

Abstract

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DAIRY FARM REPRODUCTIVE MANAGEMENT IN THE ABSENCE OF INDUCED PARTURITION

Case Studies in the South Island of New Zealand

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The New Zealand dairy farm system is based on a seasonal calving interval with the system being reliant on seasonal pasture production. A seasonal calving interval requires all cows to reproduce every 365 days. Farmers typically experience difficulty in achieving this 365 day cycle and hence the practice of induced parturition has been widely used. Induced parturition has become internationally unacceptable and the New Zealand dairy industry has set a target for <2% inductions in the national herd by 2010. With reduction in the use of induced parturition as a tool, farmers require new strategies to manage late conceiving cows.

The aim of this study was to identify management strategies which are being used by farmers who are already achieving a compact calving spread, and acceptable reproductive results under a nil induction policy.

The main factor identified in the scientific literature affecting the calving spread of a herd, was the post-partum anoestrus interval which is largely affected by both body condition and nutrition pre-partum. Other factors which affect the reproductive performance of a cow or herd are their breed and genetic potential, post-partum disease and reproductive tract disorders, and early embryonic mortality. However some of these factors are themselves either the outcome of or influenced by farm and livestock management factors.

Eight farmers were interviewed to develop case study profiles of their farm and management strategies. The case study farms all achieved a compact calving spread with 90% of the herd calved in less than 8 weeks. Empty cow rates on the farms ranged between 4 and 12% with no use of induced parturition.

The studied farms ranged from 350 to 1,139 cows milked in peak, with stocking rates ranging from 2.9 to 5 cows/ha. Seven of the farms were producing over 400 kg MS/cow with a range from 256 to 500 kg MS/cow. Milksolids production per hectare ranged from 1,180 to 1,600 kg MS/ha with all of the farms being above their district averages.

Livestock management appeared to be one of the key reasons for the farms achieving their reproductive successes. These farms placed emphasis on animal health, cow body condition and feeding. Cow body condition was monitored regularly by farm staff and farm advisors, with all farms achieving a body condition score of 5 or greater at calving. The incidence of reproductive tract disorders was low, as was the somatic cell count (SCC) which ranged from 80,000 to 180,000 cells/ml compared with a national all year average of 244,000 cells/ml. Pasture grazing residuals were monitored which was reflected in the high level of milk production (kg MS/ha and kg MS/cow) being achieved. However there appeared to be less monitoring of pre-grazing mass and pasture growth rates. Feeding of cows during winter and of young stock was typically on runoff ground and in 7 of the cases was controlled by the herd owner.

Farm advisors were widely used, particularly for feed budgeting and monitoring cow body condition, along with nutrient budgeting. The advisors visited farms between 4 and 12 times annually.

It was apparent that there are issues with calculating and measuring the key performance indicators used on farm, and particularly the empty rate and body condition score of cows. The variation in calculating the empty rate appears to be due to the range in management strategies used around pregnancy testing, while the variation in body condition scoring is due to human variation.

Acceptable reproductive performance with nil inductions was achieved on these farms by placing emphasis on animal health, monitoring body condition of cows and achieving targets set, and by controlling the feeding of all stock classes throughout the year.