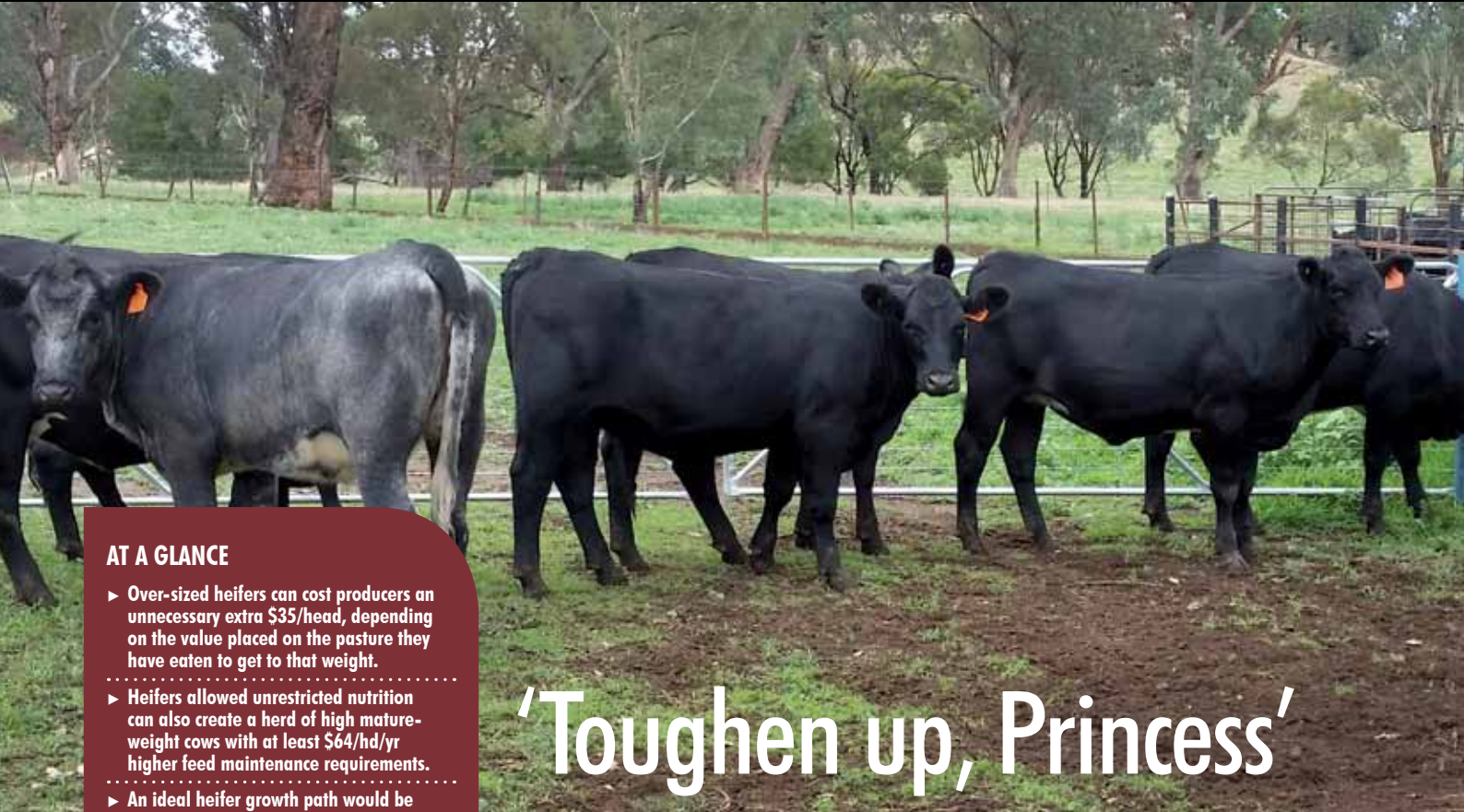


Company name: Coota Park Blue-E
 Property location: Cowra, central-west NSW
 Property size: 1294ha owned and leased
 Enterprises: Commercial and seedstock Angus x Shorthorn beef operation
 Annual rainfall: 620mm
 Soil: Red clay loams with granite outcrops



Lean and mean: The heifers in these two small mobs are of identical genetics and achieved the same joining rates, but the ones in the photo above cost their owner an extra \$35/head to get to this point. Photography Jon Wright



AT A GLANCE

- ▶ Over-sized heifers can cost producers an unnecessary extra \$35/head, depending on the value placed on the pasture they have eaten to get to that weight.
- ▶ Heifers allowed unrestricted nutrition can also create a herd of high mature-weight cows with at least \$64/hd/yr higher feed maintenance requirements.
- ▶ An ideal heifer growth path would be slow from weaning to a month before joining, a fast peak up to and over joining and slow again until calving.
- ▶ Practices to help restrict growth include using paddocks with lower-value pastures boxing females in large mobs, and matching joining and calving times to pasture growth.

'Toughen up, Princess'

Efficient breeder management

An over-sized heifer at joining and calving is not only unnecessary and inefficient, but can create a higher-maintenance, more costly breeding herd in the future.

Pamela Lawson talks to beef producer **Jon Wright** about creating an efficient breeding herd without jeopardising reproductive or genetic performance.



Wean this



-not this



Join this

Seedstock and commercial beef producer Jon Wright has long had an interest in producing beef in a temperate climate in the most cost-effective and efficient way possible.

Over the years, he has seen genetic gains produce faster growing animals to meet consumer demands and reward producers being paid on weight.

While this is fine for production animals, he has noticed it has brought about the expectation among some producers that breeding heifers also need to be big, ‘showy’ and well-conditioned to join and calve successfully.

In Jon’s experience, overweight heifers have not only cost producers in unnecessary feed to that point, but can result in a herd of large, mature cows with ongoing high maintenance feed costs.

“This is not about what is the ideal size female but about managing females with the absolute best genetics within, in the most cost effective way,” Jon says.

“You can reduce your heifer and cow size without affecting your genetics.”

WHY WORRY?

The input costs for beef producers have

famously been increasing over time, while price increases have failed to keep pace.

This has made it necessary for producers to look at ways of reducing costs without jeopardising production.

One way to do this in a self-replacing beef herd is to concentrate on the breeding females and to see if the feed and maintenance costs can be minimised.

The challenging aspect of this for many producers is to counteract the strong sense of pride and desire to produce large, ‘pretty’ breeding females in their herd.

As Jon points out, to achieve breeding efficiencies, it may be necessary for many producers to get used to joining animals that look different to what they may want or are used to.

This can be seen in the two photos shown on the previous page, which show two mobs of heifers sharing the same genetics, but which were managed differently between weaning and joining.

The heifers were boxed together for joining, and achieved conception rates of 90%. However the heifers in the photo at the top (Group 1) were about 100kg liveweight on average heavier at joining than their counterparts (Group 2) in the

bottom photo. The Group 1 heifers were joined at 450kg following unrestricted nutrition and growth post-weaning, whereas the Group 2 heifers were managed to reduce intake and feed quality. The Group 1 heifers had a \$35/hd extra feed costs than Group 2 to get to joining.

COMPARING COSTS

Jon used a backgrounding steer enterprise model to develop a simple way to put a value on paddock feed, and therefore estimate the cost to get an animal to a certain weight by a certain age.

In simple terms, Jon has found pasture grass is worth \$0.07/kg if cattle are achieving 0.7kg/day growth on it.

If growth rates are only 0.5kg/day, the value of pasture drops to \$0.05/kg, reflecting a lesser quality pasture.

Using this calculation, Jon has developed Table 1 to show the difference in feed cost to grow a weaner heifer to a 450kg joining weight at 15 months of age, compared to a 350kg joining weight.

This formula is then used to calculate how much the heifer has cost in feed to reach 550kg at calving, and as a three year old and 8 year old mature cow at 650kg,

Table 1: Feed cost comparisons for breeders at different liveweights.

Age	Weight(kg)	Daily intake in kg (2.5% of bodyweight)	Feed consumed (kg)	Accumulated feed (tons)	Feed cost (grass worth \$0.07/kg)	Per 100 heifers/cows
15 mths (joining)	450	11.25	1013	3.20	\$224	\$22,365
24 mths (calving)	550	13.75	1238	6.66	\$466	\$46,620
3 yrs	650	16.25	5931	12.59	\$881	\$88,139
8 yrs	650	16.25	35588	48.18	\$3,373	\$337,251
15 mths (joining)	350	8.75	788	2.70	\$189	\$18,900
24 mths (calving)	500	12.50	1125	5.74	\$402	\$40,163
3 yrs	550	13.75	5019	10.76	\$753	\$75,294
8 yrs	550	13.75	30113	40.87	\$2,861	\$286,081

Source: Jon Wright



- not this



Maintain this



- not this

compared to calving the 350kg heifer at 500kg, who then matures to 550kg.

WHAT TO AIM FOR

It is important to know some critical heifer liveweights to aim for to achieve high joining rates (90% or more) without wasting feed.

The weaner management article also featured in this issue of *Farming Ahead* states the critical mating weight for heifers is 65% of the Mature Cow Weight (MCW) of the breeding herd.

So for a herd aiming for an average MCW of 500-550kg, the critical mating weight for heifers is about 325-350kg liveweight.

If calves are weaned at about 180 days of age and 200kg liveweight on average, and heifers are joined at about 440 days of age at 350kg, they only need a growth rate of about 0.5-0.6kg/day.

But to ensure heifers join well they should be on a rising plane of nutrition a month prior to joining and throughout the joining period. Therefore the critical mating weight should be achieved using slow growth initially followed by a fast, high nutrition peak up to and throughout joining.

Heifers should then ideally gain about 100-150kg between joining and calving, which requires a growth rate of only about 0.4-0.5kg/day to reach about 450-500kg liveweight at calving.

It is important to note that it is only if producers are over-shooting these target weights that they can potentially manage their system to reduce the input costs of their breeding herd.

MEETING TARGETS

According to Jon, nutritional management is the key to achieving these weight and growth targets. In many cases this may take quite some perfecting, to almost counteract the high growth potential in modern genetics as well as the productivity of many pastures at certain times of year.

It is important to remember that a 450kg heifer at calving must be fit and healthy rather than fat, which may mean running pregnant heifers in hilly or lower pasture value country if possible, where they need to walk to water.

PROVEN METHODS

Over the years, Jon has found his joining and calving times greatly help in restricting the nutrition available to pregnant females while then providing a boost in available feed as they begin to calve.

Jon joins all his heifers, to use fertility as the first culling instrument. He aims to increase their weight from an average of 300kg at 400 days (one month before joining) to 320-350kg by the beginning of joining, which starts on November 1, for three cycles.

After pregnancy-testing, any empty heifers are run at full production and given maximum feed, resulting in compensatory growth that compensates for some of the foregone weight gain when the heifers had restricted nutrition prior to joining.

Many producers may choose to only keep a select percentage of their heifers as replacements, but either way, Jon suggests fattening culls and restricting the intake of replacements, as this allocates feed to where the money is.

The pregnant heifers are boxed with the main cow mob and then run in the lower value grass paddocks to restrict intake and create more competition for pasture.

As Jon points out, in large mob rotations, reduced performance can be perceived as a problem. But in this situation, with non-lactating pregnant females, it is highly desirable.

This practice, combined with the naturally minimal pasture growth rates throughout winter in the central-west of NSW, helps to restrict the cattle to eating 1-1½ % of their bodyweight, which is all that is required for maintenance and healthy

foetal development.

The heifers are split off the main mob again for ease of monitoring before calving commences in September. This calving time also usually coincides with the spring pasture flush, providing a boost in nutrition for calving females and enabling maximum uterine recovery as quickly as possible before rejoining.

BENEFITS ADD UP

Jon is quick to point out that the aim of restricting the nutritional intake of breeding females is not to weaken the animal or jeopardise the development of the foetus.

Aiming to have heifers in a self-replacing beef herd about 450-500kg when they first calve, and cows that maturing at about 550kg, producers can save at least \$64/cow/year in grass, every year.

There is also a lot of research and evidence to show that overweight heifers are at an increased risk of experiencing calving difficulties.

Jon stresses that if there are already calving challenges within a herd, these must be attended to first before anything else is changed.

“The greatest challenge for self-replacing herds in southern temperate climates is to try and reduce the maintenance costs of their non-lactating females, as there is little direct return during this period” Jon said.

“But the adoption of some of these management changes can help reduce input costs or even increase output via increased numbers.

“It is important to remember any grass saved will at least provide more ground cover and we all know the benefits of that,” he said. **FA**

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