

What to do after AI?

By Dr Sophia Edwards

One of the most common technical questions the Repro360 team receives is how should producers manage their herd after they have completed an AI program. For this article, we thought we would provide you with some common options that are often used in typical beef herds. As with any decision to engage in assisted reproduction, the choice usually comes down to your breeding objectives and the resources you have at hand:

Option 1: Place the bulls with the herd

In most circumstances, many beef producers place 'mop-up' bulls with their herd after they conduct an AI program. The benefits of this option are: simplicity of management, and cost effectiveness. This option generally means that the greatest number of pregnancies are conceived in the first two cycles of the breeding program.

There are some tips that need to be followed to ensure the best outcome of this strategy. Repro 360 has helped many farmers that have had an excellent result to their AI, yet a less than expected conception rate to the return cycle with the 'mop-up' bulls. This situation usually comes down to one of the following tips not being adhered to. Remember, females that return to heat after FTAI will return in a synchronous manner, thereby increasing the workload for the 'mop-up' bulls.

- Ensure the bulls have passed a VBBSE (BULLCHECK®) including sperm morphology analysis by an accredited veterinarian.
- It is recommended that 2 bulls per 100 females are used. Too many bulls instigates fighting, too few, are insufficient to cover the females that will return in a synchronous manner.
- Make sure the bulls have had previous sexual experience. Naïve bulls are unable to navigate the females returning to heat in a synchronous manner.
- Place bulls with the females 10 to 14 days after FTAI to enable socialisation prior to mating with return females. An early pregnancy diagnosis (before 10 weeks after AI) by an ACV accredited veterinarian will be able to determine which females were pregnant to FTAI or 'mop-up' bulls. DNA of calves at birth is also an accurate way to determine which calves are sired by AI.

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Option 2: Watch for return heats

This option is relevant for those that are interested in having more AI calves, however, it is only recommended when there is sufficient personnel available to perform adequate heat detection during the return period. Any heat detection should be done at least twice daily, best at daylight and dusk for a minimum of 45 minutes. Heats should be closely watched between 18 and 24 days after FTAI. It is recommended a heat detection aid is applied around Day 16 to 17 after AI to assist in heat detection accuracy. Females should be inseminated 12 to 16 hours after first onset of heat (observed standing).

Option 3: Resynchronise and heat detect

This option allows for a more synchronous return than pure heat detection. Unfortunately, there has been little studies to suggest that this option generates better results than heat detection alone. Usually a Cue-Mate® device is inserted in the females around 12 to 14 days after AI, with an injection of a half-dose of oestradiol benzoate (ODB; 1 mg). Eight days later the device is removed, and heat detection aids are applied. Usually non-pregnant females will come into heat 2 to 5 days later. However, just because females do not return to heat, it does not mean they are pregnant. As this option does not allow for the administration of Prostaglandin F2 α (PG), some females may not return, as treatment with PG removes the female's source of progesterone, allowing her to come into heat. It is important to note that PG will cause abortion in early pregnancies, and so cannot be given in these programs.

Option 4: Resynchronise and FTAI

An alternative to resynchronisation, which is growing in popularity, is the option to perform a second round of FTAI. This option is for those that are very interested in getting more AI calves, and have the internal resources and ability to implement a detailed technical program.

This option involves the re-insertion of a Cue-Mate® device 20 to 22 days after the first FTAI with a half dose of ODB (1 mg). At device removal (8 days later), a pregnancy diagnosis can be performed using ultrasound, by an experienced veterinarian. Any females that conceived to the first FTAI will have a 28 to 30 day foetus present. It is not recommended that this option is implemented if an experienced technician is not available. This is important as any females that are not diagnosed pregnant are then treated with PG and can continue in a typical FTAI program. Of course, if a pregnant female is treated with PG at this point in time, it could risk aborting the AI pregnancy from the first round.

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Although this program requires a high level of attention to detail, it has been successfully implemented in many beef and dairy operations. Generally, a similar conception rate is achieved on the second FTAI, to the first, with the total pregnancies over the two cycles being comparative to 'mop-up' bulls as described in Option 1.

An example of the resynchronisation protocol using FTAI is below. It is highly recommended that your reproduction professional is consulted before engaging in this program.

Day <i>(NOTE: days after first FTAI)</i>	Activity	Time	Notes
20*	Insert Cue-Mate® Inject 1 mg ODB	Any time	
28	Remove Cue-Mate® Pregnancy diagnosis by ultrasound If Pregnant: <u>no further treatments</u> If Empty: Inject eCG Inject PG	8 am	<i>Must have a competent U/S technician. If in doubt, better to diagnose as pregnant.</i>
29	Inject 1 mg ODB	8 am	
30	FTAI	2 to 6 pm	54 hours after Cue-Mate® removal

If you would like to discuss more about "What to do after AI" in your herd, don't hesitate to contact the Repro360 hotline on 1300 163 056 or email 360australiaexpert@vetoquinol.com

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