

# Calving two year old heifers to rebuild herds

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## Introduction

Beef producers in areas with low soil fertility, unimproved pastures or otherwise challenging environments often calve heifers at three years to avoid dystocia, low subsequent joining rates or other problems associated with calving earlier.

## Why calve at 2yo

Large scale events, such as severe drought where large numbers of cows are sold, can lead to high restocking costs or less suitable replacement options.

Calving heifers earlier facilitates a faster return to long term herd numbers and cash flow and so some producers might consider joining heifers at 15 months of age when they would not normally do so. Some factors may support this management change.

Firstly, the fact that breeders have been sold off means that more feed is available for remaining stock. Replacement heifers will need access to the best quality pasture available to ensure that joining and other weight targets are met.

Producers who invested in feeding infrastructure such as self-feeders, troughs, silos / sheds etc during drought can use these to supplement heifers when necessary. While there maybe some unused grain and fodder, the price of supplements generally decline in line with demand.

## Yearling heifers grazing winter oats on the NSW North Coast, in order to reach mating weights at 15 months



Photo Nathan Jennings

Research and history shows that well managed heifers can calve again as three year olds. For producers with decimated cow herds and cash flow, generating an

extra calf from valuable stock represents and important efficiency increase.

### Making it work

The first step is to weigh heifers at weaning to identify those that meet target weights. Heifers weaned at 9mths should be 260kg, well grown, moderately framed and in forward condition (fat score 2-3).

#### Creep feeding can help weaner heifers reach weight and fat score milestones.



Photo Todd Andrews

Lighter heifers require higher growth rates to achieve subsequent target weights (Table 1). Producers must be knowledgeable and realistic about achievable weight gains, even from fodder crops and improved pastures, and monitor their progress. For example, heifers growing at a little above maintenance for several months after weaning are unlikely to reach joining weights on coastal or unimproved pastures regardless of subsequent nutrition.

Heifers should be at least 65% of their likely mature weight at joining. This means that actual weight targets will vary depending on the mature cow weights of the herd. For example, if cows in good condition (Fat score 3) weigh around 520kg, then the heifers should be at least

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340kg at joining (Table 1). Producers should refer to cull cow weights or weigh some cows for an accurate figure!

**Table 1. Target weights for replacement heifers to calve at 2yo. Lighter weaners require higher weight gain to reach subsequent targets.**

milestone	age	Weight Kg	Gain (kg/d)
weaner	9mths	260kg	
	270d		0.3
yearling	12mths	290kg	
	365d		0.6
joining	15mths	340kg	
	450d	(65%)	0.4
calving	24mths	450kg	
	730d	(85%)	
Mature cow	>4yrs	520	

For smaller or larger cows, adjust heifer weights accordingly. Minimum joining weight must be reached by each heifer, rather than an average weight target for the mob.

Joining weights can be achieved by maintaining modest weight gains over winter (0.3kg/d) and moderate gains during spring (0.6kg/d), for a November Joining (Table 1). In areas where dry springs can limit weight gain, heifers should be grazed on winter crops eg rye or oats to provide the growth 'up front'.

Heifers should be around 85% of their mature weight and in fat score three at calving to maximise the number returning

to oestrus. However, if dry conditions prevail, be prepared to feed grain or good quality silage pre- and post- calving and to early wean or creep feed calves as the season dictates.

**First calve heifers can have less milk and so calves can benefit from a supplement to maintain growth.**



**Photo Todd Andrews**

Provided that heifers have reached their required joining weight, producers might consider joining them up to 6 weeks before the rest of the herd. This is because, even when target weights and nutritional requirements are satisfied, heifers can often take longer to return to oestrus compared to cows.

### Supplementary feeding

Research at the Grafton NSW DPI research station has shown that supplementing heifers over winter increases both conception rates and subsequent weaning weights. However, producers need to balance expenses against expected income to make the exercise worthwhile. The **Drought and Supplementary Feed Calculator App** is a useful tool to help producers estimate supplementary feed requirements and costs.

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Where pasture conditions cannot support the required growth rates, heifers can be supplemented with grain or other energy / protein concentrates. The amount required will vary depending the amount and quality of pasture available but 1-2kg/hd/d should suffice in most situations.

Note that the conversion ratio of grain to liveweight gain is approximately 7:1 and so 2kg distillers dried grain or other concentrate per day will result in an additional weight gain of approximately 0.3kg/hd/d.

### Health program

Worm burdens can affect growth rates. While pour-on treatments are convenient, consider oral or dual action drenches for young animals as they are often more effective and help manage resistance. Control other internal and external parasites such as liver fluke and buffalo flies when required.

Finally, young animals on good quality pastures are susceptible to blackleg and pulpy kidney. Vaccinating is a cheap and effective control strategy.

### Bull selection & joining

The bull should be the same breed as the heifers. Crossbreeding results in hybrid vigour which is expressed throughout the animal's life, including higher birth weights. Ideally the bull should have low birthweight or high calving ease EBV's with high accuracy. For more information, search for 'Calving ease EBVs' on the NSW DPI website. This is particularly important for joining F1 heifers at 15 months.

If no genetic information is available then smaller, earlier maturing bulls generally sire smaller calves. Heifer conformation also plays a role in calving ease and heifers with tight, high pin bones should also be avoided (see Primefact 626).

The importance of these characteristics is ultimately determined by how well grown the heifers are, as bigger heifers can have bigger calves.

**Use high calving ease / low birthweight (small, early maturing) bulls of the same breed, to join 15 month heifers.**



**Photo Todd Andrews**

The length of joining period will be determined by individual circumstances. A tighter joining of 6 weeks exerts some selection pressure for fertility and results in a tighter calving period and therefore less monitoring but could also mean fewer heifers in calf.

### **“Exit” options**

As well as monitoring heifer weights, there are other opportunities to reassess the strategy. Around 10 weeks after the bull is removed, heifers can be pregnancy tested and empty heifers removed.

For the next 6 months, the developing foetus will not burden the heifer and so they could be sold for processing during

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this time if required, or PTIC (blue tag) if that market is strong.

For the last 3 months of pregnancy, pregnant heifers need good nutrition to maintain growth and are also susceptible to worms and other burdens. They could be sold as PTIC heifers (red tags) if the local seasonal outlook is poor.

### **Further Reading**

NSWDPI Primefact 626, Selecting and managing beef heifers.

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