Spanish calf ranch researches growing strategies

by A. F. Kertz

IN NORTH central Spain, about a three-hour drive due west from Barcelona and on the western side of the nearby Greenwich Meridian, lies a unique calf and heifer operation. It is the Rancho Las Nieves (RLN) which, because of its size, is capable of generating a lot of data about calf and heifer raising.

Started from scratch in late 2004, it now handles 6,000 calves and heifers with about 140 dairies as customers. It is situated in an arid and somewhat windy region with water supplied by the Ebro River.

The concept for this operation originated with Jose (Pepe) Ahedo, whose parents originally began a dairy farm and developed excellent Holstein genetics. The family still has two dairy farms, one near RLN. To establish RLN, Pepe formed a partnership with six other local investors including his three brothers. Two of the nonfamily investors are involved in daily operations.

Seek expert help . . .

As the managing partner, Pepe also works closely with Jose Luis Juaristi, who is his close confidant in veterinary and nutritional operations. Alex Bach, who did his doctorate at the University of Minnesota, is the scientist involved. Alex directs a regional dairy research institute near Barcelona, and combines his backgrounds in veterinary science, dairy nutrition, and statistical analysis/data management. RLN collaborates with Alex and his graduate students in a number of research areas.

My role is as an outside consultant and resource person. Pepe has looked to U.S. calf and heifer operations for ideas and input, particularly acknowledging the support provided by Jerry Craveiro of Cameiro Heifer Ranch, Brawley, Calif.

The challenges in this operation begin with sourcing calves from a number of dairies. On Monday through Thursday of each week, a truck runs a specific route to pick up calves from as far as 350 miles away. The heifer calves picked up vary from several days of age up to 2 weeks. The average over one 16-month period was 10 to 11 days of age and an average weight of 105.3 pounds. RLN's comprehensive biosecurity program kept calf losses after arrival to 1 percent in 2006.

Alex Bach made two presentations about RLN at the 2007 National Dairy Calf and Heifer Conference, Burlington, Vt., in March. He reported that the last 3,000 heifers, from 2006 and through the first four months of 2007, averaged 1,354 pounds with 225 days carrying calf, and 660 days of age (under 22 months) when they left RLN.

Having such a large number of calves and heifers gives this ranch a unique opportunity to test and compare different strategies. Among these have been the effect of physical form of starter on calf performance and starter intake, age at weaning relationships, some welfare/health aspects, and evaluating a strategy of moving calves from individual hutches to a group super-hutch right after weaning as opposed to a week later.

The last issue is related to why I commonly recommend that calves stay in the hutch after weaning for another two weeks in order to develop greater starter intake and undergo less change/stress when moved into a group for the first time. (See Don't drop the ball when you wean calves, May 10, 2007, page 340.)

Table 1. Body weights and gains of 280 calves

Calves moved after weaning	One week later	Immediately
BW at exit from Group 1, lb.	172.4	166.5
Daily gain in Group 1, lb./d	1.62	1.66
BW at exit from Group 2, lb.	246.0	247.9
Daily gain in Group 2, lb./d	1.77	1.99

Table 2. How respiratory problems affect gains

Respiratory incidences	0	1	2	3	>4
Final BW, lb.	1,375	1,362	1,375	1,377	1,316
Final age, d	661	665	671	666	670
Daily gain, lb.	1.97	1.94	1.94	1.97	1.86

The calves and heifers at Rancho Las Nieves are kept in 10 age groups. Group One is calves still getting replacer. Age Group Two is the next step . . . from weaning at 67 days up to 110 days. Table 1 shows body weight and gain information from two groups of calves . . . one that moved to group pens right at weaning and a second set that were kept in hutches for one week after weaning and then moved to group pens.

At first glance, it appears that calves did better in Age Group Two when they had been moved into group pens immediately after weaning, contrary to what might be expected. But we need to consider several other factors.

First, these 280 calves averaged 11 days of age when entering Group One, where they were fed milk replacer until fully weaned 49 days later. So the calves grew very well but were right at 2 months old at weaning.

The calf hutches were very well bedded with straw but not all that large for hutches with calves approaching 2 months of age. So it could well be that the calves that stayed another week in the hutch got rather scrunched for room. If so, their performance suffered (they only gained 6 pounds more in the extra week they were in Age Group One or only 0.86 pound per day — less than one-half what their gain at that stage should have been). Some of this effect may have carried over some into Age Group Two. If they also had some further respiratory issues due to being stressed by being in small hutches, that would hurt performance, too. This situation is still being evaluated by RLN. But this situation supports the need to consider many factors when assessing performance. Any evaluation of calf performance should take into consideration all factors that might be unique to an operation and its facilities.

In Alex Bach's second presentation at the calf and heifer meeting, he illustrated the impact of respiratory incidence on heifer growth (See Table 2).

Disease cost lingers . . .

His observations were based on 2,771 heifers that were checked daily for respiratory incidence and that were treated aggressively in order to minimize the impact. Still, as the number of respiratory incidences went up — one, two, three, or more than four — daily gains were reduced noticeably. These differences were highly significant statistically. Heifers that had experienced respiratory disease took longer to reach their final body weight, meaning additional growing cost, even though final weight did not differ. If you looked at final body weight only, the impact of respiratory incidence would not have been noted. Heifers with four or more respiratory incidences took 10 days longer to reach final body weight and gained 0.1 less per day.

Any operation involving dairy cattle is affected greatly by the nature of care given and the physical facilities. Management has to decide what is best for an operation and upon what bases those decisions will be made. Rancho Las Nieves has decided to collect data, process it appropriately, and generate information, using some trials if necessary, in order to make the most informed decisions for the most economically and productively grown calves and heifers at RLN.

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