

Livestock Water Quality Deterioration Awareness

The Situation

Precipitation levels through the winter of 2015 and the spring of 2016, were well below normal levels in southwest North Dakota. Hettinger County received approximately 12" of snow last winter, along with only 6.04 inches of rainfall from March to June of 2016. For reference, Hettinger County normally receives 9-10 inches of precipitation. Reduced precipitation led to less replenishment of dugouts, waterways and other livestock water sources for the 2016 grazing season. During the summer, evaporation increased the concentration of total dissolved solids in these water sources to the point of being detrimental to the health of livestock.

Extension Response

NDSU Extension Agent Duaine Marxen initially ran an article in the local newspaper on how drought-like conditions could threaten livestock water quality. He also educated producers about the value of testing their water; however, turnaround times from area labs were too long according to producers. Marxen then researched an alternative means to test water quality. He discovered a conductivity testing instrument that measured total dissolved solids in a matter of minutes and could provide the producer an indication of whether the water source was useable for livestock on their premises. Marxen ordered the instrument and invited producers to come into the Extension office with their water samples so that they could be tested. Marxen used the opportunity educate producers on the results. Those samples that had high levels of total dissolved solids were sent to private lab for a more detailed analysis.

Impacts

Twenty-seven producers brought in a total of 71 water samples from various livestock water sources to the local NDSU Extension Service office for testing. 55% of the samples were considered safe for livestock consumption, while 45% of the samples had such poor water quality that it was recommended that they not be used for livestock.

All of the producers who brought in water samples to the Extension office and visited with Marxen improved their knowledge of water quality impacts on livestock health. They also obtained analytical results for their water sources, and those with poor quality utilized

alternative water sources to prevent adverse effects to their livestock. All participating producers indicated that they will bring in water samples for testing going forward for 2017.

Feedback

"After losing a cow to obvious water problems, we came to Extension for help. I had three water samples tested in the office and they were unsafe, so I had to find a different water source to keep my cattle safe. Going forward I plan on testing our water sources with Extension every year" – Brad Steiner, Mott, ND Farm/Rancher

"I brought water samples in to the Extension office for testing and I learned they were both toxic for my cattle. I fenced the sources off and started hauling in clean water. I will test my water every year with Extension" – Trish Schneider, Mott, ND Rancher

Public Value Statement

The conductivity testing unit helps producers make water source decisions that will aid them in maintaining the health of their herd, and one-on-one education improved producers' knowledge of water quality impacts to livestock.

Primary Contact

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Resource Links

<https://www.ag.ndsu.edu/news/newsreleases/2016/june-20-2016/drought-like-conditions-threaten-livestock-water-quality>