



DAIRY CATTLE REPRODUCTION COUNCIL

## The dollar value of a pregnancy

Getting cows pregnant has multiple financial benefits, including another lactation and additional replacement heifers. These benefits don't even begin to address reduced A.I., dry cow feed and other additional costs associated with poor reproductive performance.

According to Dr. John Fetrow, College of Veterinary Medicine at the University of Minnesota, improving pregnancy rates on the dairy results in superior herd financials. These additional profits result from a multitude of areas, including:

- Decreased average days in milk in the lactating herd, resulting in additional milk
- Less culling of good cows solely because of reproductive failure
- More calves per year as replacements and to sell as replacements
- Improved genetic advancement
- More reliable management and less variation in lengths of lactation and dry period
- Heifers calving at the appropriate age and condition

### Every Animal Fills a “Slot”

Dr. Fetrow discusses a concept of “slots”, where cows make profit throughout their lifetime based on a certain role they fill in the herd. The “slots” are filled for variable periods of time and will eventually be occupied by younger, more profitable heifers on the dairy. How long a cow remains in a slot depends on multiple factors, including:

- Production level and milk price. Cows with higher levels of production typically stay in their “slot” longer than a cow with poor production. In most instances, if a replacement heifer could perform better over the long term than an older cow, the older cow is removed from her “slot”. In times of high milk prices, the heifer doesn't have to perform much better than the existing cow to make the exchange financially sound.
- Feed costs. Profit margins are narrowing as feed prices go up, which makes culling less desirable. The replacement heifer must be better than the older cow for the “slot” to be passed from the current cow to her successor.
- Cost of replacements. Higher replacement heifer costs mean older cows fill their “slots” for a longer period of time. Reasonably priced heifers mean younger animals don't have to be much better than the older generation to take their “slot”.

The concept of slots is important to understand as you begin to make decisions about your herd's reproductive performance. Cows with poor reproductive performance may be forced to leave their slots sooner than desirable. By improving reproductive hang-ups, you can make herd decisions based on profitability, rather than culling cows solely based on reproductive status.



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### **Calculating Pregnancy Value**

One pregnancy is worth between \$200 to \$600 to the dairy, depending on milk price and the cost of replacement heifers, says Dr. Fetrow. Pregnant cows with high production records or superior genetic potential are worth even more because of the additional profits their offspring can provide to your operation.

Fetrow notes that a one percent improvement in pregnancy rate is worth \$15 to \$35 per cow per year. Although a rough number, it shows the magnitude of the impact of improving reproduction. In herds with poorer reproductive programs, the effects have an even bigger negative impact on performance and profitability.

For example, if an 800-cow dairy has a pregnancy rate of 17 percent and, with proper management practices and nutrition, raises it to 20 percent, the herd sees an improvement of \$45 to \$105 per cow per year, or additional profits ranging from \$36,000 to \$84,000 per year.

Part of the value of improving pregnancy rates comes from reducing days open. One day open can cost anywhere from \$2 to \$6, says Dr. Fetrow, which takes into consideration the impact additional days open have on milk production, days dry and the number of calves born. The cost of a day open is higher in a herd with poor reproductive performance because they experience the negative effects of extended days open from a chronically poor program.

### **Making Changes, Economically**

Dr. Fetrow turns to numbers to help make decisions about changing reproductive programs and choosing which cows should be removed from the herd. One tool he recommends is a spreadsheet to identify where your reproduction program is now and where a proposed program may take you. In a spreadsheet detailing the current situation, Dr. Fetrow recommends estimating the average days open and the number of cull cows in the herd. This will create a baseline number for your current operation.

On a separate spreadsheet, calculate the same numbers for where you think a new reproductive program could take your herd. This would mean including any improvements in days open, percentage of herd culls or higher pregnancy rates. If you are deciding to put together a partial budget with a new program, be realistic; if the improvements in pregnancy rates are greater or the cull rates lower than achievable, it may look good on paper, but be too expensive in reality.

With the current situation and new goals created, Dr. Fetrow says to create a partial budget which will take into account your current profits, as well as changes in costs and profits from the proposed change.

At any given time in a herd, there are only about 20 percent of the cows that can be affected by your reproductive program (the rest are either pregnant, too soon after calving to breed or will not ever be bred). These 20 percent are the cows on which to focus reproductive attention.

Take the time to review your reproductive program and how you could make improvements. As you can see, the value of each pregnancy can mean additional profits from a myriad of places. Seize the extra cash that's rightfully yours by polishing up your herd's reproductive performance.