

AI PROGRAM FOR CATTLE

Artificial Insemination (AI) involves manually placing semen directly into the reproductive tract of a female. It's a method which enables producers to inseminate a large number of females to a sire that has been selected and proven to be an industry leader for economically relevant traits. Through AI, there can be rapid genetic improvement in a herd. Tightening the calving window and increasing the number of early calves can achieve significant improvement in reproductive performance and financial long-term gain.

There are several benefits from the use of artificial insemination in your beef or dairy herd.

- **Reduces your calving window ("Front loading" the calving window).** FTAI programs allow heifers/cows to calve early in the calving window.
 - Early calves have better weight gains from birth which converts to a better \$/head at sale OR a heavier, more mature, and potentially more fertile heifer to use as a replacement to your breeding herd.
 - Early calving cows/heifers will have a longer time to return to oestrous before next joining/AI therefore a better chance of conceiving a calf every 12 months.
- **Better use of Existing Bulls.** When using natural breeding, a bull can only serve a certain number of cows per season. By combining AI with natural mating, you can make more efficient use of existing bulls (i.e. reduces the number of bulls required to cover a herd) and reduces the need to spend money on buying more bulls each season.
- **Increased Genetic Selection.** Artificial insemination allows you to select only the best males for sires and allow for more intensive selection of desired genetics. By using AI, the use of a particular bull in your herd can also be much more widespread.
- **Easier Management.** Dealing with bulls in small herds can be a problem due to fighting and difficulties in confining them to your property. Stronger housing and handling equipment may also be required for certain bulls which increases property management costs.

Artificial Insemination also has some important considerations for required labour, initial financial investment and expected outcomes.

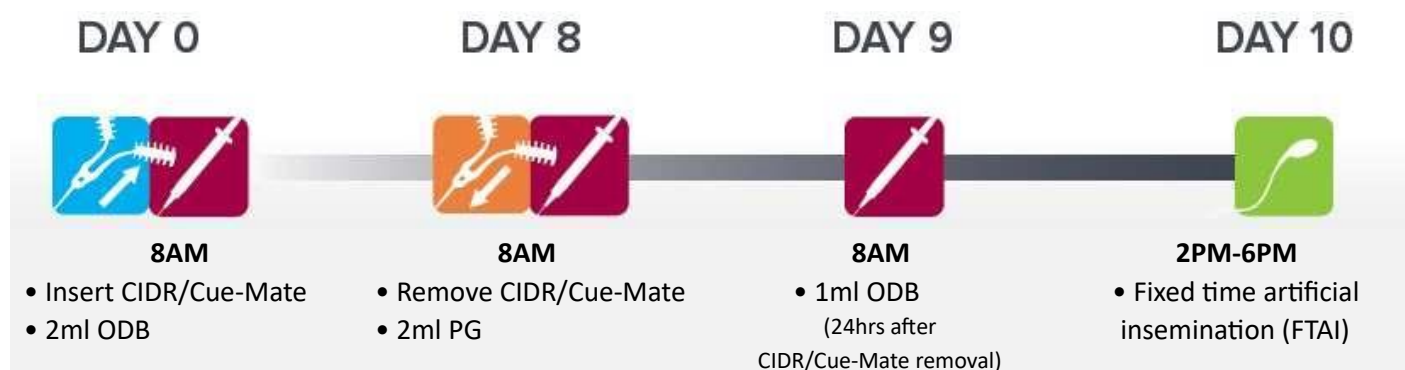
- **Labour Intensive** – You must be prepared to invest more time and labour into handling females at the time of AI. It is imperative that you have the people required to assist, and the time to do it properly. Attention to detail is paramount.
- **Cost** – AI has initial financial costs (drugs, veterinary costs and costs of straws) that must be considered. While AI appears to be 'more expensive' than natural service, you must consider the long term genetic and financial outcomes for your herd as opposed to just buying bulls to cover your existing herd.
- **Conception rates** – AI conception rates are often lower when compared to natural service. There is room for error in every step of AI – poor selection of females, errors with drug administration, poor quality straws, incorrect straw transportation and handling, and technician skill. These can cumulate in lower conception rates than expected. **It's important to note that the industry standard average conception rate following 1 x round of FTAI is ~50%.**

FIXED TIME ARTIFICIAL INSEMINATION

Fixed time artificial insemination (FTAI) is the method primarily used at SECVets. It involves the synchronisation of oestrous in a group of females. This means that their oestrous cycles are manipulated to cause them to exhibit standing oestrous around the same time enabling mass insemination. It involves the use of the same hormones that females normally release during their oestrous cycle, and these are given to the cows or heifers through a set of injections and intrauterine implants. Overall, it is one of the most effective ways producers can reduce long-term

costs of poor reproductive performance, simplify their breeding programs and maximise the genetic advancement of their herd.

Below is an example of how a FTAI program works in beef cows, to give you an idea of what is required of you as a producer. This may change pending cow/heifer/breed. In most cases, only two veterinary visits are required – pregnancy testing prior to commencement of the program, and on the day of insemination.



CONSIDERATIONS

EXAMPLE COSTS INVOLVED

Mileage (@ \$2.30/km)

Artificial Insemination (@ \$350/hour including equipment + disposables)

Drugs (ODB/Cipionate, PG, Cue-Mate) cost varies from \$50-\$80 per head (pending number of cows).

** Please note, the above costs listed are for 6hd to 20hd and are to be used as an estimate only.*

** This does not include any earlier veterinary visits and relies on the client to give all injections and place CIDRs into cows.*

** Costs are an approximation as of July 2024 and are subject to change.*

The above program is based on FTAI. By using this program, our costs through property visits will be reduced, calving period shortened, and it will allow the heifers a longer period to grow out before the next season. Ideally, if all the drugs and implants can be administered on farm by the client, there will only be two veterinary visits to the property – to initially pregnancy test and to inseminate the cows. If assistance is required to implant CIDRs and given injections, then further costs will apply. The only other time there are extra visits to consider are when heifers cycle early (e.g. day 9 instead of 10) and they require insemination at the time.

THINGS TO KEEP IN MIND:

There are several important things to consider with FTAI.

- **Semen & Selection** - We rely on you sourcing and transporting the semen to your property so you can then decide what genetics you want for your herd and how much you are willing to spend. Straws can be sourced from Rocky Repro or other local suppliers that they may be able to put you in touch with. If inseminating heifers, is the semen from a 'heifer bull' that throws reasonable sized calves? Ensure you have strongly considered the genetic merits of the chosen sires including physical, behavioural and carcase qualities.
****Disease can still be transmitted by frozen semen or by AI. It is important to source semen that has been processed through an accredited lab and from bulls tested free of disease.**
- **Straws** - Once you have purchased your semen, please advise what size straws you have (1/4 or 1/2 ml) to ensure we have the correct gun available.
- **Facilities** - Good quality, covered and safe veterinary crush with a kick gate is **REQUIRED** to ensure the safety of all staff and professionals present. Good facilities also allow for animals to be appropriately restrained for faster and more accurate AI.
 - **Shade** is a requirement for appropriate handling of semen as it is very light-sensitive

- **Female Selection** is extremely important. It is recommended to use females that are proven breeders with good maternal traits that have calved out a minimum of 6 weeks prior. Body condition score should be 3-4 and they should be on a rising plain of nutrition. Calm temperament is important as it is very difficult to AI fractious animals.
 - Heifers should be a minimum of 70% mature cow weight for their breed.
 - Cows that have not calved recently or are in the “cull cow” mob and are not proven breeders should not be used as their fertility and ability to raise a calf could be compromised.
- **Cattle Handling** - Can you handle the cattle as many times as is required? Will you be available for the 10-day period and have adequate assistance available to ensure things run smooth?
- **Vaccinations/Parasite Control** - Are the animals vaccinated up to date (7in1, Pestigard, BEF)? If not, these should be done at least 8 weeks prior to AI. Have they been treated for ticks/buffalo fly/worms as required to avoid unnecessary stress on both cattle and operators?
- **Health Status / Nutrition** - Are they in a good, forward moving nutritional state? Good nutrition, including ensuring all their macro/micronutrient needs are met, is **essential** in the lead up to and after any AI program. Weighing your females leading up to, on day 0 and during an AI program can be a good way to ensure they are continually in a forward nutritional state. The use of a vit/min injectable supplement is often recommended no less than 7 days and up to 8 weeks pre-AI date to improve fertility status.
- **Follow Up** – Do not expect all cows to fall pregnant after AI. To mop up all cows that fail to conceive, you can use a bull, AI on natural heat or repeat the fixed time program. Straw purchase and canister hire may have to be taken into consideration if wanting to repeat AI.
 - The use of ultrasound by a skilled vet at 11 weeks post AI will allow more accurate foetal aging to determine which cows have conceived to AI or to mop up natural service at the next cycle. This may assist with management decisions closer to calving.
- **AI Day** - The insemination day must fall on a weekday to allow for any unforeseen circumstances

We look forward to helping you progress your herd in a cost effective, timely and professional manner. Starting an AI program is an exciting time for any producer, and we endeavour to ensure that you get as much as possible out of this. Should you have any questions regarding the above plan, please do not hesitate to contact the clinic at any time.