

Reviewing and Monitoring Herd Performance (continued)

Herd Reproduction

Its silly to say any one aspect of dairy herd management is the most important because everything is so interrelated. At the same time we can confidently say that a truly successful dairy must have strong reproductive performance. It used to be very hard to determine how well we were doing currently because of the lag that is inherent in reproductive actions and determining reproductive results.

Herd reproduction performance monitoring was revolutionized with the development of the 21 Day Pregnancy Risk.

Do not use average days to first breeding, days open, calving interval, or minimum projected calving interval. Forget them all and, instead know your 21 Day Pregnancy Risk. The pregnancy risk is the percentage of eligible animals that have become pregnant within a 21 day period.

This breaks the herd down into 21 day periods and for each period lists the number of animals that are eligible to be bred, the number bred, the percentage bred, the number that were eligible to diagnose pregnant or open, the percent pregnant and finally the number of the pregnancies that aborted.

Eligible animals are those that are past their voluntary wait, not already pregnant, and not yet coded "Not to Breed".

New to this analysis is listing the pregnancies that are "lost" or abortions. This is helpful as people move to technologies such as ultra sound and want to measure the losses of those very early pregnancies.

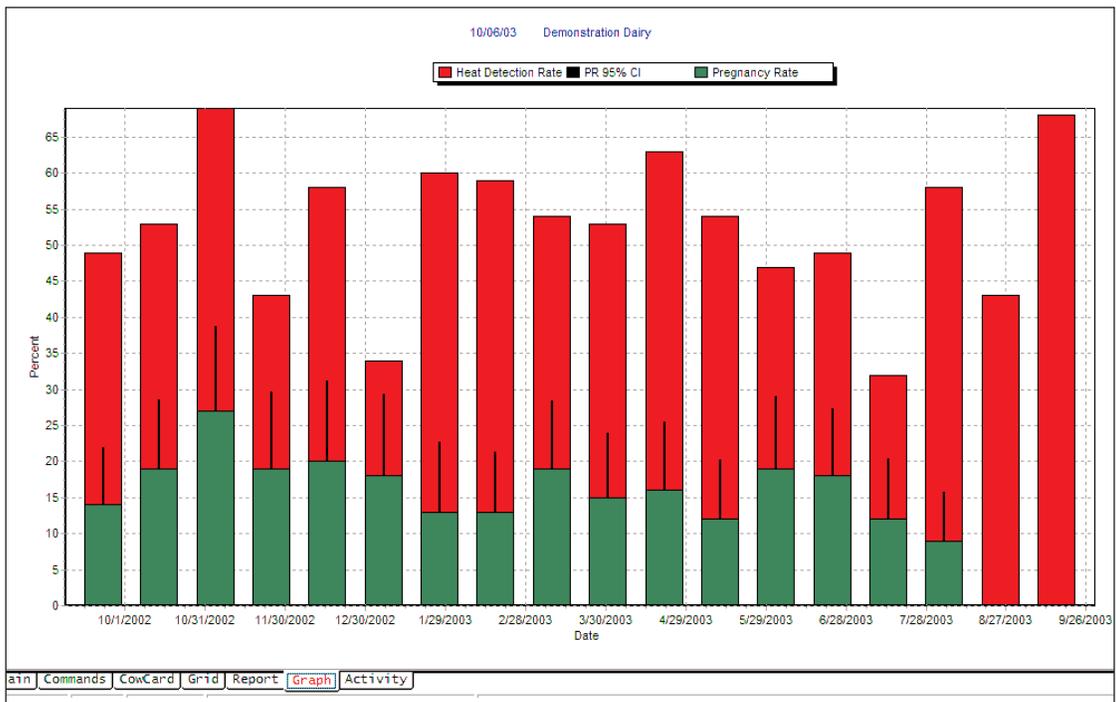
| - Command : BREDSUM\E | | | | | | | | | | | |
|-----------------------|---------|-------|-------|---------|-------|------------|-------|-------|-------|-------|-------|
| Date | Ht Elig | Heat | Pct | Pg Elig | Preg | Pct Aborts | 25 | 50 | 75 | 100 | |
| ----- | ----- | ---- | --- | ----- | ----- | --- | --- | --- | --- | --- | --- |
| 9/23/02 | 74 | 36 | 49 | 74 | 10 | 14 | 1 | P | H | | |
| 10/14/02 | 64 | 34 | 53 | 64 | 12 | 19 | 0 | P | H | | |
| 11/04/02 | 58 | 40 | 69 | 55 | 15 | 27 | 3 | P | H | | H |
| 11/25/02 | 54 | 23 | 43 | 53 | 10 | 19 | 3 | P | H | | |
| 12/16/02 | 50 | 29 | 58 | 49 | 10 | 20 | 2 | P | H | | H |
| 1/06/03 | 44 | 15 | 34 | 44 | 8 | 18 | 0 | P | H | | |
| 1/27/03 | 47 | 28 | 60 | 46 | 6 | 13 | 0 | P | | | H |
| 2/17/03 | 63 | 37 | 59 | 62 | 8 | 13 | 2 | P | | | H |
| 3/10/03 | 68 | 37 | 54 | 67 | 13 | 19 | 0 | P | | | H |
| 3/31/03 | 62 | 33 | 53 | 61 | 9 | 15 | 0 | P | | | H |
| 4/21/03 | 60 | 38 | 63 | 58 | 9 | 16 | 3 | P | | | H |
| 5/12/03 | 59 | 32 | 54 | 59 | 7 | 12 | 1 | P | | | H |
| 6/02/03 | 58 | 27 | 47 | 58 | 11 | 19 | 1 | P | | | H |
| 6/23/03 | 65 | 32 | 49 | 65 | 12 | 18 | 3 | P | | | H |
| 7/14/03 | 57 | 18 | 32 | 57 | 7 | 12 | 0 | P | | | H |
| 8/04/03 | 69 | 40 | 58 | 68 | 6 | 9 | 2 | P | | | H |
| 8/25/03 | 69 | 30 | 43 | 0 | 0 | 0 | 0 | Undet | Preg | Stat | |
| 9/15/03 | 65 | 44 | 68 | 0 | 0 | 0 | 0 | Undet | Preg | Stat | |
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Total | 952 | 499 | 52 | 940 | 153 | 16 | 21 | P | | | H |

Overall this herd has a 16 percent pregnancy rate. A more valuable number may be the more current pregnancy rate for the last 150 days.

BREDSUM\ED150 – (E runs the 21 day pregnancy risk, and the D150 restricts the results to the last 150 days.

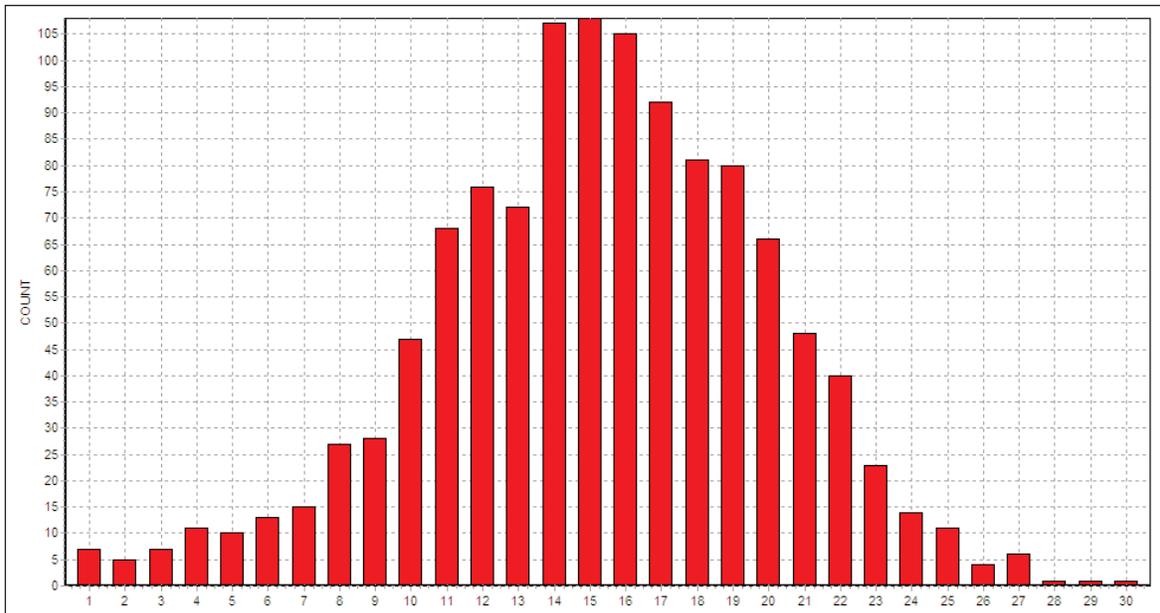
| - Command : BREDSUM\ED150 | | | | | | | | | | | |
|---------------------------|---------|-------|-------|---------|-------|------------|-------|-------|-------|-------|-------|
| Date | Ht Elig | Heat | Pct | Pg Elig | Preg | Pct Aborts | 25 | 50 | 75 | 100 | |
| ----- | ----- | ---- | --- | ----- | ----- | --- | --- | --- | --- | --- | --- |
| 5/11/03 | 54 | 32 | 59 | 54 | 7 | 13 | 1 | P | | | H |
| 6/01/03 | 58 | 27 | 47 | 58 | 10 | 17 | 1 | P | | | H |
| 6/22/03 | 64 | 32 | 50 | 64 | 13 | 20 | 3 | P | | | H |
| 7/13/03 | 56 | 13 | 23 | 56 | 5 | 9 | 0 | P | | | H |
| 8/03/03 | 70 | 42 | 60 | 69 | 7 | 10 | 1 | P | | | H |
| 8/24/03 | 69 | 32 | 46 | 0 | 0 | 0 | 0 | Undet | Preg | Stat | |
| 9/14/03 | 65 | 45 | 69 | 0 | 0 | 0 | 0 | Undet | Preg | Stat | |
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| Total | 302 | 146 | 48 | 301 | 42 | 14 | 6 | P | | | H |

The pregnancy rate the last 150 days is 14 percent. Some people prefer to look at the pregnancy rate graphically.



This graph includes confidence "bars" that represent a 95% confidence range. The more animals in each group, the greater the confidence we can have that we can separate normal variation from changes in performance. If bars overlap, we are less than 95% confident that the values represent different performance.

21 Day Pregnancy Risk



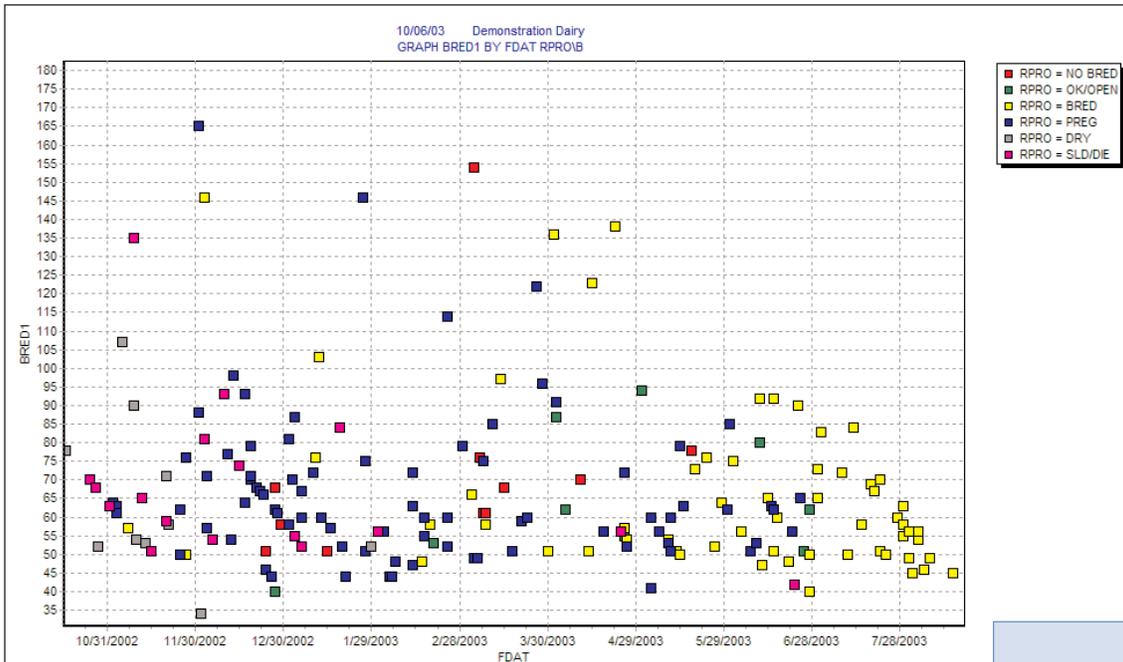
This is a distribution of the annual pregnancy rate for herds in the Northeast with more than 100 cows, as they came through The Dairy One LOOP and Dairy Comp 305. This is "raw" information and we can not tell how many of the very low pregnancy rates (1, 2 and 3 percent) are because of dairies that do not regularly report their pregnancies to their DHI technician.

We can see that

- 1) Almost all herds over 100 cows report some pregnancy information to their technicians, and it appears that most of them do a pretty good job.
- 2) The most frequent Pregnancy risk in Northeast Dairies is 14, 15, and 16 percent.
- 3) It is possible to get pregnancy rates of greater than 25 percent.

An important component of the breeding program is the control the dairy exerts over the first service.

Finally, do not compare Dairy Comp 305 Pregnancy Risks with other sources of Pregnancy rate calculations. We know they are different, primarily because of the way they handle do not breed cows and Bull pen cows.



This scatter plot shows the first breeding pattern for the herd. Animals are represented as dots. Those dots furthest to the right calved most recently. The higher the dot the more days in milk the animal was when she had her first service. Animals that left the herd and "Do Not Breed" animals are also noted.

When ever you look at a scatter plot of historical information be sure to include animals that have left the herd.

A great monitoring point for heat detection is a list of animals more than 70 days in milk, and not bred yet, and not "Do Not Breed".

```
- Command : SHOW ID DIM LACT FOR DIM>70 TBRD=0 RC>1
  ID  DIM  LACT
  ====  =====  =====
  3086  73    3
  3187  93    2
  3189  97    2
  3298  72    1
  Total: 4
```

The broad dispersion of the graph tells us that the dairy is not following a tight synching protocol for fresh cows, and the short list of animals more than 70 days not bred tells us they do not currently have a problem getting the first service into their animals.