Calving Intervals, Milk Production, and Profitability

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Calving intervals in many herds have gotten longer for a variety of reasons. There is research to support the fact that as we have selected for higher producing cows, we have also inadvertently selected for longer calving intervals. A question each producer must answer for his situation is “Are longer calving intervals having a negative effect on my profitability?”

For years I have had dairymen tell me that they thought higher producing cows that had longer calving intervals (in the 14+ month range) were more profitable than lower producing cows with the ideal 12-13 month calving interval. These comments were made, however, without detailed economic data. An article in a recent issue of the Journal of Dairy Science supports those producers’ beliefs.

Researchers in Israel conducted a study on 750 high producing cows to examine the effect of an extended calving interval (treatment group) on milk production and profitability. The study was designed to continue through at least two consecutive lactations, but only the first 150 days of the subsequent lactations were included in the economic analysis reported in the paper. It was assumed that the milk yields in the first 150 days of the subsequent lactation would not yet be influenced by a possible new pregnancy, and that any difference would be due to the effect of the length of the previous calving interval.

The researchers found that the average days open for the treatment and control first lactation cows were 189 and 128, respectively, while the average values were 160 and 110 for the treatment and control multiple lactation cows. Calving intervals in days for the four groups were 464, 405, 436, and 389, respectively. The cumulative first lactation milk yields were 27,540 lbs. for the first lactation treatment cows (399 days in milk), while the control first lactation cows averaged only 23,490 lbs (340 days in milk). The multiple lactation treatment group cows averaged 29,740 lbs. milk (369 days in milk) in the first lactation, while the control multiparous cows averaged only 26,860 lbs. milk during their 320 days in milk.

A formula that considered the value of the milk, fat and protein produced was used to calculate the value-corrected milk (VCM) for each cow. During the first experimental lactation, average daily VCM yield was 62.7 lbs. and 60.9 lbs. for the treatment and control first lactation cows, while the multiple lactation treatment and control cows showed no significant difference in their VCM amounts (72.6 vs 72.2 lbs/day, respectively). This difference in favor of the treatment group first lactation cows continued into the first 150 days of the second lactation.

An economic analysis of the net returns between the various groups was done to determine if longer calving intervals resulted in more profit. In conducting the economic analysis, factors such as the cost of feed, cull animal value, cost of replacements, and value of calves produced were considered. The analysis revealed the following economic
information: with the first 150 days of the second lactation included with the first lactation data, the net return per day for the primiparous (first lactation) treatment cows was $.21 more per day than the control cows. The advantage for the multiple lactation cows in the treatment group over the control multiparous cows was $.16 more per day. The value was higher for the first lactation treatment cows ($.05 more per day) because the persistency of milk production for those animals was higher than that of the older cows. Another factor was that the fat and protein content of the milk increased more as the lactation progressed for the first lactation cows than it did for the older cows.

This study found that an increase of at least 60 days in the usual voluntary waiting period after parturition before starting to begin rebreeding high producing cows has an economic advantage, and should be considered by dairy producers as they make management decisions. However, as with all major management decisions, before implementing this practice, each producer should thoroughly review his total herd management practices and his costs of producing milk. Consultation with your county or area dairy extension agent, or some other knowledgeable advisor about this practice is recommended.