today's dairy herd is a variable called the "Effective Pregnancy Rate" (EPR). The EPR is the number of animals that became pregnant during a specified period of time (usually 21 days) divided by the number of animals that were eligible for breeding during that period. EPR may also be expressed as the percentage of the herd pregnant by different time intervals post-calving (100 or 150 days in milk). Expressed in another fashion, EPR is simply the percentage of eligible animals presented for insemination (heat detection efficiency) multiplied by the conception rate per A.I. The effective pregnancy rate has the advantage of being an all-encompassing indicator of your herd's reproductive performance. It doesn't matter if animals were bred to standing estrus or to Ovsynch, first service or to a repeat insemination as long as they got pregnant within our breeding window.

"The most meaningful variable in gauging reproductive performance in today's dairy herd is a variable called the "Effective Pregnancy Rate" (EPR).

In Figure 1, the cumulative pregnancy rate of a herd that achieves our historic goals of 75% estrus detection efficiency and 60% conception rate A.I. (45% EPR) is compared to one that DHIA processing centers would consider an "average" herd of today (50% heat detection efficiency x 50% conception = 25% EPR). According to ideal standards (45% EPR), 70% of the herd should be pregnant by 100 days in milk and 92% should be pregnant by 150 days in milk. However, with an EPR of 25%, the "average" herd will struggle to approach 70% pregnant by 150 days in milk.

Effective pregnancy rate is not a new concept, it's always been important. In the past however, we've mainly focused on the individual components of EPR (heat detection efficiency and conception rate) when it's the end result that's really most important. A conception rate of 60-70% is of little value if only 30% of your animals are detected in estrus (< 21% EPR). Likewise, an 80% estrus detection efficiency is of little value if conception rates per A.I. are <30% (24% EPR).

Failing to recognize the value of EPR in gauging reproductive efficiency may explain why many producers have failed to realize the potential economic benefits of incorporating the Ovsynch timed A.I. protocol into their herds. The Ovsynch protocol typically averages 30-35% pregnancy rate in most herds. Many herd owners conclude that this fertility level in unacceptable because they typically achieve 50% conception rates per A.I. The fact that the 50% conception rate is only applied to the 40 or 50% of the herd detected in estrus is often overlooked. Thus, after 21 days of continuous estrus detection, the EPR of this herd is < 25%. If you now consider a 30- 35% pregnant rate following a single fixed time A.I. with no days spent for heat detection, the Ovsynch program looks a little more enticing. With no other management changes, a herd that maintains a 25% EPR and treats all cows with Ovsynch at the end of the voluntary waiting period (60 days) should increase the percent cows pregnant by 100 days in milk from 40-50% to the 60-65% range (Figure 1). In such a herd, using Ovsynch is like starting a baseball game with 30 - 35 runs in the first inning. It doesn't guarantee a win, but, sure gives a nice comfort zone.

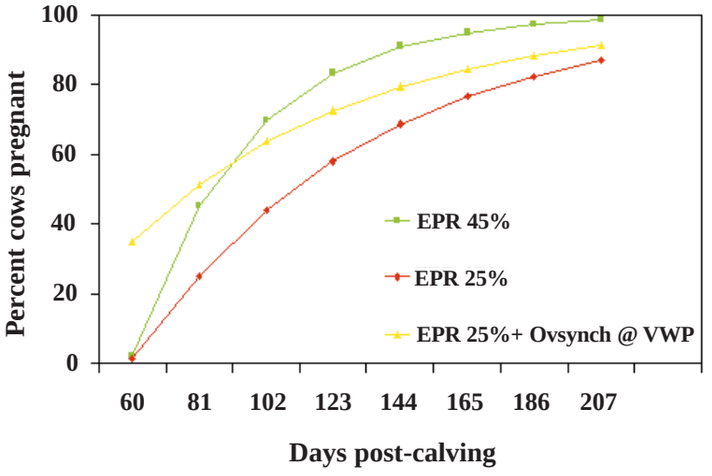

Figure 1. Cumulative pregnancy rates in response to varying effective pregnancy rates (EPR).

Ovsynch is obviously not the only answer, nor necessarily the best answer, for everyone's breeding problems. Increasing heat detection efficiency and / or conception rate are almost always the preferred method of improving EPR. Prostaglandin injections at the VWP (Target Breeding) and following an open pregnancy diagnosis can be more effective and cost effective than Ovsynch if heat detection is sufficiently intense during the synchronized period to catch these animals as they respond. However, if despite your best efforts your heat detection program still fails to meet expectations, Ovsynch is a viable alternative.

Although the EPR is an outstanding method of gauging the overall efficiency of your reproductive management program, it does not clearly indicate where a potential fertility problem resides. To troubleshoot a fertility problem, we must still determine if it is an estrus detection problem or a conception rate problem.

When considering implementation of new procedures in your reproductive management program, you must first be totally honest with the evaluation of procedures currently in place. Don't think staunchly in terms of how many cows were detected in estrus or how many services per conception are required. Go straight to the bottom line: Within the same amount of time, what percentage of open animals became pregnant with Technique A vs. Technique B? The economics of what it costs to achieve these results can then be calculated on a per pregnancy basis. The profitability of your dairy operation depends on EPR more than any other reproductive variable you can measure. ◆