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### Wait 'Til the Cows Come Home

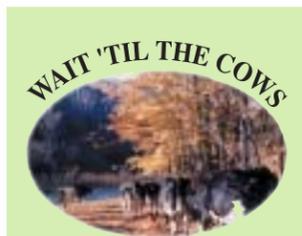
by Richard Triumpho

A selection of his "Jottings in a Dairyman's Journal" columns in Hoard's Dairyman from 1980 thru 1992.

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COME HOME

*Farm Country Rambles with a New York Dairyman*

Richard Triumpho

## FEEDING

by A. F. Kertz

### Think about your heifer growth expectations

**H**EIFERS, rightfully, are viewed as replacements for current milking cows, for expanding the herd, or for starting a new herd. Unfortunately, too often they are looked on simply as a major expense, rather than as an investment which will pay back when they enter the milking herd. Perhaps it is this outlook that accounts for the urge to cut heifer costs rather than to look at the end results desired and the financial returns.

There are a number of issues in feeding and caring for heifers which impact on cost and returns. One is the principle that younger, growing calves and heifers have lower nutrient maintenance needs. This largely is due to their smaller body weight. So less nutrient intake is needed for maintenance requirements, and more is available for growth.

As a simple example, consider that a 200-pound heifer growing at 2 pounds per day is adding to her body weight at 1 percent a day. But a 1,000-pounder growing at the same 2-pound rate is only increasing her body weight by 0.2 percent per day.

The larger heifer needs over three times the dry matter intake of the smaller heifer to accomplish the same daily gain. It must first maintain five times more body weight than the smaller heifer before nutrients can be utilized for growth.

#### **Smaller size, more efficient . . .**

The significance of this is that you do not want to focus on cutting feed costs for younger heifers unduly. Their high efficiency of nutrient utilization makes their feed cost per pound of body weight or per inch of height increase lower than older heifers even though the cost per pound or per ton of the feed is or should be higher.

This is not just some abstract scientific principle. Wisconsin data from 62 herds (April 25, 2000 issue, page 303) showed that daily feed cost per heifer after weaning rose progressively with each additional 100 pounds of body weight. If over this approximately 22-month period, daily body weight gain is similar, and maintenance requirements rise with greater body weight, then feed costs per unit of weight or height also will go up even if some lower cost feedstuffs are used.

But some people may say heifers can compensate for lower growth rates when they are young with faster growth rates when they are older. That's the idea of compensatory gain. This is especially not true for height.

The author is the principal in Anihil, LLC, a St. Louis-based consulting firm.

About 50 percent of first-calf heifer height gain since birth should occur during the first six months. And another 25 percent occurs during the following six months. By the end of 12 months, heifers should be 75 percent of their first-calf height.

The first six months is particularly critical because this is hormonally and biologically controlled. I know of no published data that shows that lack of height increase up to the genetic potential of the heifer during the first six months can be compensated later.

Bone growth is the key factor here. We know from our own children how height changes occur with age and that there is some variability from child to child.

What may be some of the most limiting factors in feeding and caring for heifers? Let's consider water and dry matter intake.

#### **Water is cheap, vital . . .**

It is puzzling why, if water generally has little or no cost except to make it available for heifers to drink, there often is such a cost scrutiny to provide it. I once heard a producer describe how much money in labor a year was saved by not providing water to calves. But what benefit was not gained, the opportunity cost, by not providing water?

Since there is a general relationship of about 4 pounds of water intake per pound dry matter intake, if water intake is limited, then dry matter intake and performance also will be limited. And this would occur when the calf or young heifer is most efficient at utilizing nutrients as discussed above.

In remodeling or adding new heifer facilities, providing water too often is almost an afterthought. Or it is viewed strictly as cost to be limited.

#### **Are they comfortable?**

Other major limits to dry matter intake are in ventilation and overcrowding. Poor ventilation adds to humidity and temperature that makes heifers uncomfortable. This is reflected in lower intake. Do we eat well in hot, humid, or muggy conditions? Of course not.

Even in cold weather, humid conditions lower intake. This often can be noted if two facilities are adjacent or nearby. Even we can notice the difference in air quality and note that heifer intake and performance is affected.

Overcrowding in terms of not providing feed manger space or free stall/loose housing space affects

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comfort of heifers. The problem is that, since there are no "control" animals under optimal conditions at the same site, it is not normally obvious that dry matter intake is affected. But, if heifers have to compete to eat, stand more than they would like, lie in alleys, or are crowded in lots or loose housing, they will not eat as much as they otherwise would.

Lastly, we need to remember that not all heifers are created equal. Since they are exposed to such a variety of factors during their growth period, this is hard to factor out. But a recent large-scale Danish study, done over several years using several bulls, calculated genetic variation in growth and its relationship to milk yield potential.

Daily gain was calculated as varying more than 0.2 pound due to genetics. Furthermore, the top 10 percent of all these heifers gained 0.2 pound more per day, weighed 165 pounds more at first-calving, and produced more than 14 pounds more milk per day throughout their first lactation

than the bottom 10 percent. And they were all fed the same ration.

This has particular significance for realistic goals in age at first calving. If 24 months is a realistic goal, why not reduce that further and reduce rearing costs even more?

There are two problems . . . both related. If heifers are grown too fast, they will become fatter and not produce as much milk in their first, and likely, later lactations. Some heifers with the genetic ability can and will grow fast enough without fattening to calve at 22, 20, and maybe even younger ages.

#### Heifers differ . . .

But not all heifers have that genetic ability. Some may take 26 to 28 months to achieve realistic pre-calving goals of about 1,400 pounds and 54- to 55-inch wither height for most Holsteins. Trying to push these heifers down to 24 months at first calving may be a problem. This challenge is reflected in the difference between the top 10 percent and the bottom 10 percent noted in the Danish study. 

## Biosecurity plans pay big dividends

by Donald E. Pritchard

OVER the past few years, producers have become more aware of the need to have biosecurity programs for their farms. What potential diseases to be concerned about, how those diseases could be introduced onto a farm, and ways of preventing or reducing the risk of introducing those diseases have been the topics of discussion at many educational meetings and in dairy publications.

At the 41st annual meeting of the National Mastitis Council, a dairy producer from Ontario, Canada, spoke about his experiences of implementing a biosecurity program and the practical difficulties he has faced in following such a program. For five years, his dairy farm has been the host location for a genetic evaluation program of first-calf heifers from across Canada and the U.S.

Cows that are candidates for the program have been tested for various diseases before they are brought to the farm, and certain vaccinations had to have been given the cows. Animals that haven't passed the tests are rejected (more than 50 percent) and not allowed to come onto his farm. The animals that are accepted into the program are integrated into his herd and spend their first lactation there before returning to the herd they came from.

Some of the comments that the producer, Peter Schuttel, gave about his experiences are presented below.

- His biosecurity efforts have resulted in his own cattle being healthier. They now last longer in his herd and have been easier to care for.

- He believes that every produc-

The author is a dairy extension specialist at North Carolina State University, Raleigh.

er randomly should be checking their cattle for major diseases present in their area. For him, Johne's and mastitis are the two most important diseases he checks cows for.

- He thinks producers limit the potential of their cattle by the environmental limitations they are subjected to. For example, people spend large sums of money on cattle genetics and then place expensive embryos in recipients of unknown health status, or place expensive purchased cattle in a dirty environment, or do not provide adequate amounts of clean feed and water.

- Currently, he spends about \$20 per cow per year on testing for various diseases. That figure was doubled initially with all the tests that were run. The testing expenses are a good investment, he believes. The annual costs of maintaining a disease biosecurity program drop significantly when you move from eradication to monitoring.

- Major costs associated with the program have been the high cost of premature culling and the loss of value on high genetic value animals that test positive.

He concluded his remarks by stating that the issues of food safety and antibiotic resistance will create increasing pressure on the dairy industry. He believes producers need to be proactive and prevent disease by providing cattle with a sound and sustainable environment.

Every dairy producer should have a biosecurity program implemented in his operation. I urge producers to contact their veterinarian, extension agent, or other dairy industry consultant to obtain assistance in developing a program tailored for each farm's specific needs. 

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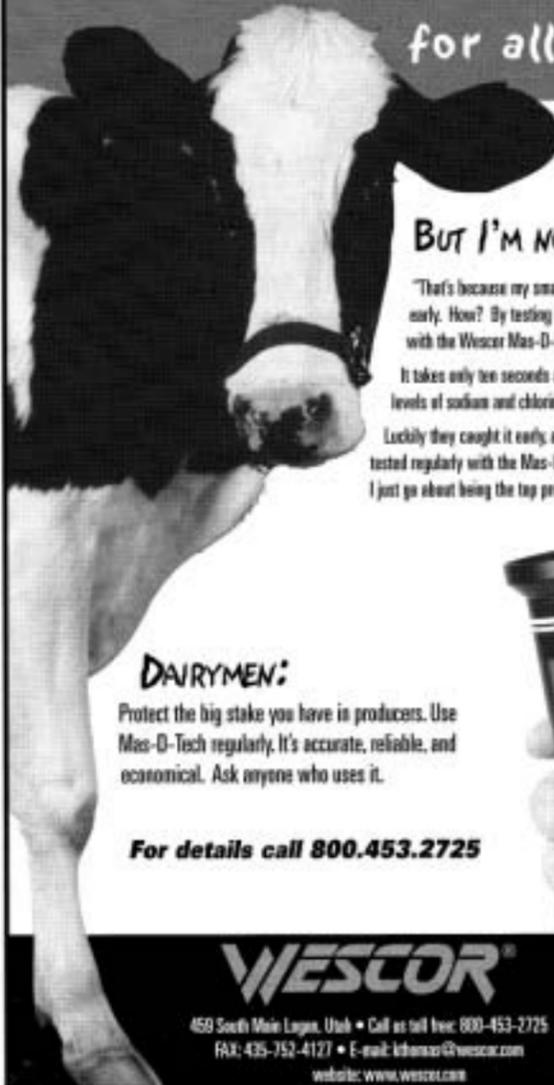
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