



Fact Sheet 01

ADVANCED CATTLE BREEDING TECHNOLOGY



Recipient management for embryo transfer (ET)

The success of any embryo transfer programme is based on good stockmanship and attention to detail with respect to general management and the treatment programme. Our experience highlights the following areas which need special attention when preparing recipients.

Recipient Selection

- As a general rule maiden heifers are preferred as recipients, as they average 5-10% better pregnancy rates when compared to cows; however in some situations this may be countered by the improved calving ease of cows.
- Maiden heifers (depending on their breed) should be at least 15 months old, cycling regularly and weigh a minimum of 350kg at the time of transfer. They must only be selected if there is a reasonable expectation of a natural calving.
- When transferring embryos from larger beef breeds or embryos sired by a bull with a poor index for calving ease, cows are preferable.



- When using cows as recipients, younger animals (4th calvers or less), which have no history of reproductive or health problems, should be selected. Lactation stresses will reduce pregnancy rates and cows should therefore be allowed to pass peak yield before being synchronised.

Pre Programme Management

If possible, once selected, recipients should be segregated as a group and managed as such.

- Major changes in routine management e.g. spring turn-out, autumn housing or other changes in diet should be avoided in the period 6 weeks prior to and 6 weeks after transfer.
- Routine treatments such as vaccinations, worming, fly repellent etc should be completed prior to the start of an ET programme.

Purchased Recipients

Care should be taken when buying in recipients, they will often have an unknown nutritional or reproductive history. Importantly, their disease status may be unknown and hence they may pose a biosecurity risk.

- Purchased recipients should be given at least 6 weeks to settle on a new farm.
- It is wise to discuss and agree protocols for introducing new animals with your veterinary surgeon. This could include isolation and vaccination, as diseases such as leptospirosis, neosporosis, Johnes or BVD can have a devastating effect on an ET programme. Similarly the mineral status of bought in animals must be considered.

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Diet and Body Condition

Recipients should be in good health and moderate condition score at transfer (condition score 2.5). Results are depressed when recipients are either too fat or too thin.

- A long fibre based diet should be used if possible. Hay, big bale silage or straw are ideal.
- A low protein coarse mix as a concentrate supplement is preferable (straight cereals such as barley are not ideal). Sugar beet pulp is also useful if an energy or fibre source is needed. Both can also be used as mineral carriers. The aim of the diet is to achieve a moderately rising plane of nutrition.
- If recipients are at grass, lush wet pasture should be avoided and they should be buffer fed if possible. In our experience recipients managed indoors give 5-10% better pregnancy rates than those managed at grass.



- In management situations where supplementation has been recommended, feeding powdered mineral at a set rate may be difficult i.e. at grass or with large housed groups, so recipients can be bolused, and then supplemented with free access mineral (e.g. molassed mineral buckets).

Heat Detection

- Heat detection and recording is imperative for the success of any embryo transfer programme. Recipients should be clearly identifiable with a large ear tag or freeze brand. The time of onset of each standing heat should be recorded.
- To observe heats accurately, at least 3 observation periods of 20-30 minutes are advisable. Cattle showing riding behaviour, marked flanks, sliming or other signs of heat should be watched carefully until they are seen to stand to be mounted.



Mineral and Trace Elements

As with the donor animals, adequate supplementation of trace elements and minerals is important for fertility. On farms where there is a known deficiency your veterinary surgeon should be consulted, but in general some form of supplementation should be instigated for ET programmes.

Several trace elements have a major role in reproductive processes including copper, selenium, iodine, manganese, phosphorus and zinc and these in particular should be considered for supplementation, as the effects of any deficiency or excess of trace elements are exaggerated in ET programmes. If supplementation is required, it should be started at least 6 weeks before the planned transfer date.



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