Lincoln *Keith Woodford*

Managing Reproduction without Inductions

It is widely accepted that farmers are having more difficulty getting cows back in calf than they were 20 years ago. Empty rates have increased. Compact calving is an issue. Inductions have become a standard management technique to help deal with this problem. However, there are industry pressures to reduce the level of inductions.

Anna Paton is a recent Lincoln postgraduate student who has looked at these issues. Anna has looked at how some farmers are achieving good reproductive results with a nil induction policy.

Anna came to Lincoln in 2002 to study for the B Com(Ag) degree. Then in 2005 she undertook the Master of Applied Science degree specialising in Farm Management Consultancy. It was as part of this degree that Anna looked at the issue of dairy farming without inductions, working with Marv Pangborn and myself.

Anna's research was supported through the SIDE Committee, and also through scholarships from Young Farmers. Anna also self supported her studies by working as an AI technician, so she already knew something about cow fertility issues close up and personal.

Anna's starting point was to ask 11 veterinarians and farm consultants working in Canterbury and North Otago to identify clients whom they believed were consistently achieving both an empty rate of less than 10% with low or nil inductions. The initial list included about 30 farmers.

Anna found on contacting these farmers that not all of them met the criteria. She selected eight who met the criteria and had satisfactory records, and interviewed these in detail about their management systems. One of these farmers had two farms, giving a total of eight farmers but nine farms

Apart from one farm that was milking once-a-day, all farms had 2004/05 MS production per cow that was higher than the district average. Seven of the farms achieved over 400 kg MS per cow. All of the farms were producing more than 1200 kg MS per ha. Four of the farms had BW and PW figures above the national median. One farm that had been selecting on pedigrees rather than BW had a below average BW, but was still achieving 420 kg MS per cow and 1450 kg MS per ha. Seven herds were New Zealand genotype, and two were a mix of NZ and overseas genotypes. Two herds were Friesian, five were crossbred and two were Jersey.

Empty rates for the herds ranged from 5 to 12% in 2003/04 and 4 to 12% in 2004/05. The lowest empty rate in each year was the once-a-day herd. Most of the empty rates

were between 7% and 10%. The highest rate (12%) in 2004/05 was for a herd which was high in overseas genetics. However, this herd had an empty rate of only 7% and 8% in the two previous years. Heifer empty rates in 2004/05 ranged from 1.2% to 10%.

One of the problems with measuring empty rates is that there is no standard measurement system, with farmers pregnancy testing at different times, leading to some potential variability. However, we are confident that these figures are reliable estimates of cows culled for failing to get in-calf in the required time period.

Midpoint of calving ranged from 13-14 days (three farms) to about 23 days. The shortest period for 90% calved was the once-a-day herd at 41 days. The other farms ranged from 43 -56 days.

All of the farms considered their current results to be acceptable, and that reproduction failure was not a major management issue.

This base data was all very interesting given the anecdotal stories about high empty rates being more of a problem with herds that were high producing, had high BW, and contained overseas genetics. The evidence that Anna found confirmed that it is possible to get good reproductive results with high producing and high BW cows, and to achieve this without induction. It also suggests that satisfactory results can be achieved with overseas genetics, although only two herds reported an overseas genetic profile.

The big question, therefore, is whether or not there is something different about the management of these nine herds that is fundamental to their reproductive success.

The big factor that stood out was ‘cow management’ but there was no single strategy by which this was achieved. Body condition score, feeding and animal health were high priorities on all farms.

Body condition score was monitored closely on all nine farms, with this being done regularly by consultants on seven of the farms. Eight of the nine farms had records for both BCS at drying-off (4.6-5.0) and calving (5.0-5.2). All had their heifers at a BCS of 5.5 pre-calving. We are conscious that not everyone’s BCS of 5.0 is exactly the same thing. However, given the close involvement of the consultants in this process, we are confident that these BCS were genuine levels.

All farmers were feeding some silage during the lactation, ranging from 228-600 kg DM per cow. High energy supplements (molasses, cereal grains or a high energy milk by-product) were used on seven of the farms, mainly during the spring at up to 2 kg per day. On four farms high energy supplement feeding continued throughout the lactation.

Winter feeding was controlled by the herd owner in all but one case, and in seven of the nine cases winter grazing was on an owned or leased runoff. Winter feed sources were of pasture, kale, rape and annual ryegrass, grass silage and/or straw. Winter intakes (‘down the throat’) ranged from 12-15 kg DM/cow/day for older cows, and 11-15 kg

DM/cow/day for younger cows. The higher intakes were reported for North Otago and for Friesians. These winter feeding levels are probably somewhat above average for the Canterbury / North Otago region.

Use of minerals was widespread, reproductive tract disorders were minimal and treated regularly, and only one herd identified lameness as a problem. Bulk milk somatic cell counts ranged from 80,000 – 180,000 cells/ml, compared to a national average of 244,000 cells/ml. These low bulk somatic cell counts are remarkable and probably reflect a high overall focus on cow management.

In summary, there was no 'silver bullet' that led to the results achieved. Rather these farmers appeared to be placing a higher emphasis on cow management than on many farms, with particular emphasis on body condition score prior to calving, winter feeding and a general emphasis on animal health monitoring. The results, both in production and cow wastage, are a function of the total management package.

Since finishing her studies, Anna has taken a break from the dairy industry and is now working for Landcorp Farming Ltd based in Te Anau.

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