

NOXIOUS, TOXIC AND POISONOUS PLANTS: RESOURCES FOR TEXAS LIVESTOCK

Finding information about toxic plants is difficult because it is spread across disciplines including botany, horticulture, toxicology and medicine. The plant part matters. The agricultural conditions matter. In veterinary medicine, the species matters, and that scatters the literature further. It is a topic often with more questions than answers.

This issue features freely available online resources to assist with toxic plant questions focused on Texas and livestock.

The USDA and Agricultural Research Service (ARS) have online resources to support plant identification, distribution and toxicity related to livestock.

The USDA Plants Database, <https://plants.sc.egov.usda.gov/java/>, can be helpful for identifying plants or finding images and distribution maps. The site has a variety of search methods including limiting by state. Many of the datasets may be downloaded for further analysis or offline use.

The USDA ARS Poisonous Plant Research Laboratory, <https://www.ars.usda.gov/pacific-west-area/logan-ut/poisonous-plant-research/>, focuses on poisonous plants and their toxins including their relationship to livestock and reducing livestock losses. From the homepage, choose research to access publications and projects. Additionally, Plants Poisonous to Livestock in the United States is available at <https://www.ars.usda.gov/ARSEUserFiles/oc/np/PoisonousPlants/PoisonousPlants.pdf>.

The Rangelands Partnership, comprised of Global Rangelands, Rangelands West and state rangeland efforts, hosts an information portal with articles, websites, images, databases, videos, maps, reports and decision-making/educational tools. Two specific sections of interest are Poisonous Plants and Animal Health and Veterinarian Resources for Ranchers. The most direct access is from <https://globalrangelands.org>. Choose topics in the left menu, choose use of range and pasture lands, and choose animal



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health and veterinarian resources.

The University of Arizona hosts the Rangeland Journal Archives at <https://journals.uair.arizona.edu/>, although the most recent issues are available only to society members. Searching is available by author, title, abstract or the full-text of the article. Full-text searching can be particularly helpful for toxins and plants. Freely available issues include *Rangeland Ecology & Management*, 2005 to five years from the present; *Journal of Range Management*, 1948 to 2004; and *Rangelands*, 1979 to 2015.

Cornell University hosts the Plants Poisonous to Livestock and Other Animals database at <https://poisonousplants.ansci.cornell.edu/index.html>. It was created by faculty and students in the Animal Science department and may be searched or browsed by common or botanical plant name, toxic agent or species.

The online *Merck Veterinary Manual* has a poisonous plants chapter in the toxicology section at <https://www.merckvetmanual.com/toxicology>. It includes range plants of temperate North America with images and a table of the scientific and common names, habitat and distribution, animals affected, important characteristics, toxic principles and effects and treatment.

Texas-specific resources are available from Texas A&M University. Many AgriLife publications about Texas toxic plants are available both to download freely or to purchase in print. These are produced by both plant- and veterinary-focused groups within AgriLife, so searching

a broad term like "toxic" in the upper search box at <https://agriflifeextension.tamu.edu/> can be a good strategy to retrieve publications from, for example, the ranching, dairy and Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL) groups. Print resources are available from the AgriLifebookstore at <https://www.agrilifebookstore.org/>.

Plants of Texas Rangelands' virtual herbarium, <https://rangeplants.tamu.edu/>, from the department of Ecosystem Science and Management provides information from three print books including *Toxic Plants of Texas*. You can access information through a map of Texas regions, common or scientific names or by choosing one of the three source books. The *Toxic Plants of Texas* online browsable access can be narrowed with categories on the right side of the screen including livestock signs, affected species (cattle, horses, pigs, sheep and goats) and a variety of plant and habitat characteristics.

The Texas A&M University online repository, OAKTrust, hosts a plethora of freely available, university-produced items at <https://oaktrust.tamu.edu>. AgriLife items include *Integrated Toxic Plant Management Handbook: Livestock Poisoning Plants of the Trans-Pecos Region of Texas* and *Reducing Livestock Losses to Toxic Plants*. Use the search feature or browse by agency or department.

If you need information about toxic plants and livestock for a different state, start with the general resources here. Contact your local land grant university, veterinary diagnostic laboratory, agricultural experiment station and cooperative extension offices.

The next issue will continue this topic and include resources for companion animals and additional general resources. **TV**

Texas veterinarians may contact the Medical Sciences Library at Texas A&M University for assistance at no cost for reference service, literature searching and copies of articles, chapters and conference papers from our collection. Details can be found at <http://tamu.libguides.com/txvetalum>.