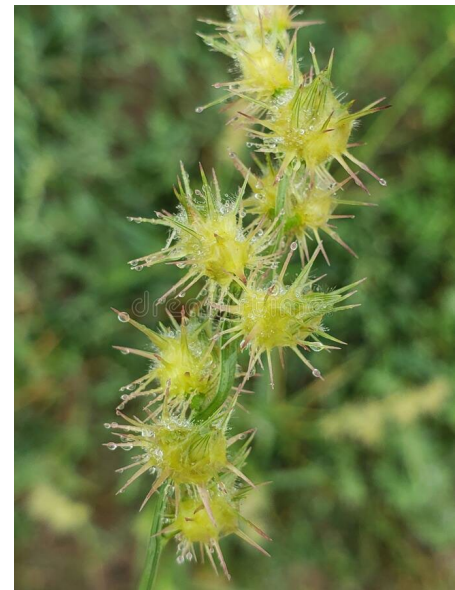


Sandbur Control

Josh Bushong, Area Extension Crops Specialist

As with all weed issues, the first steps are identification and prevention. Fortunately for sandburs, identification is usually easy with its infamous “sticker” for seeds. If establishing a new hay field be sure to use certified seed or sprigs to prevent establishing an issue. Also inspect hay when feeding as weedy hay is usually the most common way for sandburs to find its way to your farm.

Sandburs are a common weed issue found in pastures, forage crops, and lawns. As the name implies, sandburs are typically more of an issue in sandy soils. Sandburs are an annual warm season grass, but with a mild winter can behave as a short-lived perennial. Seeds can germinate all summer, but most will germinate in May and June.



Sandburs can obviously be an issue with livestock in pastures and hay production but can also reduce forage quality and quantity. Since sandbur seeds can stay viable in the soil for 5 to 8 years, the main objective for suppression would be reducing seed development. Control will take several years of intensive management utilizing both cultural practices and herbicides.

Proper weed management starts with taking care of the soil, which starts with taking a soil sample. In order to give the desired crops a complete chance, soil pH and nutrient deficiencies will need to be corrected. Sandburs have more tolerance to acidic (low pH) soils than many warm season forages. Of the nutrients, applying adequate nitrogen will be the most beneficial to improve the stand of the desired forage. Correcting phosphorus and potassium will also help improve root development and plant regrowth.

In addition to soil fertilization, other cultural suppression practices include stocking rate and burning. Proper stocking rates should be managed to retain adequate biomass for the crop to regrow at a faster pace and stay competitive with sandburs. For

Bermudagrass, leaving 2 to 3 inches is essential for good regrowth for both haying and grazing.

Pasture burning can reduce sandbur seed production if executed at the right time and intensity. Fall burns will likely be better, unless there is sufficient fuel for a hot spring burn. If the fire from the burn is not hot enough, it may actually stimulate germination. At first one would think that would be a bad thing but could also allow for better control long-term. After the burn a higher percentage will emerge the first year, which a herbicide would effectively control a larger percentage of the sandbur population in one application.

There are a few herbicides that can be used to assist in sandbur control. Unfortunately, most are only labeled in bermudagrass. There are no herbicides labeled for sandbur control in Old World Bluestem, crabgrass, and some native grasses. In most native grass pastures, herbicides with the active ingredient imazepic (Plateau, Panoramic, or Impose) will provide some control but will also cause some damage to the native grasses. This injury is often temporary and lessened if good growing conditions follow herbicide application.

For bermudagrass pasture and hay fields, the use of a preemergence (applied before sandburs germinate) herbicide like pendimethalin (Prowl H2O) will help reduce half to two-thirds of the largest and earliest flush of sandburs. Postemergence (applied after bermudagrass and sandburs are actively growing) herbicide options include glyphosate (Roundup Weathermax), imazepic (Plateau), or nicosulfuron with metsulfuron (Pastura). Read and follow label directions for rates, application timings, and surfactants to limit crop injury and to achieve satisfactory sandbur control.

Lack of control is usually due to herbicide application timing. Sandbur growth stage is critical for some products. For instance, after sandburs reach 1.5 inches tall the expected control will be reduced with products like Pastora. If applied correctly, over 90 percent of the sandburs can be controlled with the postemergence herbicides. Keep in mind, sandburs will continue to emerge as the season progresses which may make it appear like the early herbicide application failed.

A newer product now available, called Rezilon, gives farmers another preemergent herbicide option. It is recommended to be applied well before sandbur germination. Ideally it should be applied late-winter but can also be applied mid-season generally after the first cutting to prevent late-season emergence.

Herbicide products like MSMA are good options for lawns, golf courses, sod farms, and highway right-of-ways, but cannot be applied to pastures or hay ground. This is mostly due to the risk of poisoning livestock from being an arsenic-based herbicide.

A multi-year strategy of combining cultural suppression practices and herbicides is necessary. For more information refer to OSU factsheet PSS-2596 Sandbur Control in Bermudagrass Pastures or visit your local OSU Extension office.

Triticale, A Grazing Option for Area Producers

Dana Zook, Area Extension Livestock Specialist

Trends in cover crops and soil health come and go but alternative small grains such as triticale, oats and rye have been mainstays in Oklahoma forage production in recent years. Due to continued local interest, I collaborated with a local producer to organize a small grains forage demonstration plot this fall. This plot was located south of Vance Air Force Base and offered producers an opportunity to see six varieties of triticale and 1 wheat variety. Triticale varieties included were 813, 25621, Surge, 131, NF201 and Fridge. Greenhammer wheat rounded out the plot as a comparison variety. Seed was graciously provided by the local producer/plot host and Johnston Seed Company.

The plot was planted on October 24th with a 90-pound seeding rate and 7.5-inch row spacing. Initial fertilizer was applied at a rate of 100 pounds (Cropflex©) per acre followed by top-dressed fertilizer in February at a rate of 46 pounds of Nitrogen per acre. Because this plot was used to evaluate forage production, varieties were clipped four times during the growing season to evaluate forage yield and quality. Like many fields across Western Oklahoma, this plot was greatly impacted by drought which limited seed emergence in some varieties. Clippings were first taken in December but due to the lack of forage growth, did not resume until March.

Clipping data showed that Triticale was similar to most other small grains, offering a highly nutritious source of protein and energy for stocker cattle. With adequate forage growth, growing steers and heifers grazing any of these varieties with adequate forage growth would have easily been able to achieve gains of 2 pounds daily.



It's no news to producers in the Garfield County area (and many other areas across the state) that local Mesonet sites reported well below long term average rainfall during the entire small grains growing season. The reality was that dry conditions impacted forage growth and producers who were able to turn cattle out in the fall had to pull off well before getting the moisture in February.

In our plot specifically, the yield just wasn't there to achieve these 2 pounds of gain even if we had grazed the plot. According to years of OSU research, season long production of forage can be assured if producers allow one ton of forage per acre (6-12 inches) before grazing is initiated. Yields at our forage plot in December were dismal, ranging from 353 – 1146 pounds per acre. Thankfully, clippings in March (920-1688 pounds per acre) and early April (1841-4809 pounds per acre) showed some forage

recovery due to moisture we were able to receive. Based on these yields, two to three times the amount of acreage would have been needed support calves for this grazing season.

In general, triticale offers a variety of attributes that make it an excellent forage producer and grazing option for cattle producers. This year was an outlier and production was just not there for fall grazing. This was slightly impacted by planting date, but dry conditions played a larger role. Physically speaking, the leafy growth habit, cold tolerance and later maturing options of Triticale make it an excellent alternative for producers looking for both winter and spring graze-out options.

If producers are interested in visiting the plot, take highway 81 south of Enid and turn west on 47th. The plot is just across the railroad tracks on the south side of the road. Plot signs will remain in place for a few more weeks. Producers interested in the forage quality and yield data can contact the Garfield County Extension Office. Thank you to local sponsors and OSU Extension Staff that made this plot possible!

What is ERP?

Trent Milacek, Extension Area Ag Econ Specialist

The Extending Government Funding and Delivering Emergency Assistance Act (P.L. 117-43) signed into law by President Biden on September 30, 2021, provides \$10 billion in monetary assistance to agricultural producers who have faced difficulty due to natural disasters.

Under this legislation the Farm Service Agency (FSA) is administering the Emergency Relief Program (ERP). The covered disasters must have occurred during the 2020 and 2021 crop years. Many producers will have already received letters from the Farm Service Agency to apply for the available funds. If you have not, it may be necessary to contact your local FSA office.

In general, the program covers losses to crops, trees, bushes and vines and will be released in two phases. Phase 1, currently in motion, is designed to leverage existing Federal Crop Insurance programs or Noninsured Crop Disaster Assistance Program (NAP) coverage data as the initial resource for payment calculation. Phase 2 will be rolled out later to cover additional holes in coverage for producers who did not participate in Federal Crop Insurance or NAP.

The use of existing loss data from crop insurance indemnity or NAP will facilitate quick program enrollment and fund distribution since the data collection has already occurred. The main question for producers is “Do I qualify?” and “What is the catch?”.

Most producers in Oklahoma will qualify for Phase 1 payments if they received a crop insurance indemnity on crop production in 2020 and/or 2021. Generally, our losses fall under the types of disasters covered in this program.

The amount of the payment will be determined based on the underlying crop insurance coverage you had at the time of the loss. At a crop insurance level of 70%, the ERP Payment factor is 90%. Simply, for example, if you carry 70% Revenue Insurance on your wheat and you received an indemnity in 2020 or 2021, that coverage becomes 90% Revenue Insurance. The payment is calculated using the producer's current loss procedures for the coverage they purchased while substituting in the new 90% coverage level. Then the previously paid net indemnity is subtracted out of that loss calculation to give the ERP payment amount. Net indemnity is the gross crop insurance indemnity minus service fees and premiums. Therefore, producers will essentially be repaid for their service fees and premiums in this program.

There is a graduated scale for ERP payment factors and I encourage producers to visit https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/2022/fsa_erp_factsheet_2022_051222_final_v2.pdf or search FSA Emergency Relief Program Fact Sheet to see the entire breakdown of payment factors.

This isn't without some commitments by producers, however. There is an agreement that if a producer accepts payments under this program, they must purchase crop insurance or NAP coverage for the next two available crop years. The coverage level must be at least 60% for crop insurance and catastrophic (CAT) or above for NAP insurance. Also, Phase 1 payments calculated on crop insurance indemnities will be based on a 75% payment factor to ensure that the program retains enough funding through Phase 2. NAP payments will not be subjected to the 75% payment factor.

This follows a trend in ad hoc disaster payments where the federal government is rewarding those producers who seek risk management strategies on their own. If you do not participate in these programs, you may want to contact your local county extension agent to learn more about risk mitigation on your operation.

Not Out of the Clear of Nitrates

Dana Zook, Area Extension Livestock Specialist

This article is coming to you after some much needed rainfall across most of northwest Oklahoma. Reports of green pastures abound, and the warmer temperatures have put forage growth into high gear. We now have ample forage for our livestock in the near term, but mother nature has also blessed us with a flush of weeds and grasses that could be poisonous. One of the most common toxicants found in Oklahoma forages is nitrates.

What are nitrates?

Nitrates are found in most plants, but the issue begins when nitrates accumulate. Excessive nitrate accumulation occurs when the uptake of nitrate in the plant exceeds what can be utilized in the plant to produce protein. Any conditions that stress the plant such as drought, shade, frost, or temperature extremes increase the possibility to accumulate these toxins. Regardless of the age of the plant, the highest nitrate accumulation will occur in the lower 6-12 inches of the stem. Producers who graze these crops should avoid forcing livestock to consume this part of the plant.

Why are nitrates toxic to livestock?

When high-nitrate feeds or forages are consumed by ruminant animals in excess, poisoning can occur. According to *Nitrate Toxicity in Livestock PSS-2903* Factsheet, nitrate poisoning is actually “nitrite poisoning” due to the chemical conversion that occurs within the digestive system of the ruminant animal. This toxin is absorbed from the digestive system into the blood stream where there is a conversion of oxygen transporting hemoglobin to methemoglobin. Methemoglobin cannot transport oxygen to body tissues which can cause potential asphyxiation of the animal. Ruminant livestock such as cattle and goats are most susceptible followed by sheep to a lesser degree. Simple stomached animals such as swine and poultry are not as impacted by nitrates as ruminant animals.

What plants accumulate nitrates?

Grasses are highest on the list to potentially accumulate nitrates. Johnsongrass is the first plant that comes to mind when we talk about nitrate toxicity. It grows in at least one field or road ditch on every piece of property in Oklahoma and is readily consumed by livestock, especially when it's green and lush. Sudan and sorghum are commonplace summer grass crops used as sources for grazing or for silage and hay production. Due to low hay stocks, I know that there will be many acres of these summer crops planted this year. These crops are drought tolerant and yield very well in a short growing season but have the potential to accumulate nitrates during hot dry summer conditions. In addition to environmental stress, excess nitrogen in the soil can cause nitrate issues in the plant. Before applying any pre-plant nitrogen, producers should get a soil test to avoid over-application. High costs of nitrogen should make this a no-brainer.



Kochia and Pigweeds are forbs that ring high on the toxicity scale. Not usually an issue in pastures with proper stocking rates, they do grow very well in catch pens and drylots where manure (nitrogen) has accumulated. Cattle turned into these facilities for even a short time can consume enough weeds to cause poisoning.

How to manage a common problem.

Nitrates cannot totally be avoided, but awareness and some small management changes can help avoid most toxicity issues. Check pastures, catch pens, and dry lots before turning animals out. Don't turn livestock out on an empty stomach. Cattle can be adapted to moderate nitrate levels when given the chance. Every county extension office can send off soil tests to give producers an idea of nitrogen needs before application. For more information about nitrate toxicity or testing this summer contact any OSU County Ag Extension Educator.

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Extension Experience – Insights into Oklahoma Agriculture

The Northwest Area Extension Staff would like to announce the creation of our new podcast *Extension Experience*. The *Extension Experience* podcast is brought to you by Josh Bushong, Trent Milacek, and Dana Zook. Each week they provide perspective on Agriculture topics and offer insight from our experience working with Extension Educators and Producers across Oklahoma.

The *Extension Experience* podcast is available on Spotify, Google Podcasts, and Apple Podcast platforms. You can also access the episodes on spotlight, <http://spotlight.okstate.edu/experience/>.

We hope you consider listening to Extension Experience.

