Accurate Heat Detection Lowers Calving Intervals

BY
DR. GEORGE F. W. HAENLEIN
Extension Dairy Specialist
University of Delaware

On farm visits, it's not unusual for Holstein producers to tell me that a particular cow which gave 12,000 pounds of milk last year and is milking this lactation at barely herd average has had no problems with regular calving intervals of 12.5 months, year after year. They may then point to another cow that milked over 100 pounds per day last month and this, but which still hasn't been bred back although she's already three months fresh.

In our University of Delaware dairy herd we have similar experiences with Holsteins and colored breeds, even though you'd think these cows would know better, from all the academic exposure, personnel and animal breeding lectures going on around them daily!

As the cows in our U.S. dairy herds are genetically improved through selection for higher and milk production per day per lactation, is the price for that progress going to be longer calving intervals?

Do our cows need--physiologically, endocrinologically and nutritionally-- longer calving intervals to be able to produce these ever higher daily amounts of milk? In other words, do the simple laws of chemistry, physics and energetic balances dictate that these super cows have a certain number of days-open to do it?

Some old and astute dairy farmers have thought so for some time. They therefore use 365-day lactations instead of the standard 305-day lactations once considered the ultimate goal years ago when Holsteins averaged only 8,000 pounds per year and a 100-pound-per-day cow was looked at as a miracle.

Oddly enough, dairy goats have, by evolution, solved this dilemma very neatly. Instead of increasing their kidding interval, dairy goats have a much shorter pregnancy length (5 months versus 9½ months for cows). This allows them to have a 12-month kidding interval and at the same time have twice as many open days as cows. As a result, they're able to attain daily milking rates of as much as 10 percent of body weight with less nutritional deficit and fewer reproductive problems than our high producing cows.

What should we dairy farmers do? Economists tell us that it costs $2 per cow in lost milk income for every day over a 13-month calving interval. Since a 13-month interval equals 395 days and a Holstein pregnancy lasts at most 290 days, there's a 105 day difference– I repeat, only 105 days– in days-open. During that time our cows must do four important things: (1) show estrus, (2) be bred, (3) conceive, (4) permanently implant and grow the embryo.

Different levels of dairy management skill may be more critical to the successful completion of these four steps than the biology of our cows and bulls.

Here in Delaware our best herd, milking 81 cows, averages 94 days-open or 11 days better than the above-discussed goal. The worst averaged 204 days-open last year with 97 cows, while our county averages ranged from 120 to 140 days-open. Nationally, the average is 136 days.

Multiplying the $2 per day per cow difference between these different lengths of days-open gives some tidy differences in milk income for these herds. The money involved can mean the difference between survival and drop-out.

On an average dairy farm, cows are bred the first time around 60 days after calving. Since heat detection identifies, on average, only 55 percent of all cows, and first inseminations have only about a 52 percent success rate, this means only 29 percent of the cows will have a calf within the target calving interval. Studies have shown that, overall, cows are responsible biologically for only 11 percent of the failures to detect heat; 89 percent are apparently missed by management failures.

Once cows have been detected in heat and are bred, research shows that 58 percent of the failures to produce a pregnancy are caused by embryo mortality and 21 percent by other biological causes. Management failures apparently account for up to 21 percent of the remaining losses that cause prolonged number of days-open.

So, what can you do to reduce your $2 per day per cow losses from prolonged days-open? Plenty! Average statistics show that better heat detection should be your No. 1 priority to increase farm income. Improve that and your calving interval should improve automatically.

ASA Survey Shows Nationwide Soybean, Corn Planting Down

ST. LOUIS Mo. — U.S. farmers plan to plant 60.842 million acres of soybeans this year, according to a survey released by the American Soybean Association (ASA). The survey indicates farmers will plant 2.288 million fewer acres of soybeans this spring than last. In 1985 soybean planted area totalled 63.130 million acres.

The survey was a random sample of 8,423 soybean farmers in 29 major soybean-producing states conducted by a questionnaire mailed April 14.

The ASA planting intentions survey indicates a 1.203 million acre reduction in soybean planting from USDA's March Prospective Planting Report that showed soybean planting intentions of 62.045 million acres.

The planting intentions have been divided into five regional areas:

- The Eastern Corn Belt (Illinois, Indiana, Ohio, Michigan and Wisconsin) will plant 19.235 million acres, a 285 thousand acre increase from 1985.
- The Western Corn Belt (Iowa, Minnesota, Missouri, Kansas, Nebraska and the Dakotas) will plant 23.610 million acres, a 670 thousand acre decrease from 1985.
- The Mid-South (Arkansas, Louisiana, Mississippi, Texas, Kentucky, Oklahoma and Tennessee) will plant 11.106 million acres, an 884 thousand acre decrease from 1985
- The Southeast (Alabama, Georgia, Florida and the Carolinas) will plant 5.141 million acres, a 1.089 million acre decrease from 1985.
- The Mid-Atlantic states (Delaware, Maryland, New Jersey, Pennsylvania and Virginia) will plant 1.751 million acres, a 71 thousand acre increase from 1985.

The ASA Survey also showed that farmers plan to plant 78.529 million acres of corn; a 5.8 percent decrease of 4.819 million acres from 1985. The Eastern Corn Belt showed a 7.5 percent decrease of 2.226 million acres from 1985. The Western Corn Belt showed a 4.9 percent decrease of 1.838 million acres from 1985. The Mid-South showed a 4.1 percent increase of 195 thousand acres from 1985.

Cut corn ear rot now

NEWARK, DE — Farmers who experienced high levels of Diplodia ear rot in corn last fall may be wondering what can be done to prevent a recurrence this year.

According to University of Delaware extension plant pathologist Bob Mulrooney, three conditions are needed for another outbreak: the Diplodis fungus, favorable weather, and a susceptible hybrid.

How can growers affect any of these disease factors? "The fungus is everywhere on corn debris," Mulrooney says. "But if corn is not widely grown near a field which had a problem last year, where practical, plowing to bury corn debris in that field will reduce the number of spores present to infect this year's crop. However, plowing will be less effective if the field adjoins a neighbor's which isn't plowed, since spores could blow over from that field." Rotating to a different crop is another solution in problem fields.

Farmers can't influence weather but they can reduce its effects on ear rots by planting several hybrids with different silking times to spread the risk. If just one hybrid is planted, it could become severly infected if the early part of the season is dry, followed by wet weather before and after silking — optimal conditions for fungal development.

Beyond that, Melrooney says growers can reduce stress on corn plants during dry periods by irrigating if possible. Also, avoid extremely high plant populations and use a balanced fertility program, avoiding high nitrogen and low potash levels.

"From our limited observations of this disease on Delmarva, there don't appear to be any corn varieties with good resistance to Diplodia ear rot," the plant pathologist says.