

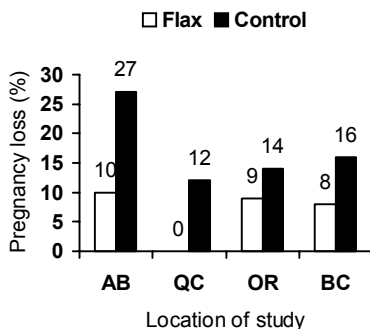
Reduced Pregnancy Losses in Dairy Cows Fed Flaxseed

D.J. Ambrose¹, C.T. Estill², R. Rajamahendran³, M.G. Colazo¹, J.P. Kastelic^{4a}, M. Gordon³, R. Corbett¹, N. Dinn³, D. Veira^{4b}

¹Dairy Research and Technology Centre, Alberta Agriculture & Food, Edmonton AB; ²Oregon State University, Corvallis, OR; ³University of British Columbia, Vancouver, BC; ⁴Agriculture & Agri-Food Canada Research Centre, ^aLethbridge, AB; ^bAgassiz, BC
Email: divakar.ambrose@gov.ab.ca

Embryonic death is a major contributor to reproductive wastage in dairy cows. Studies conducted in Alberta (Ambrose et al., 2006; J Dairy Sci 89: 3066) and Quebec (Petit and Twagiramungu 2006; Theriogenology 66: 1316) recently reported lower pregnancy losses in cows fed flaxseed compared to those fed no flaxseed. We have further investigated this potential benefit in two larger studies. In the first, cows in an Oregon dairy were randomly assigned to receive a total mixed ration supplemented with (156 cows) or without (147 cows) rolled flaxseed (about 2.2 kg /cow /day) from 32 d after calving; cows were timed-inseminated (TAI) \geq 28 d after diets began, and diets continued for 31 d after TAI when pregnancy was diagnosed by ultrasonography. The overall conception rate was 35%; though not statistically different, fewer pregnancies were lost between 31 d and calving in the cows fed flaxseed than in control group cows.

Figure 1. Pregnancy losses in dairy cows given diets containing flaxseed or no flaxseed (control). The numbers of cows and probability of difference, for AB, QC, OR, and BC, respectively, were: 121, $P < 0.05$; 138, $P = 0.07$; 303, $P > 0.10$; 263, $P > 0.10$. The QC study compared flaxseed to two other diets; the 12% loss shown, is the average loss for the two control diets.



In the second study conducted in British Columbia, 138 cows received a ration supplemented with rolled flaxseed; 125 cows received a control ration with no flaxseed. Cows were TAI, and pregnancy-diagnosed at 35 d. The overall conception rate at 35 d was 43%. As in previous studies, fewer pregnancies were lost between 35 d and calving in cows fed flaxseed than in cows fed the control ration. Pregnancy loss results of all studies are summarized in Figure 1.

Implications: The inclusion of flaxseed in the rations of dairy cows reduced pregnancy losses, although statistical differences were not found in all studies. We believe that α -linolenic acid, an omega-3 fatty acid that is abundantly present in flaxseed plays a role in reducing embryonic death.