

## EMBRYO TRANSFER (ET)

This information sheet aims to answer some of the commonly asked questions regarding embryo transfer (ET)

### What is embryo transfer?

The process by which an embryo is recovered from a donor mare and then transferred into a recipient (surrogate) mare who carries the pregnancy to term

### What are the benefits of ET?

Genetic mother is able to continue competing

Ability to breed from mares that are unable to carry their own foals

Ability to breed more than one foal per year, and thus change combinations with stallions

Increased selection pressure

### What does ET involve?

- Once the mare has been inseminated and then ovulated, she is 'flushed' 8 days later
- Under light sedation, a catheter is passed through the cervix and into the uterus
- The uterus is filled with a special embryo flushing solution, which is allowed to flow out over a filter, and the filter contents are examined under a microscope
- Any embryo found is transferred to a holding solution and washed to remove debris
- The embryo is then prepared for transfer, into a recipient that has had her cycle synchronized with the donor mare
- The embryo is transferred to the recipient under light sedation through a closed cervix
- The recipient is scanned for pregnancy 7 days later

### How can I optimise my chances of success during an embryo transfer program?

#### Factors associated with the mare

- fertility- choose a mare with good fertility, and healthy ovaries and uterus
- age- older mares are less likely to give embryos, and have poorer quality eggs
- management- mares in heavy work are less likely to give embryos
- nutrition- mares should be on a rising plane of nutrition
- stress – decrease stress wherever possible
- let down period for donor mares- mares in high level competition often need a period of reduced stress before entering an embryo transfer program
- post insemination treatment- this is especially important when using frozen semen
- attention to detail at insemination- spot on timing of insemination, monitoring of development of corpus luteum, and using post insemination treatments where necessary.

#### Factors associated with the stallion

- fertility- good quality semen important
- fresh semen gives better results than frozen
- semen processing- ensure good handling of semen

#### Factors associated with the recipient

- quality- high quality recipients with good fertility important
- age- between 3 and 14- HUGELY IMPORTANT!
- Management- them being on a rising plane of nutrition, and well looked after, easy to catch, examine and handle
- sufficient numbers- wider choice at transfer gives better results

### Factors associated with the Vet performing the AI and ET

- experience of veterinarian- transfer results are dependent on the experience of the vet doing the procedure
- cleanliness and hygiene- very important at transfer, hence preferable to use specially designed facilities

### What should I think about when starting an embryo transfer program with my mare?

Here are a few things that we encourage clients to consider when starting an ET program.

#### Timing

- when would you like the foal to be born
- what is the competition schedule of the mare
- do the chosen recipients line up in terms of cycle timing?

#### Recipients

- worth having 2 per embryo
- good quality recipients are worth their weight in gold!
- They are KEY to a successful, cost effective, ET program

#### Stallion

- Organize all stallion nomination contracts and fees before starting work with the mare
- Frozen semen will be more expensive and time consuming and may give lower embryo recovery rates
- Ensure you know if there are any time periods when the stallion is not available

#### Finishing an ET program

- We recommend that ALL embryo transfer donor mares are scanned a week after their last flush to ensure that they are returning to season (and hence not pregnant.)
- It is the clients responsibility to ensure that this is carried out (at their cost) in the event that the mare isn't stabled at our facilities

#### Can you guarantee to use a particular recipient?

- we will only decide at the moment of transfer which recipient to use
- our highest priority is the survival of the embryo, hence we choose the recipient who is most likely to maintain the pregnancy

#### I would like to go ahead- where do I go from here?

- First book your mare in with our Office. They will take down both your and her details, and put it onto our system. If you have any questions, you will also be able to speak to a vet. They will send you the 'Mare Booking Form' to be filled in, along with an invoice for the deposit.
- Swabs and bloods then need to be carried out to ensure that she is clear from infectious disease. Call the office to book a visit, and the samples can be taken (ideally not on a Friday due to laboratory working hours)
- Once the blood and swab results come back negative, the next step is to organize a scan to see where she is in her cycle

All of the same information, steps, and procedures apply as for Artificial Insemination, so worthwhile reading our leaflet on AI to increase your knowledge.

#### Are there any risks associated with embryo transfer?

The only risks are involved in the rectal examination (scan) that is done to monitor when the mare needs to be inseminated. It is a small risk- the majority of scans are performed with no complications, and our vets are highly experienced in the field. In order to reduce the risks, we ask that there is always someone competent and attentive holding the mare, and ideally in a

crush or set of stocks. Occasionally we will sedate the mare for her safety and our own.

### Occasional Difficulties

These are a few scenarios that arise occasionally.

The embryo flushed was considered small for gestational age. Is this a problem?

- **Yes and no!**
- **Yes- if an embryo is growing slowly, it can indicate a problem with the development, and therefore a higher likelihood that the pregnancy will not be maintained.**
- **No- if the smaller embryo does go on to get pregnant, further effects are rare**
- **No-it is possible that a second follicle ovulated at a later date, hence giving a small embryo**

A mare repeatedly fails to give embryos despite apparently normal cycles, and very fertile semen

- This is a symptom of blocked oviducts.

Twin embryos are flushed when only one was expected

- **Excellent! Twice the chance for success!**
- **For this reason we routinely synchronise two recipients for every follicle**
- **If both embryos get pregnant, but only one pregnancy is wanted, it is possible to squash one of the pregnancies.**

A client's recipient is inappropriate for transfer

- **Very occasionally before transfer some aspect of the check of a recipient may mean it is unviable to use her (e.g free fluid in the uterus, poor uterine tone at transfer)**
- **For this reason we routinely synchronise an Equibreed recipient alongside that of the client.**

*Here at Equibreed UK our embryo transfer vets have many years of experience transferring embryos, specializing specifically in this field.*