

Twin Pregnancies: An Observational Study from Two Alberta Dairy Herds

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The bovine is a monovular species but twin pregnancies have increased significantly in dairy cows in recent years. Most bovine twins are dizygotic therefore double ovulation is closely related to twinning in cattle. We determined the double ovulation rate, conception rate, pregnancy loss and calving outcome in 1021 lactating dairy cows subjected to an Ovsynch-type protocol from two Alberta dairy herds. Transrectal ultrasonography was used to determine ovulation and pregnancy outcome. Of a total of 862 cows that ovulated within 24 h after AI, 98 (11.4%) had double ovulations with 53% bilateral ovulations (one ovulation in each ovary). The conception rate at 32 d, pregnancy loss between 32 and 60 d after AI and total pregnancy loss to term in cows with single ovulation were 46.7% (357/764), 10.4% (37/357) and 13.2% (47/357), respectively. The conception rate at 32 d after AI in cows with double ovulation was 60.2% (59/98) and 67.8% (40/59) were twin pregnancies. Pregnancy loss between 32 and 60 d after AI in cows carrying twins was 17.5% (7/40); six more cows lost their pregnancy between 155 and 184 d after AI, resulting in a total pregnancy loss of 32.5% (13/40). Of the remaining 27 cows carrying twins, 7 delivered a single calf (possible spontaneous loss of one fetus), 5 delivered stillborn twins (in 4 cows both fetuses were in same uterine horn) and 15 delivered live twins. None of the 19 cows with double ovulation carrying a singleton lost the pregnancy until term. Only 30.0% (6/20) of the twin sets were female/female. The overall twin birth rate over the total number of cows calving was 5.6% (20/356).

Take Home Message: Eleven percent of the studied cow population had double ovulation and 15.6% failed to ovulate; 41% of those with double ovulation got pregnant with twins. Twin pregnancies were 2.5 times more likely to be lost compared to singleton pregnancies. Our data also confirmed that 1) spontaneous embryo/fetus reduction can occur and 2) presence of one fetus in each uterine horn may result in increased calf survival in cows with twin pregnancies.

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