

## Sandbur Control

**Josh Bushong, West Area Extension Crops Specialist**

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 competitive chance, soil pH and nutrient deficiencies will need to be corrected. Sandburs are more tolerant 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 in

the long-term. After the burn a higher percentage will emerge the first year, which an 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. If sandburs are already emerged to have survived the winter, this product will not provide any control. Ideally it should be applied late-winter but can also be applied mid-season generally after the first cutting to prevent late-season emergence.

If applying Rezilon after sandbur emergence or if there are perennial plants found, tank-mixing a postemergence product like glyphosate might be needed. Add Rezilon to the sprayer prior to adding the glyphosate to prevent tank-mix issues or reduced weed control. Rezilon is a suspension concentrate product that needs constant agitation in the sprayer to keep it in solution.

The first application of Rezilon needs to be applied by late February. It can control and suppress weeds for up to 4 months, so depending on when the first application was made a second application might be needed in June or July. A rainfall event or irrigation of at least a half of an inch is needed to move the product from the soil surface to the seeds in the soil. For most effective control, a water incorporation needs to occur within three weeks.

Rezilon doesn't have any grazing restrictions, but grazing after an application and prior to an incorporating rain can reduce weed control. There is not a haying restriction when applied at 3 ounces per acre. There is a 40-day haying restriction if more than 3 ounces were applied.

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.

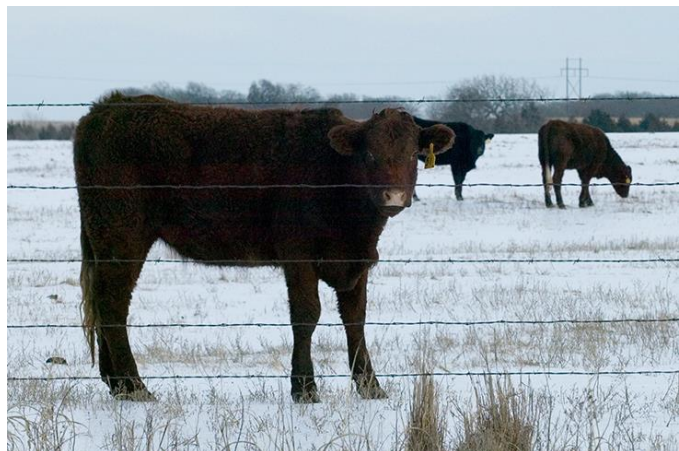


## Crop Residues Value for Livestock

**Dana Zook, West Area Extension Livestock Specialist**

This fall has flown by, but our office has stayed busy with calls about nutrition for cows. Like last year, I am seeing producers seek out a diverse array of nutritional sources for their cow herd. A recent call with a local producer prompted my report on the value of crop residues and how long we can rely on them as a good nutritional source for our cows.

I have spoken many times about feed costs being a large percentage of



expense in a beef enterprise (~60%). Most of the time, the act of letting cows do the job of harvesting is the most inexpensive option and diversifying grazing resources is a plus. So, embracing my true Nebraska Cornhusker roots, I continue to remind producers of the value of crop residues to a cattle enterprise. Here in Oklahoma, crop residues can be partnered with native or improved pastures to extend the grazing season and cut down on supplemental feeds (hay and cubes).

Crop residues are a little different forage resource than the traditional grass species. Initially, cattle will select and eat these most palatable and nutritious parts of the residue (grain, husk, and leaf). Excellent applied research from the University of Nebraska quantified these portions of the plants within a field. The stem or stalk of a corn plant makes up about 48.5% of the residue, while the leaf and husk make up 39.6% of the residue. Nutritionally, the quality of the leaf and husk will be 5-5.5% CP and 52-55% TDN. After the stalk, stem, leaf, and husk, the remaining percentage of the residue will be grain. We can estimate that corn grain will run 9% protein and 92% TDN. Milo or sorghum grain is estimated slightly higher in protein at 10% but lower in TDN at 82%. Grain left in a field will vary according to yield and harvester and there are very useful calculators that can estimate grain drop in a residue field. Producers should always scan a field for grain piles prior to turning cattle out.

Stocking rate on residues are very simple. Dryland crop residues typically have the carrying capacity to stock 1,000 pounds of beef on one acre for 30 days. Most producers have larger cows so they should stock 1,300 pound cows on 1.3 acres. We shouldn't assume that cattle on residue are actually eating the "stalks". Due to lower quality, cattle should be removed before they are forced to consume the stalk to maintain themselves.

How do you know when your residue is past its prime? Depending on stocking rate and weather degradation, the highest quality of residues will be used up in 45 days after grazing is initiated. Also, an evaluation of manure piles can tell you if the cows are lacking in nutrition. Short smooth manure piles indicate good nutritional balance while stacked up manure means they need to be moved or supplementation should be provided. As mentioned, weather degradation (rain, snow) can reduce the feed quality of residues and producers should evaluate their use of this forage resource into the new year. Gestating cows may be fine without supplementation while on residues but lactating cows will most certainly need extra nutrition on crop residues. Don't discount their value but understand the best management practices of this resource for their best use in a beef enterprise. Contact your local county extension office for any questions about grazing crop residues.



# Considerations for the Use of Urea for Cattle

**Dana Zook, West Area Extension Livestock Specialist**

Happy New Year! In this new year, I have endeavored to write on some fresh topics. This week, I'm going to cover urea and how it's used in the cattle industry. Producers do occasionally call me with questions about urea in tubs and liquid feed and hopefully this will help people understand this feed product a little better.

**What is urea?** Urea is most discussed and utilized in the agronomy and farming sector as a nitrogen amendment to the soil, but it is also used in ruminant diets. If you have ever read a label of a mineral tub or liquid feed, you might have seen the level of crude protein followed by this statement: "Including not more than 10.0% crude protein equivalent from non-protein nitrogen". Non-protein nitrogen (NPN) refers to the urea that is contained in the feed product. Since urea contains nitrogen, I think it would be helpful to provide a brief description of nitrogen and its role in the creation of protein in the ruminant animal. Don't worry, I don't plan to get too scientific here. Stay with me.

Feed protein for cattle includes both dietary (true) protein and non-protein nitrogen (NPN). Feed grade urea is considered a commercially available NPN feed component. This means that it doesn't fall under the "all natural" category that is present on so many feed tags but it doesn't mean it's bad for cattle in proper amounts. Urea is a nitrogen product and doesn't contain any other ingredients such as energy, vitamins, or minerals. In that natural digestive process of a cow, ruminal microbes convert NPN (in this case urea) to ammonia then to amino acids and finally to protein. This will fulfill part of the cow's requirement for protein.

## **How should urea be used?**

Urea is best utilized in high grain diets with a high level of energy available for the rumen microbes. The digestion process of forage diets are slower and are not ideal for urea inclusion. So, using urea in diets where cows are grazing dry winter grass and being fed high protein supplements is not ideal. Since this diet is not a grain-based ration, it would be of little benefit. Cattle grazing soybean stubble or being fed unprocessed soybeans should not be fed urea. Urea should also be avoided in young ruminant animals (under 450 pounds) and should not be fed to poultry, swine, or horses. Because of how urea is digested, it should be fed daily, and care should be taken to providing proper levels targeted to stage and weight of cattle. It is common to see tubs and liquid feeds contain some NPN from urea. Most are included at a very low level that is safe. However, if animals are consuming amounts of these products above the suggested consumption rate, issues could occur.

Despite urea's use across the beef industry, overconsumption can cause toxicity. Toxicities are unlikely in pre-mixed feed products (liquid or tubs) when consumed at the labeled rate. The likelihood of toxicity can increase (although it's still uncommon) when feed is poorly mixed or there are errors in calculating the amount of urea to add to the

ration. If cattle are kept in an area where urea is applied to farmland, avoid the accumulation of small piles of urea. Accidents can happen when spreaders are overfilled. Urea is salt and cattle consume it as such which could easily lead to toxicity.

Bottom line, urea fed in proper amounts is an acceptable and cost-effective feed ingredient for some classes of cattle. Contact your local county OSU Extension office if you have any questions about urea use in your beef operation.



## **Extension Experience – Insights into Oklahoma Agriculture**

The West 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 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/podcast/>

We hope you consider listening to *Extension Experience*.

# Extension Experience

## PODCAST

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