives at the lab. Sexed semen may require additional units and reverse sort semen requires a back up bull choice in the event the sort does not work well.

### What is reverse sorting?

Frozen, conventional semen is thawed and sorted for X or Y-bearing sperm for fertilization, resulting in 90% female or male calves, respectively. The term refers to semen that is frozen, then sorted upon thawing versus sexed semen that is sorted then frozen. Because the sorting process greatly reduces the final number of sperm cells available for fertilization, typically a minimum of two units are required.

### What is a morula report?

The morula report is a prediction; a preliminary embryo report generated on day six. The report contains the number of oocytes, cleavage (the number that began cell division following fertilization) and the number of morulas developed. In addition, the number of embryos that could be frozen and other important information is available at this time.

### Why are there changes between day 6 to day 7?

Because the morula report is only a prediction and embryos continue to grow and change, we generate a final report on day seven that details which embryos were frozen and which were shipped. Boviteq is meticulous in producing the very best embryos and will not send or freeze embryos that do not meet our high quality standards.

### Once the morula report is generated, then what?

We will send any fresh embryos requested to the client to arrive the morning of day seven for transfer into recipients that were in heat seven days earlier. Any embryos to be frozen will remain at the lab for freezing on day seven and are then stored at Boviteq until the request is made to ship them back to you.

### What kind of embryo production results can I expect?

The range of the number of oocytes, embryo development, and number of embryos created is quite varied and depends on a donor's reproductive potential as well as her stimulation and the bull choice. On average, a donor will produce 12-20 oocytes and approximately 40% of those will develop to an embryo, resulting in 5-8 embryos per donor.

### What kind of pregnancy results can I expect?

Fresh embryos typically result in pregnancy rates of 45-50%, whereas frozen embryos result in 55-60% in well-managed recipients. The reason why Boviteq frozen embryos result in higher pregnancy rates than fresh is that we select only the best for freezing, whereas the fresh numbers include all grades.

### How are embryos frozen?

All Boviteq embryos are frozen in ethylene glycol for direct transfer.

### Are there recipients available?

While Boviteq does not own a recipient herd, we do work with several cooperator herds for both dairy and beef recipients, and we can reach out to these parties on your behalf. If interested in these services, please inquire prior to your donor being aspirated.

### How do I find an OPU vet?

You can contact our US lab at 608-838-2504 or our Canadian lab at 450-774-7949. You can also visit our website at [www.boviteq.com](http://www.boviteq.com) and check under the OPU Centers tab.

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The Industry's  
Best Quality  
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