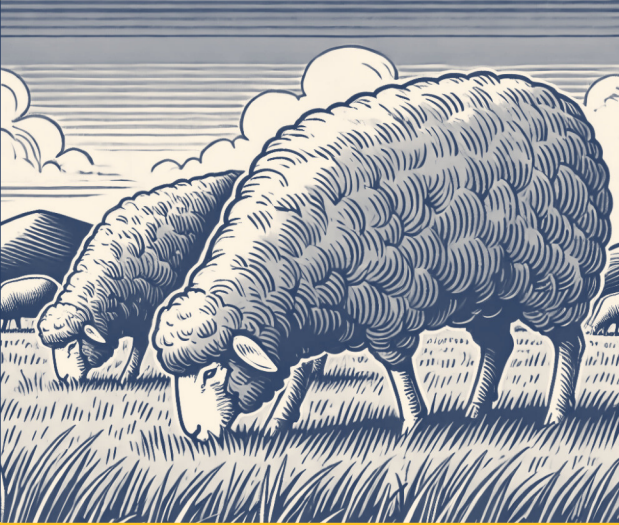


Toxic plants in large grazing areas can cause problems for ranchers by affecting animal health, grazing management, and overall ranch profits. Identifying these plants and understanding when they are most dangerous is key to preventing livestock losses. The University of Wyoming Extension (UWE) is working with ranchers to identify toxic plants using advanced fecal DNA (fDNA) technology, which allows researchers to analyze what plants sheep have eaten without invasive procedures.



THE FIRST STEP IN MANAGING TOXIC PLANTS IS TO IDENTIFY THE SPECIES PRESENT.

Many toxic plants grow before grasses become available, increasing the risk of poisoning if animals graze too early. June to August is the peak season for many toxic species. Some key plants to watch for include:

SPRING



Low Larkspur
(*Delphinium bicolor*)
Toxic when young, but less dangerous after it goes to seed.



Lupines
(*Lupinus* spp.)
Poisonous from early growth until seed pods shatter.



Deathcamas
(*Toxicoscordion venenosum*)
Found in pastures and sometimes in hay; remains toxic even when dried.



Poison Hemlock
(*Conium maculatum*)
Dangerous throughout its growth stages.

SUMMER



Tall Larkspur
(*Delphinium barbeyi*)
Causes the most problems in mid to late summer before its seed pods form.



Water Hemlock
(*Cicuta douglasii*)
One of the most toxic plants in North America, emerging early in wet areas.

FDNA TECHNOLOGY CAN DETECT TOXIC PLANTS IN SHEEP DIETS

HOW IT WORKS—AND WHY IT MATTERS



Collect fecal samples from sheep.



Samples are analyzed to identify DNA from different plant species.



Analyzed data can be used to optimize grazing patterns while minimizing toxic plant exposure.

Identifying exactly what plants sheep are eating can be difficult, especially across vast rangelands. University of Wyoming researchers have demonstrated that fecal DNA (fDNA) metabarcoding is a promising tool to better understand livestock diets by identifying the plants animals have consumed.

HELPFUL TOOLS to Manage Toxic Plants

PLANT IDENTIFICATION

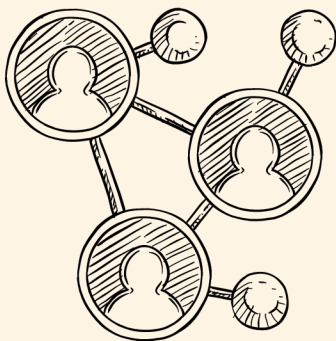


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USDA Plants Database
<https://plants.usda.gov>

CONTACT UW EXTENSION EDUCATORS

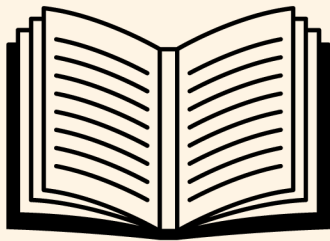


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RESEARCH BRIEFS & JOURNAL ARTICLES



SheepSense Research Brief
bit.ly/4hVWYbJ



Livestock Science Journal
bit.ly/3CVo9o5