Fiji DAIRYNOTE 4.2 – Breeding and Reproduction: Artificial Insemination

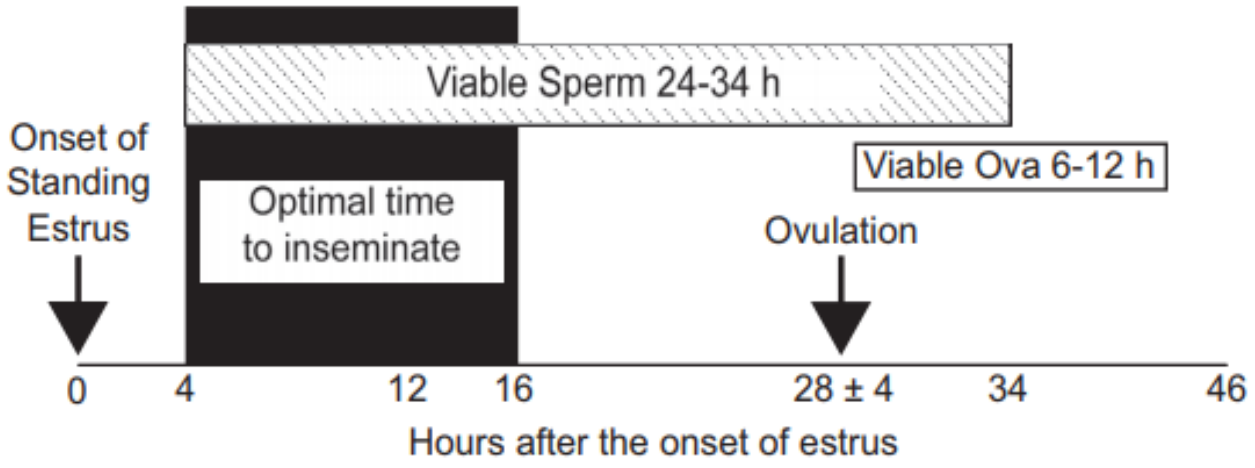
Good Practice Guide for Fiji Dairy Farmers

Why use Artificial Insemination (AI)?

Artificial Insemination (AI) has many benefits: it provides a rapid gain in genetics, means fewer bulls are needed on a farm (none if AI is used for all animals) and means cows calve when you want them to. Over time, this leads to higher milk production and profit. This is because AI allows more heifers to enter and improve herds (especially when sexed semen is used) and surplus stock can be sold to other dairy farmers.

When is the best time to inseminate?

The best time to inseminate a cow is when she is 'on heat', also referred to as 'oestrus' (see diagram below). This is because ovulation occurs 25 to 30 hours after the onset of standing heat (i.e. when a cow stands to be ridden by her herd mates or a bull). Best results are achieved 10-16 hours after standing heat is observed. However, a single, mid-morning insemination of cows that have been observed to be on heat the same morning or the previous evening should provide acceptable conception rates. Research indicates that if cows are inseminated between 10 and 16 hours after the onset of heat there is little difference in conception rates.



Heat detection

As outlined above, detecting cows on heat is extremely important when using AI. A bull naturally detects oestrus, but people need to be. If you identify an animal on heat, record its animal number and the date on a document (always ensure that animal tags are clean so that numbers are recorded correctly). Recording when your animals are due to be on heat is important, because if you miss it, you lose 21 days of production (due to late calving).

It is important to record all heat and insemination dates, as well as expected and actual calving dates.

FDIDI would like to acknowledge New Zealand company QCONZ and consultant Mel Eden for supplying some of the information and images contained in the DairyNote series.

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Preparing for AI

To prepare for AI, pregnancy test cows 2 ½ to 3 months after cows have calved, because AI semen is wasted if used on pregnant cows. When your cows are ready, remove any bulls from your farm. It is important to keep bulls away from cows on heat. Alternatively, rather than wait to confirm pregnancy, cows can also be mated on observed heat or synchronised.

Remember, do not mate your cows too soon after calving; 42 days is the minimum rest they need post-calving. Also ensure that your cows are dried off at least 60 days before they are due to calve.

Synchronisation

Synchronisation is where drugs are used to cause cows to come on heat within a set timeframe. It allows batches of cows to be inseminated at the same time.

Consider using synchronisation:

- when you want a set number of calvings per year
- where heat detection might be an issue (changing or inexperienced staff); and/or
- you want easier rearing and management of calves of a similar age.

Training staff

Teach your milking and stock handling staff what they need to observe in the paddock, during milking and on the raceway. Make sure they know how and where to record their observations. Allocate one person in particular to do heat detection checks in the paddock between milkings.

If using heat detection aids such as tail paint or kamars, get your staff to check them every milking and record the results against the number on your animal's ear tag.

Answer the following questions for your farm and document them so everyone knows what to do.

- Who is responsible for checking cows for heat in the paddock between milkings?
- Who else needs to know about cows on heat?
- Where is information to be recorded?
- Who phones the AI technician?
- What happens to the cows while they are waiting for the technician?
- What happens to them after the mating has happened?

All standing heats need to be recorded – this should a team effort. If you miss a heat, you'll lose 21 days of production due to late calving.

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