

# Twin Pregnancies: An Observational Study from Two Alberta Dairy Herds

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## BACKGROUND

- Cows normally ovulate only a single follicle, but double ovulations and twin pregnancies have increased in recent years
- Double ovulations are closely related to twinning in cattle, and associated to milk production, parity and diet.
- Our objective was to determine double ovulation rate, conception rate, pregnancy loss and calving outcome in two herds adopting Ovsynch-type timed insemination programs

## APPROACH

- 1021 lactating dairy cows from two herds
- Cows were subjected to timed-AI (TAI) after synchronization of ovulation
- Transrectal ultrasonography was used to determine ovulation and pregnancy outcome

## FINDINGS

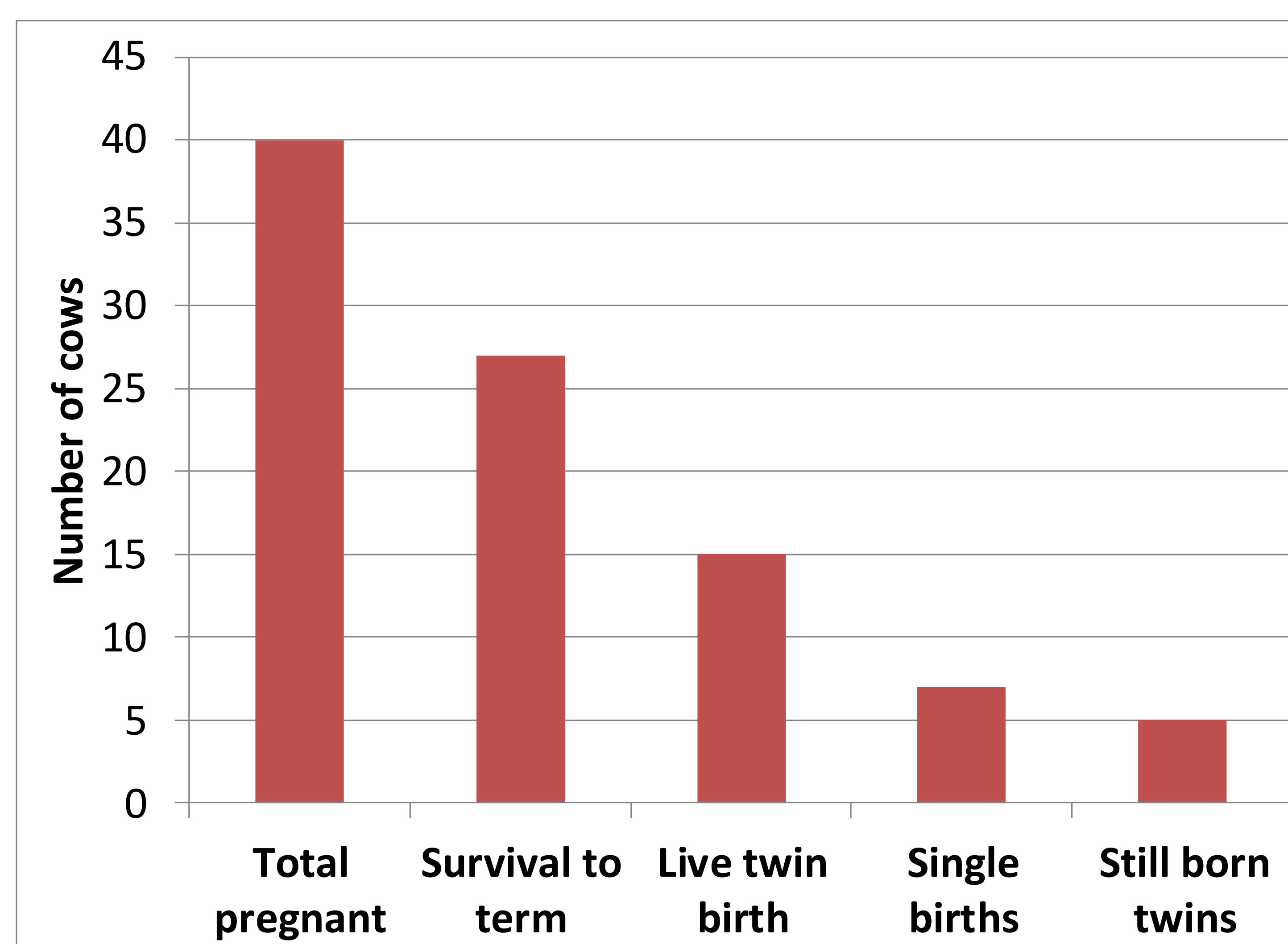
Table 1. Ovulation response

|  | No. of cows | Percent |
|--|-------------|---------|
| Ovulated within 24 h of TAI                  | 862/1021    | 84.4    |
| Failed to ovulate within 24 h                | 159/1021    | 15.6    |
| Double ovulation                             | 98/862      | 11.4    |
| • Bilateral (one ovulation on each ovary)    | 52/98       | 53.1    |
| • Unilateral (both ovulations on same ovary) | 46/98       | 46.9    |

Table 2. Conception rate and pregnancy loss in single and double ovulating cows

|                                | Single ov           | Double ov        | Combined           |
|--------------------------------|---------------------|------------------|--------------------|
| Conception rate (32 d)         | 357/764<br>(46.7 %) | 59/98<br>(60.2%) | 416/862<br>(48.3%) |
| Twin pregnancy                 | -                   | 40/59<br>(67.8%) | 40/862<br>(4.6%)   |
| Early preg loss (32 to 60 d)   | 37/357<br>(10.4%)   | 7/40<br>(17.5%)  | 44/397<br>(11.1%)  |
| Total preg loss (32 d to term) | 47/357<br>(13.2%)   | 13/40<br>(32.5%) | 60/397<br>(15.1%)  |

Figure 1. Calving outcome in confirmed twin pregnancies



## SUMMARY

- 11% of cows had double ovulation and 16% failed to ovulate after insemination
- 41% of double-ovulating cows carried twins
- Twin pregnancies had 2.5 times higher risk of pregnancy loss than singletons
- The presence of two fetuses in same horn of the uterus decreased calf survival

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