

# Dry Period Diets Affect Postpartum Reproductive Performance of Dairy Cows

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The objective was to determine the effects of prepartum intake level and fatty acid source during the dry period on post-calving reproductive performance of dairy cows. Thirty-four days before expected calving, pregnant dairy heifers (n=25) and cows (n=47; 2 to 5 lactations) were assigned to 1 of 6 treatments. Treatments were ad libitum (AL) or 30% restricted (FR) feed intake in combination with 1 of 3 oilseed (canola, flax or linola) supplements at 8% of diet dry matter. After calving, cows were fed a common lactation diet, which contained no oilseeds. Measurements of uterus, corpus luteum and follicles were obtained by ultrasonography twice weekly from 7±1 d after calving until the 1<sup>st</sup> ovulation. Cows (n=66) were subjected to Ovsynch and timed artificial insemination (TAI), and pregnancy was diagnosed by ultrasound 32 days later. Cows fed AL had a higher incidence of uterine infections (P=0.05; 8/37 vs. 2/35) but tended to have a lower incidence of ovarian cyst (P=0.06; 2/37 vs. 7/35) than FR cows. Cows fed canola had a higher incidence of ovarian cysts than cows fed flax (P=0.04; 6/24 vs. 1/24). The interval from calving to 1<sup>st</sup> ovulation was approximately 14 d longer (P=0.02) in cows fed canola than in those fed either linola or flax. A higher proportion (21%; P=0.02) of cows fed canola was culled compared to 0 and 4%, for flax and linola, respectively, resulting in fewer canola-fed cows available for TAI within 280 days. The 1<sup>st</sup> service conception rate was higher in cows fed AL (P=0.02; 47 vs. 19%) and the mean number of days open was greater (P=0.02) for FR cows compared to AL cows (166±13 vs. 123±13 days).

**Take Home Message:** Cows fed diets supplemented with canola during the dry period had delayed 1<sup>st</sup> ovulation, a higher incidence of ovarian cysts, and a lower proportion available for insemination compared to cows fed flax or linola. Feed-restricted cows had a higher incidence of ovarian cysts, lower 1<sup>st</sup> service conception rate and an increased number of days open.

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