



# FACT SHEET

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## MANAGING BEEF COWS PRIOR TO AND DURING MATING

The profitability of the beef cow hinges on whether she rears a good calf. This fact sheet sets out some guidelines for successful cow mating.

### SET TARGETS

Two key drivers of cow profitability are:

- calves weaned/cows mated
- kg calf weight weaned/kg dry matter eaten by the cow.

The most profitable herd is one that weans a high number of heavy calves, using the cheapest feed on the farm while conditioning pastures for other stock classes.

The calf weaned/cow mated average for New Zealand beef herds is around 81 per cent (Beef + Lamb New Zealand Economic Service data 2015-16). This means one out of five cows fail to raise a calf. For example, in 100 cows at \$400 per calf weaned, an 81 per cent calf weaned/cow mated rate would generate \$32,000. At 95 per cent, income jumps to \$38,000 – plus there is greater culling power from having more heifer calves to select from.

**TABLE A:** PERFORMANCE FOR BEEF HERDS PER 100 COWS MATED

	Average	Top performance
Cows pregnant %	95	100
Cows live at calving %	89	95
Calves weaned %	81	95

Underpinning these targets are some reproductive management targets:

1. An average calving interval of 365 days (requires a postpartum anoestrus period of 70-80 days).
2. 63-day mating period and 95 per cent cows pregnant.
3. 70 per cent of cows and heifers calve in the first 21 days of calving.
4. A ratio of no less than two bulls per 100 cows over joining when using natural mating.

To achieve these targets there are four key areas that farmers need to focus on:

- Body condition score (BCS) and feeding levels
- Time of mating/calving
- Cow health
- Bull fertility and performance.

## MEETING BODY CONDITION SCORE (BCS) AND FEEDING TARGETS

Cows underfed prior to and during mating will take longer to show oestrus after calving. They take longer to get pregnant and will have a lower pregnancy rate. Poor cow nutrition after calving can depress calf weaning weights by five to 10 percent. A rule of thumb is that cows should be within five per cent of their autumn liveweight at the start of mating.

**TABLE B:** TARGET BCS FOR BEEF COWS

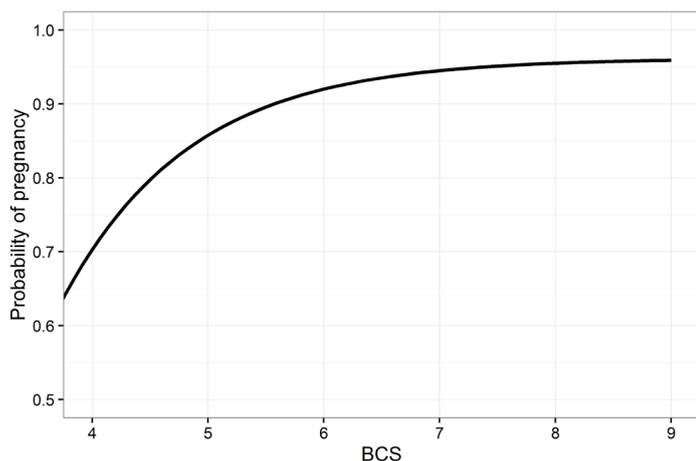
	Weaning	Midwinter	Pre-calving	Mating
Beef Cow	7	5	5	>6
Beef Dairy Cross Cow	4.5+	4.5	5	5.5

Scale: 1=thin, 10 = fat.



Data from the Beef + Lamb New Zealand Genetics Beef Progeny Test provides further clarity on the importance of BCS. The Beef Progeny Test is an ongoing industry project that is being run across five large commercial properties and involves about 2,200 cows and heifers each year. Its goal is to determine how bulls of different types perform under comparable commercial conditions. It aims to put a dollar value on the worth of superior genetics – from both the perspective of breeding cow performance and finishing stock's carcass attributes.

**GRAPH 1:** Probability of pregnancy with increasing cow BCS



This graph shows the relationship between BCS and in-calf rate and highlights the importance of having cows in good condition at mating to maximise pregnancies.

Evidence suggests that for good fertility a cow should eat more than 12 kg of dry matter per day from calving. This ensures a good milk supply for the calf and allows weight gain leading up to mating. A cow is capable of eating 15+ kg of dry matter a day.

**TABLE C:** MINIMUM FEED QUALITY/QUANTITY PER HEAD FOR GOOD FERTILITY

Daily metabolisable energy intake	Kilos of dry matter per head per day	Pre-graze dry matter and height	Post-graze dry matter and height
120	12	2500 kg DM 10-12 cm	1500 kg DM 5-6 cm

Ad-lib feeding should be able to be achieved if the calving date falls within the spring feed flush. In that situation, the cows greatest feed demand falls at a time when she is needed to control spring pasture surplus.

### CALVE AT THE RIGHT TIME

It will be easier and more profitable to meet the target of over 95 calves weaned per 100 cows mated if cows are calved in mid spring rather than late winter. This means that the cow will:

- be consuming surplus feed
- be able to grow a calf at 1 kg per day
- be on a rising plane of nutrition to meet her condition score target for mating
- not be competing for feed with other higher earning stock, such as ewes.

### ANIMAL HEALTH

Cows that have had calving problems, mastitis, footrot or reproductive infections are usually less fertile or completely infertile. Bovine Viral Diarrhoea (BVD) is a significant issue affecting beef cow herd performance. Only buy bulls that are confirmed clear of the virus by blood tests, and vaccinated for BVD.

Test heifers for presence of BVD antigens to see if it is in your herd. Get advice from your vet on vaccinating heifers.

### ONE FARMER'S EXPERIENCE

Farm manager, Tim Rhodes, has put a heifer vaccinating programme in place on the Gisborne farm Otara Station. The cows were first tested for BVD after seeing a high number of 'wet/dry' cows (up to 20 per cent in one case). Calves over six months were also tested. BVD was confirmed and heifers are now given a vaccination (two shots) prior to mating. "We also give the cows a booster each year," explains Tim. "BVD is relatively simple to control but it's a complex issue as the effects are often different for each farm. We saw losses in older cows as the virus comes through in waves and some cows have not been exposed before."

### HAVE A 'CAPABULL'

Bull failure is a significant cause of dry cows. Up to 10 per cent of yearling bulls are either sterile or sub-fertile. Four per cent of proven sires develop serious fertility problems between breeding seasons.

To achieve fertile and fit bulls:

- test bulls for fitness once a year
- palpate scrotum and evaluate penis
- test semen quality following low pregnancy rates
- target a bull BCS 6 to 7 at mating (on a scale of one to 10)
- check bulls twice a week during mating.

The recommended rate is two bulls for every 100 cows. Yearling bulls should be used at a rate of no more than 1 bull per 40 cows. An extra 'followup' bull can be used as an insurance policy. Rotate bulls between herds if single-sire mating. Calving ease and birthweight estimated breeding values should be key bull selection criteria. This helps to maximise the chance of calf survival.

### ACKNOWLEDGEMENTS

With help from Beef + Lamb New Zealand Genetics, this fact sheet is a revision of and replaces R&D Brief 114.

### B+LNZ RESOURCES

 [www.knowledgehub.co.nz](http://www.knowledgehub.co.nz)

Further reading to download:

- Guide to New Zealand Cattle Farming
- Beef Cow Body Condition Scoring resource book
- Nutrition of the beef cow post-weaning fact sheet
- Better Beef Breeding: Bull buying for the commercial beef breeder
- Energy requirements of cattle fact sheet.

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