

Dairy Records Management Systems

Using Pregnancy Rates to Assess Your Herd's Reproductive Performance

Pregnancy rates have been added to your *DHI-202 Herd Summary* in the “Yearly Reproductive Summary”. This article will define this term and provide suggestions for its interpretation and use.

Pregnancy rate is the percent of the eligible cows that become pregnant within a specific period of time. It measures how well and how quickly the herd management staff is getting cows pregnant. The staff should focus on pregnancy rate and the factors that affect its change to ensure that enough cows will calve soon enough to keep the barn or parlor full.

Although it is not computed this way for the *DHI-202*, an approximation of pregnancy rate is heat detection rate (Percent-Heats-Observed) multiplied by conception rate (Percent-Successful) divided by 100. This approach makes it clear which management practices are at the core of the herd's pregnancy rate: **identify which cows are in heat and then successfully breed them**.

However, some herd managers do not record all heats and breedings because either they use natural service bulls or they prefer to just record the terminal or successful breeding. When either of these approaches is used, the Percent-Heats-Observed will be artificially low and the Percent-Successful will be artificially high. For these herds, although pregnancy rate cannot be derived by multiplying Percent-Heats-Observed by Percent-Successful, the new pregnancy rate will be true.

Pregnancy rates will be printed on the *DHI-202* for each test period and for the recent 12 months. Please notice that a complete year of pregnancy rates will be available within 8 to 9 months.

Although pregnancy rates are often expressed in terms of 21-day periods in the popular dairy press, this is not necessary when computing this important measure of reproductive success. Each normal open cow has an opportunity to become pregnant once in a 21-day period but multiple and fractions of 21-day segments can be summarized for the *DHI-202 Herd Summary*.

What Will Pregnancy Rates Look Like?

The table below illustrates pregnancy rates for the 13,500 cow herds that send their DHIA data to DRMS.

<u>Herd Size</u>	<u>Pregnancy Rates</u>		
	<u>Average</u>	<u>Top 25%</u>	<u>Top 10%</u>
30 – 99	16	19	25
100 – 499	13	15	19
500 – 999	13	16	19
<u>1,000+</u>	<u>13</u>	<u>15</u>	<u>18</u>

Clearly, pregnancy rates for herds with less than 100 cows are higher than pregnancy rates for larger herds. However, there are no differences among the pregnancy rates for herds larger than 100 cows. When the underlying data for these herds was examined, it was found that Percent-Heats-Observed for all herds were about the same. Percent-Successful was significantly higher for small herds which probably reflects the well-known higher conception rates in the northeast and north central U.S. where many of the smaller herds are located. It also might indicate that smaller herds apply a higher level of attention to details during the breeding process.

How Should This Information Be Used?

As discussed above, several factors impact pregnancy rates. Inattention to any of them can result in a decline in the primary goal of a successful breeding program: pregnant cows ASAP. If your pregnancy rate is less than the rate for the top 25% for your herd size, you have some work to do. Methodically focus on the components of the breeding program by paying attention to the factors on the reverse of this page. If your pregnancy rate is higher than the top 25%, set your goal 5 to 7 points higher.

Please notice: You can control two features to ensure that pregnancy rates on the *DHI-202 Herd Summary* are as accurate as possible:

1. Report a reproductive status of “C” for cows that you do not intend to breed.
2. Appropriately set option “62- Routine Preg Check Y/N” which controls how the *DHI-202 Herd Summary* uses reproductive data for your herd. If the box in the *DHI-202* top right corner states:

COWS BRED BUT NOT DIAG. PREG (option 62=number of days from bred date to preg check date): you must report pregnancy results. Your pregnancy rate will be deflated if the program does not have pregnancy status.

COWS BRED SINCE (option 62=N): the program will use non-return to identify pregnant cows.

To change how the program uses reproductive data, discuss option 62 with your DHI technician.

Regardless of the option you choose, you cannot compare pregnancy rates from the *DHI-202 Herd Summary* with pregnancy rates from PCDART or other onfarm systems unless you record all pregnancies ASAP after breeding.

Top Ten Priorities For Successful Reproductive Performance

Mike O'Connor, Penn State Dairy and Animal Science Extension, Larry Swartz, GENEX Cooperative

1. Feed a transition ration and adjust the ration so feed intake is maximized and postpartum problems are minimized during early lactation. Monitor cows closely during the first few weeks of lactation so that metabolic problems are detected and treated early. Cows losing more than one point of body condition score will have delayed conception.
2. Prevent problems before they begin. Provide a clean dry maternity area. Stop metritis, mastitis, and delayed conception where they begin.
3. Establish an appropriate voluntary waiting period to first breeding and make it your critical control point. Pre-breeding heat detection rate is an important factor to obtaining high pregnancy rates.
4. Get in and mingle. Walk through the free-stall area to observe standing behavior and secondary signs of heat.
5. Set-up a standard operating procedure (SOP) for heat detection, reporting observed heats and timing of insemination. Who is in charge of the reproductive management program? (“Everyone” is not a good answer.)
6. If heat detection isn’t on your daily list of priorities, consider using an estrous synchronization program with timed insemination. Use heat detection aids to detect return heats and reduce the inter-service interval.
7. Don’t take shortcuts with semen handling or insemination technique. Breeding kits and supplies need to be kept clean. Deposit semen beyond the cervix. Take a refresher course!
8. Is she or isn’t she? Routine and timely pregnancy checks are critical to get repeat breeders back in the ball game. Since embryonic mortality has been linked to mastitis, reduce SCC and the incidence of mastitis.
9. In consultation with your veterinarian establish an effective vaccination program.
10. Take corrective action to improve cow comfort, hoof health and provide good footing.
11. For an additional boost in fertility, use Estimated Relative Conception Rates (ERCR) to identify fertile bulls. And for long-term improvement of fertility, select sires with higher Daughter Preg Rates (DPR).