



Increased Twinning Rates

Over time, producers have become well aware of, and rightfully frustrated, with increased twinning rates on their farms. Usually, there is a discussion of what causes this and why it's occurring, with some spirited opinions. As a starting point for this discussion here are some interesting numbers and observations from a study of Minnesota DHI archives looking at over 4000 herds, 2 million calvings, and 96 thousand twin births throughout a nine year period (1996 – 2004). The average overall twin rate during the nine year period was 4.2%, with an annual rate increasing from 3.4% in 1996 to 4.8% in 2004. The twin rate increased by subsequent lactations (1.2% for Lact=1 and 5.8% for Lact>2+). Also, the greatest twinning rate occurred when conception took place from August to October. The calf sex ratio was 53.3% male (M) and 46.7% female (F) for singleton calvings, and 30.1% MM, 43.6% MF, and 26.3% FF for twin calvings.

It is extremely difficult to link a direct cause and effect for increased twinning rate, but there is strong evidence for increased milk production of dairy cows and increased rate of twins. Since 93% of twins are non-identical, it is assumed that the majority of twins are a result of double ovulations. In one study investigating double ovulations, the average milk production was established for a group of cows. The cows with production above the average milk production of the group had 20.2% double ovulations, while the cows below the average milk production of the same group double ovulated only 6.9%. This difference was similar regardless of lactation number. In another study, cows producing greater than 50kg/day (110lb/day) of milk had more than a 50% double ovulation rate than cows producing less than 50kg/day. Unfortunately, it appears that as milk production increases twinning rates will also increase, but it should be noted that it is the milk production of the cow two weeks before ovulation, not necessarily overall production throughout a given lactation. The current theory for these observations is that in higher producing cows there is increased blood flow to the liver and thus subsequent greater hormone breakdown in the liver. But it should be noted that there is still work to be done on this theory.

As most are aware, we provide ultrasound service at pregnancy check to identify twins. This information can be used to handle cows carrying twins accordingly at dry off and calving to provide them with a smoother transition. If you have any questions about twinning rates or the information above, ask your herd veterinarian.

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References:

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