

RECIPIENT COWS – EMBRYO TRANSFER GUIDE

Your success starts with the right animal, the right management, and the right team.

The Importance of Recipient Cows

The success of any embryo transfer (ET) program is highly dependent on the selection and preparation of recipient cows. A cow that might successfully conceive via AI or natural service may still fail to retain an embryo if not managed carefully and correctly prepared.

RECIPIENT SELECTION

1. R2 Maiden Dairy Heifers

- **Good hold rates**, but increased calving risk.
- Must be **well-grown and cycling**.
- **Not to be considered under 15 months** of age.
- Use appropriate weight-for-age guidelines.
- **Autumn-born heifers** are a suitable option for spring ET programs.

	% Mature	Jersey	J8F8	Friesian
Mature Weight	100%	410	482	524
12mo	50%	205	241	262
LWG 12-15mo	kg / day	0.46	0.54	0.58
15mo	60%	246	289	314

2. R2 Beef or Beef/Dairy Cross Heifers

- Must weigh **300+ kg** at the time of ET.
- Reliable option with good hold rates.

3. Carry-over (Non-Lactating) Cows

- Good option if well-planned.
- **Reason for Carry-Over Status:** Understand *why* the cow was not bred or didn't conceive last cycle.
- Must be screened to **exclude permanently infertile cows**.
- Focus on **younger, structurally sound animals**.
- Match cow to embryo breed – e.g., **larger-framed cows** for Friesian embryos.



4. In-Milk (Lactating) Cows – *Most commonly used option*

- **Less consistent results**, requiring strict management.
- IVF embryos are more sensitive to stress and quality issues, and lactating cows tend to have lower fertility due to metabolic demands.



Selection Guidelines:

- Not excessively high-producing cows, as high production may reduce conception rates.
- Dry or low-producing cows often make better recipients.
- **Minimum 8 weeks calved** before ET.
- Must be **cycling regularly** or have shown at least one pre-mating heat.
 - *Do not use non-oestrus cows in CIDR programs.*
- Must be **free of reproductive or health issues**:
 - History of **mastitis** or inflammatory disease?
 - Has **metrichecking** confirmed she's clean?
 - Does she have a track record of getting in-calf?
- Physically suitable for embryo breed.
- **Good temperament** essential – nervous cows reduce ET success.
- Cows that have previously retained embryos often have **higher success rates**.
- Target **BCS: 2.75–3.5** on a 5-point scale (neither too thin nor over-conditioned).
- Poor BCS can negatively affect conception and pregnancy maintenance.

EXPECTED HOLD RATES @ 65days

Embryo Type	Recipient Type	Hold Rate
Frozen IVF Embryos	Lactating cows	30–50%
Fresh & Frozen MOET Embryos	All types	50–80%

RECIPIENT COW PREPARATION

Nutrition

- Must be in **Positive Energy Balance**.
 - Cows losing weight have higher blood urea nitrogen, negatively affecting embryo survival.
- **High-energy diets** (e.g., maize silage) are useful, especially when pasture is high in water/protein.
- Ensure **trace elements** (at least 6 weeks pre-ET):
 - **Copper**
 - **Selenium**
 - **Cobalt (Vitamin B12)**

Disease Control

- **BVD:** Most significant disease risk – reduces hold rates and may infect embryos.
 - Recommend **testing, vaccination, and isolation** unless full-farm protection is confirmed.
 - **Leptospirosis: Vaccination essential.**
 - Control **parasitism** for overall health.
 - Manage **Johne's** and **Neospora** risk.
 - **Lameness:** Affected cows should **not be used**.
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PROGRAMMING RECIPIENTS

Synchronisation is essential to ensure the recipient's reproductive tract matches the embryo's development stage (7 days old at ET). The recipient must be **Day 6–9 post-heat**, with **Days 7–8 ideal**.

Cycle Management Methods

Method	Advantages	Disadvantages
Natural Heats	Low cost	Unpredictable timing; limited control
PG (Prostaglandin)	Inexpensive and simple to administer	~40% response without pre-recorded heats
CIDR Programs	Most accurate; allows pre-selection	Higher cost; more labour-intensive

CIDR Program Outline:

- **Day 0** – Insert CIDR + GnRH
 - **Day 7** – Remove CIDR + PG injection (e.g., Ovuprost, Cyclase)
 - **Day 8–10** – Record heats
 - **Day 16** – ET (ideal recipients: Day 7–8 post-heat)
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Identification & Records

ID Requirements

- Cows must have **clear visual identification** (Herd Tag + Lifetime ID).
- ET must be recorded with **accurate day of heat**.
- We require someone on-site to confirm cow IDs at ET.
- **Participant Code** must be recorded accurately.

Note: Many EIDs are not linked to Lifetime IDs, so **rely on visual tags** at time of ET.

Data Entry

- **MINDA or MyHerd** entry should be handled by the farmer.
Ensures accurate linkage of embryo to calf and early detection of any issues.
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Facilities Required - ET is best performed where AI is done.

Ensure:

- **Well-restrained animals**
- **Good footing**
- **Clear technician access**
- **Covered area preferred**
- **Power available** (in some cases)

Efficient set-up = More ETs per hour (15–20/hr)

Please inform us **in advance** if special equipment (e.g., shed caddy, pit platform) is needed.

Booking Process

When RSG staff contacts you, we'll need:

- **Property Address** (Rapid No., Supply No., directions)
- **Planned ET date or mating start**
- **Number of cows/embryos**
- **Best contact person & method** (text, mobile, email)
- **Facility details** – milking shed type, available times

Pregnancy Scanning

- **Non-return rate** (~14 days post-ET) is first sign.
 - **Early pregnancy diagnosis:** ~28 days post-ET.
 - **Sex scanning:** ~58 days post-ET.
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Calving Management

- IVF can result in **larger calves** (depending on protocol).
- **Initiation** may be required for high-risk pregnancies.

Recommended Protocol:

- **Dex 0.2** (2mg/ml Dexamethasone)
Dose: **12ml (24mg)** IM, up to **10 days before due date**.
 - Calving usually starts **36–48 hrs later**.
 - If not calved in 4 days, **repeat the dose**.
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Contact Us

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