

DONOR MANAGEMENT.



Every cattle producer has their favorite donor, each with its unique genetics and legacy. Vytelle's goal is to help you accelerate the genetic influence these donors have on your herd in a way that is easy on animals and simple for you. Vytelle follows specific steps to maximize donor *in vitro* fertilization (IVF) performance. But before the IVF process begins, proper donor selection and management, including adequate health and reproductive soundness, should be prioritized to drive the donor's ability to produce top quality embryos.

3 Pillars of Success



Donor Eligibility

Age, regularity of cycling, body condition, mineral status, nutrition and reproductive health should be considered when selecting donors. Many females in the herd can be qualified as a donor, including:

- Heifers, preferably older than 9 months of age
- Open cows as early as 15 days after calving
- Pregnant cows within the first 100 days of gestation

As young donors reach puberty and maintain regular estrous cycles, their oocyte recovery and embryo results will improve. When donors are being bred, avoid ovum pick-up (OPU) within 48 hours of insemination. After donors are inseminated, OPU can be done through the first trimester and potentially extended if ovaries can be safely handed without disturbing the fetus.

Donor Preparation

Vytelle's IVF process requires no set up for donors prior to aspiration, so donors can remain in their natural environment with no disruption prior to OPU. For best results, potential donors should be examined by a licensed veterinarian prior to aspiration to ensure reproductive soundness. Information to document on donor forms includes:

- Ovarian and reproductive tract size and structure
- Reproductive status (open, postpartum, pregnant) or last heat cycle
- Parturition history
- Physical soundness

Hormone Free

Vytelle's IVF process does not use hormones to set up donors prior to OPU. Follicle stimulating hormone (FSH) is a hormone that is naturally released by females to stimulate new follicles to grow every 7 to 10 days. Injecting FSH in donors is a common process in other IVF systems, as FSH changes the size of follicles, making them more visible on the ovary during OPU. However, using our proprietary process and naturally derived

	Vytelle	Others
PRICING	Pay per embryo	Fees + Fees + Fees
FOLLICLE STIMULATING HORMONE (FSH)	Never	Required

media formulations, our team proficiently collects oocytes without the use of FSH. Vytelle's process achieves oocyte collection rates similar to those of IVF processes requiring several injections of FSH. A hormone-free process is more robust and supports growth of all oocytes. Vytelle's IVF is more natural for young donors and safer for aspiration of pregnant donors.

Nutrition

Care should be taken to establish and maintain a suitable nutrition program for donors 60 days before aspiration. Providing donors a positive plane of nutrition directly influences and supports their reproductive performance. Work with a nutritionist to formulate a balanced ration to meet requirements of crude protein, energy, minerals and vitamins. Requirements will change based on donor age, stage of production and environmental conditions. Always provide donors access to a complete mineral program with organic and inorganic sources, as well as clean and fresh water. Additional supplements including EPA and DHA rumen-protected fatty acids can be offered to donors, as well as magnesium and zinc, which are essential for reproduction.

Donors that are over or under weight can have altered reproductive hormone levels, increased postpartum interval, irregular follicular growth and ovulation. Body condition scores can be utilized to monitor nutrient reserves of donors and design rations to change condition accordingly. Ideal body condition for beef donors is 5.5 (9-point scale; 1 = very thin and 9 = obese)¹. Any negative influences (nutritional or environmental) can



impact oocyte production 60 days later. It is important to recognize potential nutritional problems early and act on them in advance to support oocyte collection and embryo development.

Vaccination

Vytelle recommends working with your herd veterinarian to maintain annual vaccination protocols for all donors. As donors reside in different locations and environments, there is not a one size fits all protocol for health management. Pre-breeding vaccines are important for replacement heifers and cows to manage reproductive diseases. For best results, vaccinations should be administered at least 45 days before aspiration. If vaccines need to be administered within 45 days of aspiration, discuss vaccine history with a Reproductive Specialist to manage ovum pick up and embryo development accordingly.

Ovum Pick-Up

The ovum pick-up process takes 15 minutes per donor, on average. The aspiration is extremely safe with minimal damage to the reproductive tract and low risk for pregnant donors. Ovarian tissue heals quickly and follicular growth resumes immediately after collection. Thus, the same donor can be collected as frequently as every seven days. Best results are seen when OPU is done every two weeks.

Summary

Donor management is a key pillar to a successful IVF program. The Vytelle IVF process makes achieving genetic goals a reality for cattle and dairy producers around the world. The ability to produce offspring from young females who have yet to birth their first calf, as well as create embryos from pregnant donors greatly speeds up the generation interval that would take decades with natural breeding. Vytelle's process is easy on animals, simple for you and cost effective. Bring donors in to any OPU location to start fast forwarding generations today.

Visit vytelle.com to find Vytelle's U.S. and international locations.

1. Jaymelynn Farney, et al., Guide to Body Condition Scoring Beef Cows and Bulls, Kansas State University, December 2016.



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