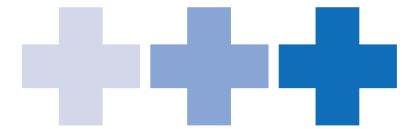




FERTILITY - TECHNICAL PRINCIPLES & PRACTICES

In Year Round Herds



What are some key options to make more profit per cow through improving fertility?

To achieve an increase in Dairy Operating Profit (or EBIT) of \$100 per cow per year means making around 30 cents more profit per cow per day. One option:

- For a 200 cow herd in northern Australia, improving a 100 day in calf rate from 51% to 58% will increase Dairy Operating Profit by around \$100 per cow per year.

Characteristics of sub-optimal reproductive performance:

- Longer average days in milk (average > 180 – often 200 plus).
- Insufficient heifer replacements because not enough cows get in calf promptly.
- High bulk milk cell count due to a reduced ability to cull high cell count cows.
- Over-conditioned dry cows – as late-conceiving cows typically spend a lot more time dry. This can result in excessive weight loss after calving which can reduce submission and conception rates.

Benefits from improving herd fertility:

- Higher average daily milk production due to fewer low-producing, late-lactation cows.
- Fewer cows:
 - becoming excessively fat due to long lactations
 - with long dry periods
 - sold as low-producers
- Slightly reduced semen costs.
- Opportunity to do more performance culling, increase herd size, or maintain current herd size with fewer heifer replacements.

Assessing herd reproductive performance - key measures

100 DAY In-calf rate

% cows pregnant 100 days after calving

200 DAY Not-in-calf rate

% cows not pregnant 200 days after calving

These measures show the success or otherwise of the mating program but are not available until several months after mating.

Drivers of overall herd reproductive performance:

1. 80-day submission rate (= % of cows that received at least one insemination or mating by 80 days after calving) and
2. Conception rate (= % of inseminations that resulted in a positive pregnancy test).

These are measures of events that lead to pregnancy and can be calculated within a few weeks of mating. They can provide earlier warning of problems than whole herd pregnancy results.



FERTILITY - TECHNICAL PRINCIPLES & PRACTICES

In Year Round Herds



Steps for planning for improved herd fertility are:

1. Assess your current herd reproductive performance - What is the performance of the herd and groups of cows at each stage of the reproductive cycle?
2. Identify problem management areas and quantify the level of improvement that could be achieved in your herd.
3. Rank and select options for change - consider benefit and estimated cost of each option, and which are most feasible and economical.
4. Develop and refine your reproductive management plan and integrate with whole farm management:
 - What and how will I change?
 - How will I resource this?
 - What additional staff training is required?
 - What targets will I set?
 - What does success look like?
 - What will I need to record to assess ongoing performance?

Key herd management areas that affect herd fertility are:

- Calf and heifer management
- Cow body condition and nutrition
- Heat detection
- Sire selection and AI
- Bull management
- Cow health
- Voluntary Waiting Period
- Calving pattern (seasonal/split calving herds)

A gain of 1–2% in many of these management areas may not seem like much, but the cumulative effects can make a big difference to your herd fertility and your bottom line.

Consistent improvements of **1–2% per year** can accelerate gains after a few years. A gain of 1–2% in many of these management areas may not seem like much, but the cumulative effects can make a big difference to your herd fertility and your bottom line.

Consistent improvements of 1–2% per year can accelerate gains after a few years.

In a year-round calving herd, it is easy to lose track of the length of time between when cows calve and when they should be first mated, and how many times they have been mated this lactation. A long gap between calving and when the cow is first mated is common. This will reduce reproductive performance.

- You need to select an appropriate **Voluntary Waiting Period (VWP)** for your herd (the VWP is the number of days after calving that a cow will not be mated. Cows that are seen on heat during this period are not inseminated. The idea is to begin inseminations just at the right time – not too soon or too long after calving).

For the majority of herds, a VWP between 30-60 days is ideal. When choosing a VWP for your herd, you should consider herd heat detection or conception rates and lactation persistence of your herd and individual cows if you want to manage specific cows to have an extended lactation.

- It is important to regularly measure mating progress using good records, and specifically target groups of cows that are not on track to calve again in 12 months as well as make a conscious decision on how long to continue mating cows that are difficult to get in calf.



FERTILITY - TECHNICAL PRINCIPLES & PRACTICES

In Year Round Herds



Pregnancy Testing

Preg testing provides the most important 'result' data that you can record.

Knowing which cows are pregnant and when they conceived underpins many decisions. Pregnancy testing with foetal aging allows you to determine cow conception dates which provides the:

- identity of sires – improving capacity to manage the genetics of your herd
- accurate estimation of calving dates allowing:
- timelier dry-off, and
- transition period management of individual cows
- confidence in identifying non-pregnant cows – for rebreeding or culling
- ability to accurately assess the reproductive performance of the herd
- accurate calving and milk production forecasts – allowing better feed budgeting.

Complete herd data

– consisting of birth dates, calving dates, mating dates and pregnancy test results are invaluable.

With these data you can:

- calculate the repro. performance of your herd or of groups within the herd such as heifers
- see more clearly the effectiveness of parts of repro. management on performance
- examine the impact of heat detection, AI, calving pattern etc. on overall herd performance.

Reproductive Management Plans

Every farm is different and will require its own Reproductive Management Plan which revolves around the fertility cycle and aims to optimise herd reproductive performance by getting sufficient cows pregnant and at the right time for your farm.



Good genetics only give cows an opportunity to perform better than their parents. How well they actually perform will depend on how you manage them, right from the day they're born!

Don't be too quick to blame genetics – they're probably not the biggest problem.

Further Information & Support

- *The InCalf Book*
- *InCalf Fertility Focus Report and Herd Assessment tools*
- *InCalf trained advisers in your region (veterinarians, nutritionists, herd improvement centre and semen reseller field staff etc.)*