



## **2019-121: Strategies to address mineral nutrition in the face of poor water quality**

**Researcher: Gregory Penner**

**Funding: \$40,000**

**Sulfate toxicity is one of the most common forms of water toxicity in Western Canada. Ideally, sulfate levels should be kept below 1,000 parts per million, though recent research from the Livestock and Forage Centre of Excellence have noted that the affects of sulfates in water are not clearly understood. In order to manage beef cattle health with sulfates in water, Dr. Penner and his team from across Saskatchewan and North America will evaluate an appropriate level of bismuth subsalicylate in a ration with various levels of sulfates in water in addition to other hydroxy trace minerals and injectable minerals. The costs and associated economic data will also be collected to help producers determine best practices moving forward.**