Extended Lactation uses: delayed mating of part of the herd

The use of extended lactation (EL) within Victorian dairy farming systems is now considered commercially viable. With research information now available and farmer experience growing, an informed decision can be taken by farmers and advisors regarding use of EL.

Introduction

It is increasing difficult to maintain a seasonal calving pattern. The modern dairy cow is capable of lactations well beyond the traditional 300 days. This provides dairy farmers with new management options. EL is a system that suits the modern cow.

Delayed mating of part of the herd

Delaying the mating of some cows in a herd until the next joining period can have many benefits. It can help to

- Tighten up calving patterns
- Eliminate the need for calving inductions
- Help to retain valuable cows in the herd that otherwise wouldn't get into calf
- May require less replacements to be reared to maintain herd numbers
- Reduce cost of Artificial Insemination (AI) of cows that probably won't get into calf
- May reduce the need for bulls
- Reduce the number of phantom pregnancies
- Reduce labour requirements associated with joining and long calving periods.

Another benefit to some farms will be if they are trying to alter calving patterns, then Extended Lactation can be an economical way of achieving this.

Milk income normally works out similar for cows that are in an extended lactation program, due to the extra days in milk, and the nutritional level of the cow's diet doesn't need to be changed to achieve a successful extended lactation.

Individual cows that are likely to be candidates for delaying their mating are;

- Cows that are late calving.
- Cows that have lost a lot of condition
- Cows that are on a falling plane of nutrition
- Sick cows
- Heifers

These categories of milkers are the ones that are hardest to get back into calf; particularly if a tight calving pattern is desired. The modern dairy cow loses weight in early lactation as she puts more energy into making milk and maintenance than she is consuming. During this period in her lactation the cow is less likely to be able to get into calf. Heifers are under more pressure than cows as they are also trying to grow, compete with larger cows for paddock feed and may be losing teeth.

Calving pattern

Many of the modern high producing cows need more time between calving and mating for them to successfully get back into calf. There is much debate whether this is a result of the genetics used or is a management issue. Regardless of the cause many researchers and farmers are finding that allowing more time between when the cow calves and when she is joined achieves a more successful pregnancy rate. Delaying mating of cows that may struggle to get back into calf to the next joining period will improve the calving rate and may also reduce herd rates of phantom pregnancies.

A delayed mating strategy will allow the calving pattern to be tightened by moving cows that don't get into calf in the desired joining period back into the start of the next calving period. This will also reduce the need to induce cows. By not joining cows after a set period of time you may reduce the need to run bulls as cows that are not in calf can go through until the next AI joining period. Also, by identifying cows that are unlikely to get back into calf during the joining period, decisions can be made to deliberately not AI which will reduce some cost and labour.

Milk production

Research has shown that annual milk solids production will be maintained if mating is delayed up to 6 months whilst a modest drop in milk solids occurs if mating is delayed up to 12 months. Fewer litres are produced but milk components are higher and cows have more days in milk (fewer days dry). Research has also shown that heifers produce more milk in their EL phase than their first 300days.

Milk solid production in the first 300days of an extended lactation compared to the extended lactation phase for heifers and cows.

	Heifers	Cows
Milk solids (kg) produced from days 1-300	490	505
Milk solids (kg) produced from days 301-670	404	385

Average annual (12month) milk yield for cows that were milked for various length lactations. #

Inter-calving interval (months)	Annual Average Milk solids (kg fat + protein per cow)
12	497
15	498
18	495
21	474
24	463

 # E.g. a cow calving every 18months would produce 743 kg milk solids in a lactation which is an annual production of 495 kgs MS (2/3's of 743).

Nutrition and persistence

Cows do not require special feeding to achieve an extended lactation. Persistence is as good on low nutrition as on high nutrition. Successful extended lactation is achieved on the typical range of pasture plus supplements diets fed on Victorian farms. Cows can have a feed pinch and then bounce back when feed is available. Cows are responsive to supplements in the extended lactation phase. Milk response observed during the extended lactation phase is around 0.6 to 1.0L of milk per kilogram of grain. There is also weight gain or reduced weight loss depending on the stage of lactation. This milk is of higher components than earlier in lactation.

Persistence is mostly related to the genetic make-up of individual cows. Cows that have a high proportion of northern hemisphere Holstein genetics appear to be more persistent. Research has not been conducted on Jerseys or cross-bred cows in terms of persistence in an EL system but farmer experience is they are also capable of extended lactations. The number of cows that make it to a target dry off date depends on the daily milk yield cut-off. The lower the targeted daily milk yield cut-off, the more cows that will persist.

Percentage of cows that achieved various target lactation lengths for different cut-off levels.

Months in Milk	% of cows milking at a Cut-off **4L/day**	% of cows milking at a Cut-off **10L/day**
10 months (traditional dry off)	100	100
13 months	100	88
16 months (1.5 year EL)	100	71
19 months	80	46
21 months	80	
22 months (2 year EL	40	29

Note: Milk produced during extended lactation is higher testing.

Retaining cows and replacements

By allowing cows that otherwise wouldn't get into calf in a traditional system to have an extended lactation you are able to retain more of these cows. Most extended lactation cows pay their way in the herd over the full lactation. This offers the advantages of retaining more cows of high genetic merit and possibly reducing the number of replacements that would otherwise be needed to replace the cows that are sold.

Another option available is for cows that go into an extended lactation can be sold during or at the end of the lactation. Cows that are towards the end of an extended lactation are generally heavy and worth more money in the market.

Management issues that may need considering

Feed planning is important if considering extended lactation. If used in a split-calving herd, consideration needs to be made about how the percentage of cows calving at different times of the year will affect your feed plan. Also if you are using extended lactation for a 2 year cycle, can you supply the extra feed required by extended lactation cows milking over their normal dry period?

Other questions that need to be considered are:

- If calving patterns or the number of cows calving at different times change, is the farm capable of handling various scenarios such as milking through wet winters?
- Does the farm have adequate infrastructure to accommodate these changes?

Some cows may get over-fat during an extended lactation, particularly after 16 months of lactation. These fat cows can have health issues at the next calving. A plan will be needed to address this. An example might be to run these cows in a separate mob when dry, to try and reduce condition during this period to around score 5.5.

Further References

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