Dairy Australia

INCALF

Maintaining a tight calving pattern without routine inductions

CASE STUDY 01
STUART BURR – RINGAROOMA, TASMANIA

Stuart share-farms for Geoff and Stan Cox at Ringarooma in North Eastern Tasmania. Stuart began share-farming in 2008–2009, and has been motivated to increase his wealth by growing his asset base through good reproductive performance of his stock. Geoff and Stan bought an additional 80 hectares last year, and the dairy business is still very much in a growth phase.

The effective milking area on the farm has grown from 120 hectares last year to 180 hectares this year, and cow numbers have increased from 350 head last year to 410 cows this year. Stuart is planning to milk 500 cows next year. The farm is well suited to growing grass. It largely comprises fertile river flats, with 470 megalitres of highly reliable irrigation water available.

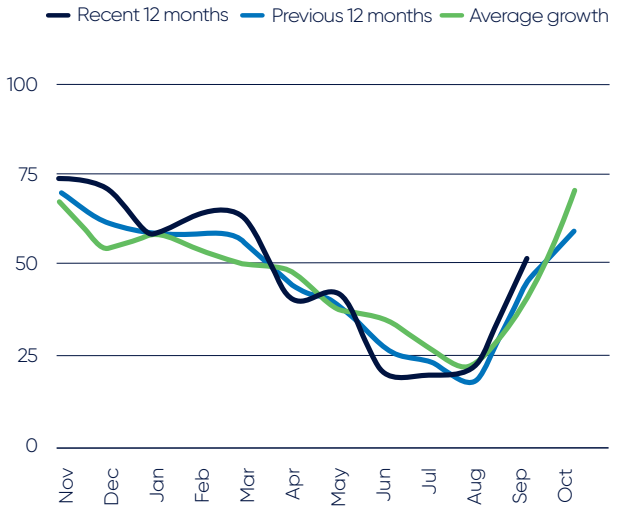
Table 1 Farm Description

Operating arrangement	Share-farmer
Business Phase	Growth
Effective milking area	180 hectares
Cow numbers	410
Breed	Holstein
Concentrates fed	0.6 tonne/head/year
Production	520 kg milk solids/head/year
Years without induction	3 years
Joining length	9 weeks
Empty rate	14%

Calving

Despite having river flats that grow quality pasture deep into the season, aided by a large allocation of reliable irrigation water, Stuart believes his farm is best suited to a single seasonal calving pattern. His theory is supported by a thorough history of pasture growth records that he has kept. Stuart does a weekly farm walk to measure pasture density and uses 'Pasture.io' software to capture this information. Planned calving start date is around the 5 August and he likes to be finished calving by the end of September.

Figure 1 Monthly farm growth rate



Pasture growth rate (KgDM/ha/day) (Pasture.io software)

Figure 2 Stuart aims to minimise 'wastage' on the farm by using a combination of sexed semen and beef sires.

Why calving inductions are no longer used

Stuart simply does not like inducing cows. From his past experience, he believes that the practice is not good for the cows and he believes that the birth of an unviable calf can be seen as 'wastage' within his business - he sees this as a lost opportunity.

When Stuart put his herd together in 2008, it had an extremely spread out calving pattern. During the initial years of operation, routine early calving induction was used as a tool to condense the calving pattern. During this time he believes that an unacceptable number of induced cows retained their foetal membranes and underperformed in milk production compared with their herd mates. Growing stock numbers, limiting wastage through unviable calves and improving cow health made the decision to stop using routine calving induction easy for Stuart. He made the decision to stop using calving induction independently of the dairy industry's phase-out policy.

How has a single seasonal calving period been retained without induction?

Three years ago, when Stuart decided to stop inducing, he simply pulled the bulls out of the herd earlier than he had in the past. Joining length was cut back to 10 weeks, and, expecting that his empty rate would increase, Stuart had begun rearing more heifer replacements than he had previously done. As Stuart had expected, the empty rate increased to 20 per cent for the first joining after calving induction was no longer used. Given that Stuart was able to rear extra heifers in anticipation of a higher empty rate, empty cows were able to be sold. Stuart firmly believes that discipline is needed to pull the bulls out and to resist the temptation to leave them in when a cow is seen on heat.

Stuart strives to ensure that the cows in his herd are inherently fertile. He does not like to 'carry-over' cows and does not like treating anoestrus cows. He fears that both of these measures will be breeding the problem of poor fertility within his herd.

The trait that AI sires are selected for is fertility. When putting an AI bull team together, sires are chosen using the 'Daughter Fertility' ABV. Stuart also carefully ensures that his sire selection does not result in inbreeding. Given that only one genetic trait (fertility) is selected for, genetic progress for improving fertility will be more rapid than if many traits were selected for simultaneously.

Although mating start date is the same for the cows and the heifers, heifers are inseminated with short gestation bulls. This has two benefits assisting heifers to get back into calf; firstly, more days between calving and mating start date allows more time for the reproductive tract to repair and recover therefore improving the likelihood of the animal getting back into calf, and secondly, short gestation sires usually result in smaller calves that are likely to result in less damage to the reproductive tract of the heifer.

Stuart believes that the greatest gain in dairy farming in the last 20 years has been due to improved pre-calving management. Springing cows and heifers are both fed a lead feed pellet together with hay and silage for at least 21 days prior to calving. This has resulted in control of metabolic disease. It has also maintained appetite prior to calving as much as possible and developed the rumen papillae prior to calving so that they can absorb as many nutrients as possible in early lactation. Body condition loss is therefore reduced in early lactation resulting in cows that cycle sooner after calving and achieve higher conception rates.

Now that calving inductions have not been used for three years, the empty rate has decreased to 14 per cent with a nine week joining.

What effect has stopping the use of calving induction had on farm performance?

Since stopping using routine calving induction, there has been an increase in the empty rate. Unfortunately, if cows are turned over more quickly in the herd, their value will depreciate faster. Usually, it costs more money to rear a replacement heifer than is received from a cull cow. However, Stuart believes the extra heifer rearing expenses now have been more than compensated for. In Stuart's own words, "I think we are more profitable without calving inductions. There are more profitable ways of getting cows in calf than via the use of inductions. Now we have decreased losses from unviable calves, poor cow health and reduced production".

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Future plans

Stuart is working towards a goal of an empty rate of 10% or lower after a nine week joining and plans to do this by feeding a high quality pasture diet to a herd with high inherent fertility. However, given that the herd is rapidly expanding, the fertility of the herd may be compromised in the short term.

Next year, Stuart will grow the herd from 410 cows to 500 cows. To increase cow numbers, Stuart will calve down 150 heifers in contrast to the 90 heifers that he calved down this year. In order to build numbers quickly, he will carry-through any viable empty cows (that is, cows without health or temperament problems). Although this goes against his philosophy of building an inherently fertile herd, Stuart sees keeping these cows as a means to an end and will not make a habit of this in future years.

Stuart is determined to avoid having bobby calves. He says that "there is usually no money to be made from bobby calves, just hassles to be had".

This joining period, joining length of the milking herd will only occur for eight weeks. The milkers will be synchronised using a fixed-timed AI program and fertile cows will be inseminated with sexed semen. Cows that return on heat in round two and round three will be inseminated with beef bulls, and herd beef bulls will run with the herd when artificial insemination is not occurring. All replacement heifers that are born will have roughly the same age and this will lend itself to growing an even line of animals.

Why the system works

Despite no genetic selection pressure for production traits, Stuart is achieving tremendous production in a system that uses very little concentrate. This is because of Stuart's exceptional ability to grow a massive amount of grass and his skill ensuring that his cows are at the right stage of lactation to capitalise on this cheap feed. The single seasonal calving pattern prevents cows damaging pastures on the river flats over winter, thereby protecting the pasture platform. The increased cost incurred by rearing a few extra heifers is substantially outweighed by supporting a system that ensures excellent pasture production, and maximises the number of days within a lactation that a cow can directly harvest as much grass as possible.

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