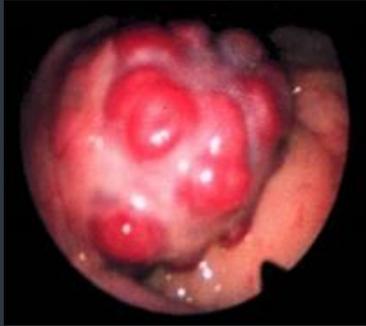


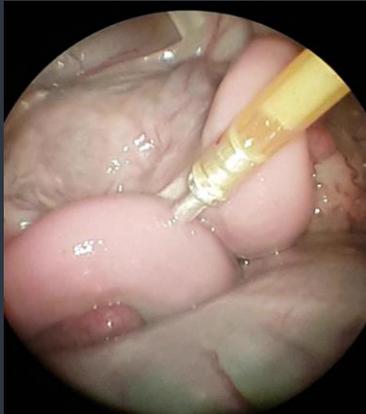
Step 1



Step 2



Step 3



Step 4



Embryo Transfer (ET) is a reproductive technology that allows having more progeny from valuable females. That simple. Who wouldn't want that, right? For example, choose your top 10 does, the ones that consistently produce your best buck fawns, and have 40 fawns born from them instead of 10. Next, think this may cost you anywhere between \$500-1000 per fawn born (excluding semen costs). If your selected does are of high genetic value and semen from an elite buck is used, those fawns should be worth a lot more than that! Are you interested? Let's break it into small pieces to gain a full understanding of the technology advantages, how it is done and what we offer as a specialized veterinary team.

Why? If you are the owner of high value females, this is an excellent method to make more profit out of those does without selling them. Moreover, in addition to selling the fawns, you could get in the business of selling embryos as an additional revenue source. So essentially make more money! If you don't own females of high genetic value, ET may be the key for you to acquire better genetics by means of buying embryos from top does (much cheaper than buying the doe). There are other advantages of ET, including sanitary, reproductive rescue, ability to import/export genetics, etc. but for today let's focus on making more money.

How is it done?

Step 1: Superovulation

The core knowledge that allows ET technology is the fact that in every cycle females grow multiple eggs but, by means of

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Deer Embryo Transfer

by

Dr. Hernan Baldassarre

natural hormonal mechanisms, only 1 (occasionally 2) are ovulated. Superovulation is the term that we use to refer to a hormonal regime designed to allow all the eggs the female grows in that cycle to be ovulated, thereby resulting in multiple embryos after insemination of the doe (instead of 1-2 only). This hormonal regime is applied only to your top genetic does, the ones that will be the genetic mothers of the embryos, which we refer to as the "donors".

Step 2: Recipient synchronization

In order to have multiple fawns born, we need to implant the embryos harvested from the elite females into healthy (but genetically irrelevant) does, who's cycle have been synchronized with the donor. We call these animals the "recipients". In other words, they need to be synchronized so that recipients and donors are in heat on the same day. This is achieved using standard procedures based on the use of intravaginal devices (CIDR).

Step 3: Donor insemination

This is a critical step of the process as it has substantial effect on the proportion of transferable embryos. Laparoscopic insemination of donors with high quality semen in appropriate dosage (avoid excessive straw splitting) and at the correct

Step 5



Step 6



ARS-Team



*Drs. Will Weise, Hernan Baldassarre
and Joe Ables*

timing are all essential to maximize the % of transferable embryos recovered.

Step 4: Embryo collection

Embryos are recovered from donors 7 days after insemination. This is important because at this specific time they have developed enough to have greater tolerance to environment variations (e.g. temperature) and freezing, but have not yet advanced to attach themselves to the uterus. Because they are in this “free floating” stage inside the uterus, if we inject a liquid medium at one end and recover the medium at the other end of the uterus, we can flush the embryos out. This is why the technique is often referred to as “flushing”. This procedure is surgical and is conducted under general anesthesia, in sterile conditions, as it requires the exteriorization of the uterus to allow flushing it.

Step 5: Embryo search and grading

The media recovered from the uterine flush is then observed under the microscope to look for the embryos. Once found, embryos will be graded with a 1 to 4 score, where grade 1 and 2 are both transferable and freezable, grade 3 embryos are not good for freezing but can be transferred with a lower pregnancy expectation and grade 4 embryos (as well as unfertilized eggs) are discarded.

Step 6: Transfer to recipients or freezing

Finally, embryos are loaded into a special catheter prior to transfer. The recipients are anesthetized and checked with the laparoscope to ensure they have responded and have a functional corpus luteum (CL), prior to exteriorizing the uterus through a small incision and proceeding with the implantation of the embryo (s) into the uterus.

Alternatively, the embryos can be loaded into straws and frozen for transfer at a later time and location. This is conducted using specially formulated media and an embryo freezing machine set with the proper temperature descent curve.

Overall, we expect an average of 6 transferable embryos per donor in whitetails, but the range is 0-30 embryos because of great individual (doe-to-doe) variation in the response. Generally, the pregnancy rate will be in the 70 to 80% range for fresh and 40-50% for frozen embryos. To decrease the potential negative impact of factors affecting individual response, we have developed condition enhancement protocols for females in advance to entering the program (management, nutrition, health, etc.). Moreover, we can assist you in the selection of the donors for the program by conducting a blood test that will allow identifying the females with greater response potential (more embryos per flush).

We are an experienced team of veterinarians that has conducted these procedures in thousands of animals and our protocols are proven and constantly updated following the latest developments in science. But, more importantly, we commit to providing you with the best support and response time in the industry, to ensure the best outcome for the work we'll do together.

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If you haven't signed your contract for the upcoming reproductive season yet, call us TODAY to ensure we can schedule your farm around your preferred dates of breeding.