

EVALUATION OF DAIRY FARMER INTEREST IN AN EXTENDED LACTATION SYSTEM

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SUMMARY

The primary aim of this project was to determine the relevance of extended lactation to Victorian dairyfarmers, identifying the characteristics of those likely to be interested in the technology, and the type of information they require. This information was used to determine key questions and knowledge gaps for future scientific research and extension programs in extended lactation. Information was obtained from dairy farmers in 3 group discussions and 250 Computer Assisted Telephone Interviews (CATI). A structured questionnaire formed the basis of the CATI interviews. One in 10 respondents had implemented an extended lactation system with an average of 18.4% of their milking herd. The proportion interested in adopting an extended lactation system was 30%, increasing to 48% if calving inductions were prohibited. Potential future adopters were most likely to be split or batch calvers with large herds and high staff numbers. They were also the most likely to feed a heavy rate of concentrates (>1.5 t/cow), herd test and use management computer software. Of all cows currently in respondent herds, 56% were managed by dairy farmers who were either current or potential adopters of an extended lactation system. Benefits of an extended lactation system were perceived to include greater and more consistent production, consistent income, improved conception rates, improved cow health, fewer cows culled, and improved profitability. Disadvantages of the system were perceived to include higher feed costs, negative impacts on lifestyle (less opportunities to take holidays), difficult to manage and negative impacts on the physical condition of the farm. In addition, 3 group discussions were conducted with dairy service providers to determine their beliefs and perceptions of extended lactation technology. Service providers are key sources of information for dairy farmers. The studies identified that future scientific research, development and extension would need to provide information about the effect of an extended lactation system on: the economic feasibility of the system, nutritional requirements, cow health, production, conception rates, workloads and farm management strategies.

Keywords: extended lactation, dairy, market research

INTRODUCTION

Victorian dairy farming has traditionally been characterised as seasonal, low-input, pasture based milk production, reliant on family labour. However, there are many challenges facing the dairy industry today, including:

- Larger average herd size.
- Greater reliance on bought-in feed (this has demanded a more consistent cash flow).
- Premiums paid for winter milk to reduce the peak to trough ratio in milk supply.
- Increased per cow production.
- Reduced reproductive performance and difficulty in maintaining a 12-month calving interval.
- Pressure from animal welfare groups for induced calving to cease.
- Peak labour requirements associated with mating and calving that are difficult to manage, particularly in larger herds.

The above issues have put pressure on seasonal dairying, resulting in a significant proportion of dairy farmers moving to year round milk supply. Under these circumstances, there is a need to investigate opportunities for using extended lactation (defined as milking for longer than 300 days per lactation).

Extended lactation systems could reduce the number of calves per year and thus reduce the labour required for the mating and calving processes. Calving could be spread across the year, eliminating the spike in labour demand associated with concentrated seasonal calving, and providing a more consistent cash flow across the year. Consistency of the milk supply over the year, in terms of both volume and composition, could also be enhanced. Longer lactations could provide a framework for improved reproductive performance, and eliminate the need to use induced calving to maintain 12-

month intercalving intervals. Cows could have greater flexibility to milk until they were pregnant, as opposed to being culled because they were not pregnant in time for a 12-month cycle.

The primary aim of this project was to determine the relevance of extended lactation to Victorian dairyfarmers, the characteristics of those likely to be interested in the technology, and the type of information they required. This information was used to determine key questions and knowledge gaps for future scientific research and extension programs in extended lactation.

MATERIALS AND METHODS

For the purpose of the market research survey, an extended lactation system was defined as 1 in which dairy farmers deliberately plan to milk cows for longer than 300 days while extending the inter-calving interval to longer than 12 months. In this project, information was obtained from dairy farmers in 3 group discussions and 250 Computer Assisted Telephone Interviews (CATI), as well as service providers (veterinarians, nutritionists, consultants and milk supply officers) in 3 group discussions. The farmer group discussions, conducted by Pam Watson (Down To Earth Research, Frankston, Victoria), were mainly a scoping exercise to determine which issues were important to include in the quantitative component of the survey. The service provider group discussions (conducted in March 2003) aimed to identify beliefs and perceptions about extended lactation technology, as they are key influencers of farmer attitudes and behaviour.

The 250 Victorian dairy farmers interviewed by telephone were randomly selected from a list of 7,038 current dairy farmers. A structured questionnaire formed the basis of the 250 CATI interviews. At least 80 interviews were conducted in each of the 3 Victorian dairying regions. The sample was then weighted to represent the true geographical spread of dairy farmers in each region so that overall results were not disproportionately influenced by responses from regions with smaller numbers of dairy farmers. To qualify for the survey, respondents had to be the person responsible for decisions relating to calving pattern of a herd of at least 100 cows. All interviews were conducted by Australian Fieldwork Solutions in accordance with Interviewer Quality Control Australia (IQCA) standards. Interviewing commenced on 28 January 2003 and was completed on 14 February 2003.

For typical measurements involving the whole sample (250 respondents), where 70% of respondents concur, the standard error at the 95% confidence level was approximately $\pm 5.7\%$. This is considered a reasonable level of accuracy.

RESULTS AND DISCUSSION

Calving pattern

Of the dairy farmers participating in the survey, 61% had seasonal calving herds, 32% had split or batch calving herds, while the remaining 7% calved year round. The key driver for implementing seasonal calving was to match the calving pattern to feed availability, while secondary drivers included lifestyle benefits (being able to take holidays when cows are dry), calving in reasonable weather, and perceived ease of management of this system. Among respondents with split or batch calving and year round calving patterns, the primary driver was to take advantage of seasonal price benefits offered by factories. Secondary drivers for split and batch calvers included giving cows a greater opportunity to get in calf, and having consistent cash flow, while still suiting feed availability.

It appears that extended lactation may not be suited to those who wish to have a period when all cows are dry (for lifestyle reasons). However, 1 farmer has solved this issue by calving the whole herd every 15 months.

Herd fertility

On average, 10% of cows in respondents' herds did not get back in calf and consequently had to be culled or carried over. Empty rates affected the calving pattern of 26% of respondents' herds, particularly where the proportion not in calf had risen to more than 10%. This resulted in almost 1 in 5 respondents seeing their calving pattern spread or moving to split, batch or year round calving. It is speculated that in-calf rates will increase with extended lactation as the interval between calving and mating will be longer.

Attitudes towards longer lactations

Half the respondents claimed they were concerned, either a lot (25%) or a little (25%) if a cow did not calve every 12 months, while the remaining 50% were unconcerned. Concern was highest among those with seasonal calving herds. There was some concern over the resultant economic loss due to potential decreases in milk production and milk quality, while a few respondents were anxious about the loss of genetic and herd improvement gains and the effect on the herd's calving pattern. Among those respondents who were unconcerned if a cow does not calve every 12 months, most claimed they are prepared to carry cows over if they are still productive. Ten percent of respondents had high producing cows in their herd that were deliberately milked for longer than 300 days. The approach was to identify cows with good milking persistency, and subsequently plan longer lactation and inter-calving periods for these animals. Although the sample size was too small to draw definite conclusions, it appeared that these respondents tended to have split, batch or year round calving herds and feed a heavy rate of concentrates (>1.5 t/cow annually). On average, these dairy farmers deliberately milked 18.4% of their herd for longer than 300 days.

Perceived effects of an extending lactation system

Respondents believed that an extended lactation system was likely to have a positive effect on the number of cows culled (56% positive, 23% negative – the remainder said neither, both or don't know), cow health (53% positive, 21% negative), conception rate of the cow (52% positive, 33% negative), profitability of the cow (51% positive, 32% negative) and overall production of the herd (50% positive, 28% negative). Most respondents (particularly unlikely adopters) believed extending the lactation of high producing cows would negatively affect dairy farmer lifestyle (54% negative, 24% positive) and ease of farm management (54% negative, 30% positive).

Attitudes towards adopting an extended lactation system

Although 73% of survey respondents believed some dairy farmers could benefit from deliberately extending the lactation of their higher producing cows, 69% did not believe an extended lactation system would be suitable for their own enterprise. This attitude was mainly based on a perception that extending lactation length would increase feed costs, impact on the physical condition of the farm and/or result in less opportunity for holidays.

In addition to the 10% currently using extended lactation, 20% claimed extended lactation could be a suitable system for them, particularly those with split or batch calving herds (36%) compared with those with a seasonal calving herd (12%). The system appealed to a relatively high proportion of dairy farmers that milk more than 300 cows, have a large labour force, feed high rates of concentrates, and/or undertake herd testing.

It was notable that current and potential adopters of an extended lactation system manage 56% of all the cows in respondents' herds. Respondents who believed extended lactation may be an option for their enterprise mainly expected that this system would result in greater, and more consistent, milk production, and some foresaw gains in conception rates, management, and lower costs of getting cows in calf. If the use of induction is prohibited in future, interest in an extended lactation system would increase to 48%.

Information required

Survey results revealed genuine interest among respondents in learning more about extended lactation. Information relating to economics, nutrition, cow health, production, conception rates, workloads and farm management strategies would be of interest to more than half the dairy farmers in Victoria. While most respondents preferred their system to be low input, many believed the concept of extended lactation had merit for the industry.

During the initial farmer group discussions, it was noted that several participants who, on first hearing about the concept of extended lactation, were adamant that this system would be totally unsuitable for their farming enterprise. After 2 hours of discussion on the topic, some of these people had changed their mind and claimed extended lactation may indeed have merit for them. This level of discussion was not possible in a brief telephone interview. It is possible that, with access to more detailed information, the proportion believing extended lactation could be suitable for their enterprise may increase.

Implications for RD&E

The farmer market research survey and the service provider group discussions helped identify key questions and knowledge gaps for future research, development and extension (RD&E) programs in extended lactation.

An example of 1 key issue for RD&E is feeding cows for milk production beyond 300 days. There is confidence in the ability for extended lactation to be successful where high inputs of feed are used. The challenge is to show the relevance of extended lactation to moderate or low feed input systems. There is scepticism (mainly raised by service providers) about the feasibility of extended lactation for manufacture milk price systems (it is perceived the lower cost feeding systems wouldn't result in lactation persistence). There are at least 2 elements of feeding that are of immediate interest. One is an understanding of the persistence of dairy cow lactation under conditions most commonly experienced on Victorian farms. Another is an understanding of the ability of milk production to respond to nutrition.

The majority of farmers in the survey (74%) feed 0.5-1.5 t concentrate/cow/annum, while pasture and fodder make up the bulk of the diets. Having quality data on milk production under this feeding regime will assist both farmers and service providers to better assess the applicability of extended lactation to a large segment of the Victorian dairy industry.

On commercial farms, individual cows have dropped in milk production during low levels of feeding, then returned to peak milk production levels in response to better feeding (after more than 300 days in milk). The ability to switch milk production on and off has enormous implications for profitability. A low-input feeding regime could be implemented during periods of low milk price/low feed availability followed by a higher input of feed during high milk price/feed availability. Research to establish how to influence milk production of cows via feeding during extended lactation would be highly valued. Lower-priced pasture and fodders should be considered as well as concentrates.

Four other key recommendations for RD&E come out of the market research. Firstly, the economics of extended lactation is perceived to be highly dependent on milk price, cost of production (especially feed costs), milk production (especially persistence) and reproductive performance. Key gaps in knowledge need to be filled before more detailed economic assessment can be made. Secondly, a method for predicting lactational persistence of individual cows needs to be developed. Thirdly, quantifying the change in reproductive performance that results from delaying mating has significant implications for the commercial application of extended lactation. Fourthly, extension should take a systems approach and occur in parallel with research. A staged approach should be used, initially focusing on segments of farmers with a current interest and service providers who are likely to be important in future extension of the technology.

The studies about extended lactation with dairy farmers and service providers have assisted in directing research in this area, ensured that key issues are addressed, and it has demonstrated how extension can operate at the front end of the research. The challenge for RD&E is to provide the dairy industry with clear insights into extended lactation and the implications for commercial application on farm.

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