Cow Start™ Complete: First-Lactation Research Results

Evaluating transition health, reproductive success and milk production in 248 first-lactation Holstein heifers

Transition cow management has mostly focused on multiple-lactation cows. However, 1st-lactation heifers face considerable post-calving inflammation due to twice the level of dystocia or difficult calvings relative to multiple-lactation cows, first-time exposure to high-energy lactation diets, social challenges in post-calving pens, udder changes and other physiological challenges which are expressed as poor uterine recovery and low reproductive success[1]. In fact, negative effects from the cow's first calving may affect second- and later-lactation production and reproduction.

RESEARCH OBJECTIVE

Evaluate the benefits of supplementing one Cow Start™ Complete bolus to 1st-lactation Holstein heifers at calving and to measure its effect on uterine recovery, subsequent fertility performance and milk production.

RESEARCH PROCEDURES

Two dairy farms with persistent issues with uterine recovery and poor fertility performance in 1st-lactation heifers were selected to supply 248 1st-lactation heifers randomly assigned to either a control (standard dairy management practices without a transition bolus) or a Cow Start Complete (one Cow Start Complete bolus at calving) treatment group, as described in Table 1.

Table 1. Description of Research Farms Evaluating the Benefits of Providing One Cow Start™ Complete (CSC) Bolus at Calving to 1st-lactation Cows.

	Farm A (1,500 cows total) 27,500 lb RHA		Farm B (5,000 cows total) 28,850 lb RHA	
	Control	CSC	Control	CSC
Number of heifers	29	19	100	100

[1]Borchardt et al., 2024. J. Dairy Sci. 107:9706-9718.

RESEARCH RESULTS

Other than uterine infections, there were few metabolic issues and no clinical milk fever cases at either farm (Table 2). On both farms, uterine recovery of all heifers was checked by the farm veterinarian (day 7 after calving at Farm A and day 9 at Farm B). The incidence of uterine infection was reduced by 100% on Farm A and 65% on Farm B.

Table 2. Effect of Providing Cow Start™ Complete (CSC) at Calving on the Incidence of Transition Health by 1st-lactation Heifers.

	Farm A		Farm B	
	Control	CSC	Control	CSC
Milk fever	0%	0%	0%	0%
Retained placenta	0%	0%	0%	0%
Uterine infection	10.3%	0%	17%[a]	6%[b]
Displaced abomasum	0%	0%	0%	0%
Clinical ketosis	0%	0%	0%	0%
Rumination issues	n/a	n/a	10%	5%

[a]Means with different superscripts differ (P<0.05).

Days to conception, 1st-service pregnancy rate and pregnancy rates after 2 services were improved on both farms by Cow Start Complete supplementation (Table 3). The significant reduction in Ov-Synch usage at Farm B may indicate quicker post-partum uterine recovery. Milk production was numerically improved by providing a Cow Start Complete bolus to 1st-lactation cows at each farm.

Table 3. Effect of Providing Cow Start™ Complete (CSC) at Calving on Reproductive Success and Milk Production by 1st-lactation Heifers.

	Farm A		Farm B	
	Control	CSC	Control	CSC
Ov-Synch usage	n/a	n/a	33%[a]	6%[b]
Days to 1st service	59	55	67	65
Days to conception	95	87	98	94
Services/conception	2.4	2.2	2.1	2.1
1st-service pregnancy rate	41%	53%	45%	50%
Pregnancy rate after 2nd service	55%[a]	84%[b]	70%	72%
Daily milk production, 0 – 100 DIM	73.6 lb	74.9 lb	69.2 lb	70.9 lb

[a]Means with different superscripts differ (P<0.05).

SUMMARY

Supplementing one Cow Start Complete bolus at calving to 1st-lactation heifers resulted in improved reproductive health and success, as well as numerically greater milk production.

[1]Borchardt et al., 2024. J. Dairy Sci. 107:9706-9718.