

Poor Reproductive Performance in New Zealand Dairy Herds

Good reproductive performance is a key driver of on-farm profitability. For every 1% improvement a herd can make in their six week in-calf rate (6WICR), a farmer can expect at least a \$4/cow increase in operating profit. Additional to this they can also expect to gain an average profit of \$10/cow for every 1% decrease in empty rate.

The NZ industry target is to achieve a 78% pregnancy rate within the first six weeks of mating. Currently the average herd is achieving a 66% 6WICR, so there is a lot of room for improvement. NZ cows face a big challenge compared to most overseas cows in that they are expected to calve again within 12 months of the previous year to retain a compact calving period to match NZ's pasture growth pattern.



WHAT CAN CAUSE A POOR RESULT?

There have been eight key areas identified which have a combined influence on a herds fertility. These are:

- Calving spread
- Nutritional status and body condition
- Heifer rearing
- Non-cyclers and heat detection
- Genetics and artificial breeding
- Cow health
- Bull management

CALVING SPREAD

A mature cow takes an average of 45 days to resume cycling after calving. The sooner she calves after the Planned Start of Calving (PSC), the more likely she will cycle on her own before the Planned Start of Mating (PSM). Also the more cycles she has before mating begins the higher her conception rate when mated will be. Too many late calving cows reduce herd fertility.

NUTRITIONAL STATUS AND BODY CONDITION

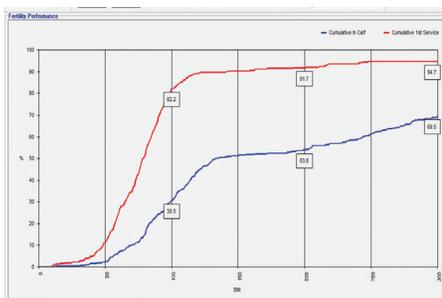
A good measure of a cow's nutritional status is her body condition or the change in body condition over a period of time. A 1-10 Body Condition Scoring (BCS) System is used in New Zealand. The optimal targets for reproductive performance are:

- BCS at calving for a mature cow is 5.0-5.5. With not more than 15% of cows above or below these figures
- The target for heifers is 5.5-6.0.
- Not more than 1 BCS loss post calving.

- Not more than 15% of cows below BCS 4.0 at PSM.
- Maintenance of a positive energy balance through the mating period.

Cows should be body condition scored on a regular basis to ensure these targets are being met.

Trace mineral status is also important as deficiencies may cause anoestrus, increased risk of uterine infection and early embryonic death. Regular herd monitoring via blood test and liver biopsies pre-calving, premating and dry off can identify problems early.



HEIFER REARING

How young stock are reared not only has a big bearing on their lifetime milk production potential but also their ability to get pregnant. The genetic live weight target for a herd or line of animals can easily be sought from your genetics company. Heifers should reach;

- 30% of their mature live weight by 6 months of age.
- 60% by 15 months (first mating of age).
- 90% by 22 months of age.

Your vet can help set up an animal health programme for young stock which will include a regular weighing programme to ensure targets are being met.

NON-CYCLERS AND HEAT DETECTION

To have a good 6WICR target three week submission rates (SR) must be achieved. Non-cyclers and poor heat detection will both influence the SR.

The best way to prevent non-cyclers is to ensure the preceding points have been managed well, but once mating has started early identification and hormonal treatment of these cows will be financially beneficial.

Heat detection aids can be used to help with accurate heat detection. Tail paint, Scratchies and KMARs are the most commonly used methods, but they rely on regular maintenance in conjunction with regular paddock and shed observation for the best results.

GENETICS AND ARTIFICIAL BREEDING

Management practices have the greatest bearing on reproductive performance, but long term strategies include selecting bulls which have higher fertility breeding values which they will pass onto their daughters. At the time of artificial breeding it is important that cows are held in a stress free environment and mated within 0-24 hours of the first signs of standing heat. Good facilities should

be set up to assist the technician to perform a swift and comfortable job.

COW HEALTH

Lameness and mastitis have been shown to have an indirect impact on reproduction. Trace element deficiencies (mentioned above) can also affect conception rates. Uterine infections can be minimised through good nutritional management, but early detection and treatment of any infections present 2-4 weeks post calving markedly increase a cows chances of getting back in calf. The main infectious diseases affecting reproduction are Neospora and BVD. These are complex diseases and should be discussed with your vet.

BULL MANAGEMENT

Most herds do AB for a 4-8 week period, before following up with bulls to catch any cows still not pregnant. Please refer to the bull management fact sheet for more information.



For more information contact your local XLVets practice:

