

# IMPACT

University of Idaho  
Extension

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## Assessment of the mineral status of forage and range grass in Idaho

### AT A GLANCE

University of Idaho Extension specialists and educators partner to provide education and information on the nutritional value of Idaho's forages.

### The Situation

Idaho beef producers are in need of reliable information concerning the mineral composition of Idaho's forages. Their profitability depends on calf weaning weight and cow productivity. The calf's weight and overall health and the productivity of the cows depends on adequate minerals being supplied in their diets. Producers need forage mineral data to better match forage mineral deficits with a reliable mix of minerals in their feed formulations.

In one sampling of clipped forage in a study conducted in southwest Idaho only four of the 11 minerals tested were at adequate levels for beef cattle. It was hypothesized that similar mineral deficiencies existed in other parts of Idaho in the feed harvested for our cattle population. Some work in the area of selenium concentrations of Idaho's forage was completed in 1977. There is a need to reevaluate this information and augment it with the status of other forage minerals.

### Our Response

Extension educators and specialists with the University of Idaho Extension collected forage samples from across the state of Idaho. The counties with range and pasture forages that were sampled included: Ada, Bannock, Bingham, Canyon, Custer, Idaho, Lemhi, Lincoln and Owyhee. The first forage samples were



Gathering forage samples in southern Idaho.

collected at the peak of the growing season and a second group of forage samples were collected when the plants were nearing dormancy in the fall. With assistance and direction from Extension beef cattle specialist Jim Sprinkle, each county educator collected forage samples from dominant soil types. Samples were taken in each county from irrigated and/or dry-land pastures. Soil maps available from the Natural Resources Conservation Service were utilized to help with sample stratification. A 40 X 40 cm quadrat was used to take forage samples, and the percentage of all forage species were documented. Each location was sampled multiple times in order to ensure the consistency of the results. All samples were dried, ground and analyzed for mineral composition. The minerals that were evaluated included: calcium, phosphorus, magnesium, potassium, sodium, iron, zinc, copper, manganese, molybdenum, sulfur, cobalt, chlorine and selenium.

## Program Outcomes

The team developed charts and tables delineating some of the mineral deficiencies found in Idaho forages. A Power-Point presentation was developed and used to educate area producers and inform them of the mineral status of the forages they are using to feed their cattle. Results of the mineral analysis was also published in Extension newsletters, the Idaho Cattle Association's Line Rider magazine and various other formats. A regional mineral status map for Idaho was also initiated. Producers will use the information in this map to formulate mineral mixes to address deficiencies in the diet harvested by livestock.

Sprinkle was a featured speaker at the 2017 Idaho Range Livestock Symposium held in Salmon, Twin Falls and Marsing where he presented the findings and recommendations from this effort. This information was also presented at area beef schools. Thirty producers attended the Magic Valley Livestock School in Shoshone and eight producers attended the Beef School in Blackfoot, Idaho. Producers attending these schools were interested in the results of this mineral survey and plan to adjust their mineral supplementation programs based on the mineral deficiencies in their area. Making these feeding adjustments will result in healthier calves and improved productivity of our cattle operations.

## The Future

This was only a preliminary effort to quantify the mineral status of Idaho's forages. There are many additional counties in Idaho that need to be sampled and have their forages analyzed for mineral deficiencies. Without up to date and accurate knowledge of the minerals contained in the forage species being fed to our Idaho cattle, producers will have a difficult time correctly supplementing their herds and maximizing production.

## FOR MORE INFORMATION

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