

Alliance

Research: Selenium Supplementation Study

Originally Published in *Ontario Veal News*, Fall 2010

In the past, the importance of selenium in dairy cattle has focused on the mature cow and the role of selenium in the neonatal calf has often been overlooked. In general, it has been assumed that calves receive adequate quantities of selenium from dams in utero, and through consumption of colostrum and milk. Recently, research at the University of Guelph (Waalderbos (2010)) showed that selenium levels in Ontario calves do not compare well with the laboratory reference interval for selenium. In a 2008 study, approximately 1/3 of calves sampled were classified as selenium deficient according to the lab reference interval.

During the summer of 2009, a field study was conducted to determine the effects of an injection of Dystosel (selenium and vitamin E) at birth on dairy calf health and growth during the preweaning period. This study was conducted on 39 commercial dairy farms located within a 2 hour drive of Guelph, or Kemptville, Ontario. At the time of discovery of a newborn calf, producers injected calves with 1 mL Dystosel. In weekly intervals, technicians visited each farm to collect samples and chart the growth of calves on the study. During the study period, producers documented all health and treatment events for each calf. Calves were enrolled at birth, and remained in the study until approximately 7 weeks of age.

In total, 835 calves were enrolled in the study, and there were several significant findings. Compared to control calves, calves that received an injection of Dystosel at birth had higher selenium levels in the first week of life. This led to a significant reduction in calves that tested positive for rotavirus between 8-15 days of age. Calves that were injected with Dystosel also had significantly reduced odds of being treated for diarrhea during the 7 week study period. There was no effect of treatment on average daily gain, infection with *Cryptosporidium parvum*, preweaning mortality, or preweaning treatment other than diarrhea.

These results suggest that injection of calves at birth with Dystosel might be a beneficial practice in herds that routinely experience challenges with viral diarrhea pathogens.