

## **Influence of Mastitis on Reproductive Performance**

**John H. Kirk, DVM, MPVM**

Veterinary Medicine Extension

University of California Davis

Tulare, CA

The negative effects of mastitis are usually thought to be due to decreased milk production, loss of milk quality, increased veterinary costs, more discard milk and earlier marketing of affected cows. More recently California studies have found an association of mastitis with decreased reproductive performance. An early study in two herds by Moore et al. found that the cows in one herd with predominance of clinical mastitis due to Gram-negative bacteria such as coliforms had two times as many abnormal intra-estral cycles compared to cows with no clinical mastitis cases. In the other herd, *Staphylococcus aureus* was the primary cause of clinical mastitis and there was no difference in intra-estral cycles comparing the cows with and without clinical mastitis.

In another research report by Barker et al. the influence clinical mastitis was studied according to when it occurred in reference to first breeding and pregnancy diagnosis. They found that the number of days to first AI was significantly increased when mastitis occurred before the first AI compared to when it occurred after the first AI or after pregnancy was confirmed or cows without clinical mastitis. Cows that had clinical mastitis after the first AI but before confirmation of pregnancy had significantly more services and a greater number of days to conception compared to cows with mastitis before first AI, after pregnancy confirmation and cows without clinical mastitis. The cause of mastitis, either Gram-negative or Gram-positive had equal effect.

Schrick et al. studied both the effect of subclinical and clinical mastitis on reproduction. They found that when mastitis occurred before the first AI that there was an increase in the number of days to first AI, days open and services per conception compared to when mastitis occurred between the first AI and pregnancy or in cows without mastitis. Subclinical cases of mastitis had no effect when they occurred between the first AI and pregnancy. Clinical cases had similar detrimental effects as reported earlier by Barker et al. Cows found to have subclinical mastitis before the first AI that became clinical after the first AI had increased days to first service, days open and services per conception compared to the control cows without mastitis. They also confirmed the finding of Barker et al. that the cause of mastitis did not influence the effect.

Based on these findings, dairymen should do everything possible to reduce the incidence of types of mastitis during early lactation. Careful attention should be given to drycow treatment, housing and bedding for close-up, dry cows and fresh cows as well as nutritionally adequate supplementation of Vitamin E and selenium. Consideration should be given to early detection of mastitis after freshening by SCC or CMT followed by appropriate antibiotic therapy. Any strategy that will reduce mastitis during this critical period can be anticipated to increased reproductive efficiency.