

*A Reproductive  
Moment With*

**MEL**

# THE RULES HAVE CHANGED

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**W**hen was the first time someone told you that in order to remain profitable in the dairy industry you must catch 70% of the eligible heats in your herd, obtain 60% conception rates at first service and maintain a 12-12 month calving interval? When was the last time you actually achieved these goals? The rules of the thumb we typically use to gauge the success of our reproductive management programs were developed when the average herd had 40-50 cows and averaged <12,000 pounds of milk per lactation. However, recent DHIA summaries suggest the average dairy herd on test in the United States is now on the order of 130 cows and maintains a rolling herd average for milk production of about 19,000 pounds. Herds averaging in excess of 25,000 pounds of milk have become common.

Unfortunately, along with increasing herd size and milk production levels have come increased stress on the cows and reduced reproductive efficiency. While the specific causes for reduced reproductive performance in today's dairy herds are the subject of considerable debate, it's clear the average dairy of today is quite different than the average dairy of 20 years ago. Let's discuss why some of the age-old gauges of reproductive performance may not accurately reflect the true success of reproductive management programs in today's large dairy.

## HEAT DETECTION EFFICIENCY

Reduced efficiency and accuracy of estrus detection has likely been a significant contributor to reduced reproductive performance over the years. When we moved from 40-50 cows in dirt lots to several hundred cows on concrete, the rules of heat detection changed. More cows in a high stress environment on a footing surface that's not conducive to mounting behavior, means we have to spend more time per cow and will probably still fall short of our goal for estrus detection efficiency. Heat detection these days is usually the responsibility of hired labor opposed to yesteryear when a person with a vested interest in the operation was watching the cows (herd-owner or family member). Recent DHIA summaries suggest the average dairy producer today only catches 50% of the eligible heats in his herd.

Tail chalking and/or estrus synchronization have been adopted in many herds to help improve estrus detection efficiency and reproductive performance. While these management techniques do often improve reproductive efficiency, they can also cause problems in deciphering our typical benchmarks for reproductive performance. For example, a typical barometer of estrus detection efficiency has always been average days to first service (goal < 75 days). However, in a herd using the Ovsynch fixed time A.I. protocol, days to first service can be predetermined at the time of calving. Although all animals may be inseminated in a timely fashion, that does not mean they are getting pregnant. Thus, in herds using Ovsynch, days to first service is of little value in gauging reproductive performance.

Another typical measure of heat detection efficiency is the inter-estrus interval (number of days from one heat or insemination to the next). However, in herds with good heat detection, prostaglandin usage prior to the voluntary waiting period or after pregnancy checks may result in a relatively high percentage of both short and long inter-estrus intervals. Again, this does not automatically mean there is a problem.

## SERVICES PER CONCEPTION

Services per conception has histori-

cally been an indicator of the competency of the inseminator and the insemination process. However, in herds that breed strictly off tail chalk signs, service per conception is more likely a reflection of the accuracy the chalk interpretation. In some chalking herds, as much as 20% of the animals presented for A.I. were not really in heat. Nothing drives up services per conception like breeding pregnant cows or cows not in heat. While our goal for services per conception should remain <2.0, greater than 2.0 services per conception may not necessarily indicate a drastic problem if the services are occurring soon enough after the voluntary waiting period to keep days open to a reasonable length.

## DAYS OPEN

Average days open is another benchmark indicator of reproductive performance that has limitations in interpretation. In the past, the rule was that cows open in excess 90-100 days were costing you money due to lost milk production. While these numbers probably still apply for most herds, they may not be realistic for the highest producing cows (herds) of today. The ability of bST to add profitability to extended lactations adds another wrinkle to the equation. Thus, the entire concept of what is the appropriate calving interval for high producing herds (cows) has recently been the subject of considerable controversy. Depending on milk production levels, seasonal variation in milk prices, feed costs, replacement costs, season of calving and whom you ask, the answers will change from one herd (cow) to the next. Also, even though a high percentage of cows may conceive in a timely fashion, a small percentage of cull cows that are late in lactation may cause days open to appear artificially high if included in calculations. To use an extreme example, if 10% of the cows in a herd are open, bST injected culls averaging 350 days in milk and the other 90% were all pregnant before 125 day in milk, average days open will increase (decrease) by 25 days by inclusion (exclusion) of these animals in calculations.

## PREGNANCY RATE

The most meaningful variable in gauging reproductive performance in