

Annual Grass Nuisances in Bermuda Pastures and Hay Fields

Josh Bushong, Area Extension Agronomy Specialist

Bermuda can be very competitive if managed properly. Correcting soil pH and nutrient deficiencies accordingly to a soil test is a top priority. For Bermuda, nitrogen management is always going to be of main focus, but phosphorous and potassium can also be very beneficial. Other cultural weed suppression practices include proper stocking rate and prescribed burning. Leaving 2 to 3 inches is essential for good regrowth for both haying and grazing Bermuda.



Annual foxtails can occasionally become issues. Both green and yellow foxtail are listed on the Pastura herbicide label, but when applied alone may only provide suppression. The Pastura label does recommend tank mixing a glyphosate product to improve foxtail control. Depending on the concentration of the glyphosate product being used the use rate would be 3.5-6 oz/acre (5.5 lb./gallon) or 5-8 oz/acre (4 lb./gallon). While bermuda is known to fully recover from low rates of glyphosate, temporary yellowing and/or stunting may occur.

Prairie threeawn (aka wiregrass, ticklegrass, old-wild threeawn) is an annual warm season grass weed. It usually encroaches into Bermuda in less productive soils and over-grazed pastures. Correcting soil phosphorous levels is as important if not more important than nitrogen. Fall prescribed burning has shown to be very effective as shown by some field trials conducted by Kansas State University. Burning in November was effective because the seeds were still attached to the stems and more easily consumed by the fire.

Field trials conducted by OSU showed good efficacy on threeawn when a tank-mix of Pastora and low rate of glyphosate was applied. Pastora didn't add much to the control, but its label allows for the glyphosate to be legally applied when tank mixed. Glyphosate is no longer labeled to be applied by itself. Some Bermuda injury will be expected but

the stand should eventually recover with good growing conditions. These field trials also showed that if soil fertility wasn't corrected, threeawn repopulated very quickly. More recent OSU field work has shown that adding some Urea Ammonium Nitrate (UAN) can increase control as well as improve the Bermuda recovery. Ongoing research is being conducted to fine tune the nitrogen rates.

Sandburs are another annual warm season grass and is often found in sandy acidic (low pH) soils. Correcting soil pH and applying adequate nitrogen will be the most beneficial to improve the stand of Bermuda. 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 which can be beneficial if followed by a herbicide program.

Use of a preemergence herbicide (applied before sandburs germinate) like pendimethalin (Prowl H2O) will help reduce half to two-thirds of the largest and early flush of sandburs. Pendimethalin can be applied when the Bermuda is dormant and in season between hay cuttings.

The relatively new product Rezilon is another preemergence herbicide that provides control of sandburs, as well as other annual grasses and some broadleaves. It needs to be applied prior to seed germination of the sandburs to work. Late winter applications are recommended from late December through mid-February followed by another application mid-season. Since we're already into March it might be too late for the first flush of sandburs, but it could still be an option after the first cutting before another flush of sandburs germinates.

Postemergence herbicide (applied after bermudagrass and sandburs are actively growing) 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 control will be reduced with products like Pastura. 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 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.

Ideal Replacement Heifer

Dana Zook, Area Extension Livestock Specialist



What is the definition of an ideal replacement heifer? As one might expect, the definition could vary depending on production practices, environment, or available resources.

In my mind, the most common definition of an ideal replacement heifer is one that was born early, breeds early, and therefore has an early-born calf. In a recent webinar hosted by OSU Beef Extension, Dr. Dave Lalman said “Early, consistent calving is one of the drivers of profitability in cow calf operations”. Research has shown consistently that first calf heifers

who are “early-breeders” have increased longevity and improved lifetime productivity over their later- breeding counterparts. Many sources have reported that the break-even cost of heifer development can be paid by that heifer producing 6 consecutive calves. Recent research also reported that missing one calf in that time-period bumps breakeven cost to the production of 9 calves. What an investment!

So how can we improve heifer pregnancy success and fertility on our operations? We can start making impactful strides by using genetic tools. Since fertility is a lowly heritable trait, we can’t solely rely on the genetics of our cows to make this adjustment. More progress can be made with bulls due to the number of calves they sire in your herd each year verses cows who only produce one calf per year. Select herd sires or bulls that have above breed average expected progeny differences (EPD’s) for heifer pregnancy and stayability. Producers using artificial insemination (AI) or natural service can use this method.

Additional improvements can be made by restricting and defining breeding seasons and culling females when they are open. Heifers that are retained should only be those that are born early and breed early. Producers can also continue to improve herd fertility by retaining heifers from older highly productive cows. Older cows have “proven” themselves in your environment; withstanding any health issues and continuing to produce with the nutrition provided. Change will not happen overnight (or even within one year) but by focusing and holding firm to these guidelines, herd fertility will naturally increase.

Beyond selection lies development of heifers to the specification defined by your operational goals. Guidelines recommend developing heifers to be 55-65% of their mature weight by the first day of breeding season. Yes, this is a large range in weight and many factors justify which “camp” you are in (55%, 60%, or 65%). As you would expect, developing heifers to 55% of their mature weight incurs less input costs,

especially those associated with nutrition. However, producers should expect to retain more head due to the reduced number of heifers that become pregnant in this system. Developing heifers to 65% of mature weight will incur more costs but many more of these heifers will be expected to become pregnant solely due to heavier weight at the start of breeding. A great deal of research has been done on this topic and there really is no right or wrong method. Producers should be realistic and apply the method that best matches their financial circumstances, production methods, and available resources.

Nutrition will account a large portion of the development cost despite which method is selected. Seek out nutritional assistance from your county extension educator, area specialist, or nutrition consultant to ensure moderating nutritional costs associated with development.

Are you interested in learning more about heifer development? Check out Dr. Lalman's Thursday Ranchers Thursday Lunchtime presentation at beefextension.okstate.edu and click *Preparing for Extended Drought* under archived webinars. OSU county extension educators are also on hand for questions as you prepare for breeding season this spring.

Sell the Fear

Trent Milacek, Extension Area Ag Econ Specialist

Farmers are fortunate that even though input costs have increased significantly, so have grain prices. What are you doing to protect that value? Cash grain that was physically in storage is hopefully sold and being loaded on a train or barge and headed to the port. What do we do about the crop that is currently growing though?

Futures and options are a place to look for price protection. During peak volatility margin calls are incredibly difficult to make unless an operation is very liquid. Options are prohibitively expensive as well with premiums eating away at the underlying protected price. Even with those negative forces present, it is a better option than doing nothing.

If you are not comfortable with the futures market, then you may want to explore cash contracts. The biggest fear from producers with a cash contract is making delivery. If I contract a bushel of wheat at \$10.00 and the market goes up to \$12.00 at harvest, I will only receive \$10.00/bu. for that delivered grain. If I cannot grow that bushel of wheat due to drought or some other disaster, I will have to buy a bushel of wheat on the open



market at \$12.00 to cover my \$10.00/bu. contract and my net loss is \$2.00/bu. in the simplest of terms.

This leads farmers to be very cautious with cash contracts. However, there is another strategy to consider. Most producers carry revenue crop insurance on their wheat acres. This crop insurance guarantees a revenue that consists of a cash price and a yield guarantee. If harvest price exclusion was not selected (it usually is not) the revenue calculation uses the higher of the initial price or the harvest price. It appears the harvest price for wheat will be much higher than the price used in the initial revenue calculation at this time.

If my approved yield (APH) is 40 bu./acre and I carry 70% coverage, then my guaranteed yield is 28 bu./acre. This means I can cash contract 28 bushels of wheat per acre and capture the current price. If the price goes up between now and harvest, and I cannot raise the bushels to cover the contract, my revenue crop insurance will provide the revenue needed to buy out the unfulfilled contract.

This is not an obscure marketing strategy, but many producers do not take advantage of it. Flex your current risk protection to take advantage of this fear and uncertainty in the market. While prices have the fundamental support to stay high right now, those market dynamics could change. Position yourself and your farm to counteract high input costs and take advantage of these historic high prices.

Avian Influenza Update

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Routine surveillance of wild birds in the USA in 2022 conducted by APHIS Wildlife Services has detected HPAI Eurasian H5N1 Avian Influenza in wild birds in New Hampshire, Delaware, North Carolina, South Carolina, Georgia, Connecticut, Virginia, Florida, and Maryland. The disease has also been detected in commercial and backyard hobby flocks in some states. The affected states are as follows:

State	County	Type	Status
Indiana	Dubois	Turkey Flock x 2	Depopulated
Indiana	Green	Turkey Flock	Depopulated
Kentucky	Fulton	Comm Broiler	Depopulated
Kentucky	Webster	Turkey Flock	Depopulated
Virginia	Fauquier	Backyard Mixed Flock	

It is extremely important that anyone involved with poultry production should review their premise Biosecurity procedures and protocols. This should be done by small backyard hobby flock owners and growers of commercial poultry to protect the health of their birds. **Commercial poultry growers should follow company Biosecurity guidelines and work closely with their flock supervisors.**

A few simple Biosecurity procedures that can be used by the **hobby/ backyard/ small flock owners** are as follows:

Recognize the Signs of Illness.

You as the poultry owner know your birds and in fact you probably look at your birds more than once a day. As such you can detect early signs of illness such as a change in the bird's behavior; you just know that your birds are just not acting right. There are many poultry diseases but typically some of the first signs of illness are:

- a drop or cessation of egg production
- lack of appetite
- sneezing, gasping
- diarrhea
- drop in water consumption
- discharges from the eye and/or nostril
- ruffled feathers, huddling
- a bird keeping to itself.



Do Not Bring Disease Home With You

If you purchase new birds make sure you look at them closely (even if from a reputable source) to check for signs of illness. This also is correct if it is your own bird returning from a poultry exhibit. Admittedly, poultry exhibitors are trying to place at a show and a sick bird does not win. Unfortunately, it is possible that a bird could still be incubating a disease and some diseases cause few signs unless a bird becomes stressed. It is always best to isolate (quarantine) new and returning birds away from your home flock for a period of at least 30 days. Most diseases should manifest within this quarantine period. Isolate the birds as far away from your home flock as you can (at least 100 feet, if possible) and be sure and care for these quarantined birds last. Since equipment such as crates, nest boxes, etc. could be contaminated with feces, exudates, cages, etc. that contain disease organisms it is best to not borrow equipment. If that is not possible then thoroughly clean and disinfect the equipment before taking it onto your premise and before and after usage. If you visit an area where there are waterfowl (such as ponds, lakes, and hunting) or areas with poultry make sure you change clothes and shoes and wash your hands before checking on your birds.

Clean and Disinfect

Keep poultry facilities clean and free of weeds, debris, spilled feed etc. In addition, clean areas around your poultry pens and facilities

Practice Good Vermin Control

Mice and rats can carry diseases that can infect your birds. They can also attract snakes. Fly, buffalo gnat, and mosquito control are also important since these insects can carry and spread diseases. Wild birds should be excluded from your poultry pens as well. Secure poultry pens are necessary to exclude other wildlife, which may be predators of your poultry or could bring in diseases. Although not vermin, pets should also be kept out of the poultry pens.

Keep Away/Restrict Visitors

Visitors could accidentally contaminate your poultry. Restrict visitors to your farm/poultry facility. Have all visitors clean their shoes/boots and disinfect before visiting your poultry flock. A pair of boots for visitors to wear and a pair you wear just around your birds are even better. Keep your poultry pens and facilities locked to prevent access.

Get Help/Report the Unusual

If you see something in your flock unusual or is “just not right” get help immediately. Contact your local veterinarian, local county extension agent, Extension poultry veterinarian, state veterinarian (405) 522-6141, or USDA hotline. If you have a bird die, contact the Oklahoma Dept. of Agriculture Animal Industry Division within 24 hours to have the bird submitted to a diagnostic lab for free testing through their sick bird program (405) 522-6139.

If you have questions or for more information on poultry diseases, care, and husbandry contact your local county Extension agent, visit the following websites:

www.uada.edu

www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/avian/defend-the-flock-program/df-resources/df-resources

To report a sick bird:

Beth Ruby, DVM (405) 522-8396 or (405) 973-4000
Sherrie Davis (405) 522-6139

beth.ruby@ag.ok.gov
sherrie.davis@ag.ok.gov

State Veterinarian of Oklahoma:

Rod Hall, DVM (405) 522-0270

rod.hall@ag.ok.gov

USDA APHIS Oklahoma Area Veterinarian in Charge:

Becky Brewer, DVM (405) 751-1701

becky.l.brewer@usda.gov

Cattle Management During the Breeding Season

Britt Hicks, Ph.D., Area Extension Livestock Specialist



The spring breeding season is drawing near and producers need to properly manage both their cows and bulls considering ways to optimize beef production. Herd reproduction and fertility are important for profitability to occur. Research has shown that the economic value of reproduction is **5 times greater** than growth or maternal output traits in beef cattle (Mulliniks et al., 2019). Hence, getting cows bred in a timely manner is critical. Open cows negatively impact profitability, so producers need to use breeding programs that increase

the percentage of their cows that get bred. A successful breeding season hinges on nutrition, vaccination, sire selection, breeding soundness exams, and management protocols to control the length of the breeding season.

The first step in preparing the herd for the breeding season is to assess the nutritional status of both cows and bulls. Body condition scoring (BCS) is a practical management tool to allow beef producers to distinguish differences in nutritional needs of animals in the herd. A cow should calve at a BCS of 5 to 6 and be bred at a BCS of 5 to 6. If a cow calves at a BCS less than 5 it will take her longer to return to estrus and thus, take longer to get her rebred.

A BCS of 5 to 6 for bulls is also recommended before the breeding season starts since bulls being too fat or too thin can impact fertility. If changes need to be made to the diet to achieve this BCS they should occur gradually. Ration changes prior to the breeding season can have effects on reproductive performance because mature sperm is produced over a 60-day period before ejaculation. During the breeding season producers should assess the BCS of the bull. It is not unusual for a bull to lose 100 to 200 lb. during the breeding season. If the bull becomes too thin the producer should consider replacing him because his ability to breed cows will be reduced. After the breeding season adequate nutrition is needed to help the bull regain the weight lost.

It is recommended that breeding soundness exams be conducted on all bulls a few weeks before the breeding season even if they were recently purchased as "satisfactory breeders" as a good insurance policy. In addition to breeding soundness exams, pre-breeding vaccinations is an important practice. A visit with your veterinarian about appropriate vaccinations, deworming, and other health considerations is recommended.

Even if bulls have a proper BCS, have had adequate exercise, and have been with the other herd bulls to determine social dominance, ranchers need to continually observe and manage bulls. Young bulls have great potential to bring genetic improvement to your herd, however they will experience an acclimation period prior to breeding any females. In order to start calving on your selected date, it may be important to turn young bulls out a few days early, so they can get adjusted to their environment and be ready to breed cows when you would like them to start. Managing young bulls will be more challenging because they are still growing. Since they have higher nutrient requirements, they will likely lose condition faster than mature bulls.

Social dominance in pastures can also be a concern. Yearling bulls and older, mature bulls should be in separate pastures. If they are together, the yearlings cannot compete with the older bulls thus, resulting in limited genetic improvement, as well as possible injury to the younger bulls. If older bulls have been used more than two breeding seasons, they have a tendency to become territorial and may spend more time fighting and defending their territory than servicing cows. This is a situation where observation is key because bulls may not be getting the cows bred or could be injured or causing injuries. If you are observing animals closely, bulls that are either injured or lack desire can be removed.

Another important issue to address is how many bulls to put in each pasture. A rule of thumb is one cow per month of age of the bull up to 3 years old. Therefore, the true "yearling" would only be exposed to 12 or 13 females. If he is a year and a half old (18 months), then he should be able to breed 15 – 18 cows. By the time the bull is two years of age, he should be able to breed 24 or 25 cows. However, research indicates this number could be increased to as many as 50 cows per bull without a negative impact on conception rate. In determining the proper bull power, several factors should be considered including the topography and size of the pasture, feed condition, age and condition of the bulls.

Producers need to continually observe and manage both bulls and cows during the breeding season. Overlooking critical warning signs could result in reduced pregnancy rates. Assess the BCS of the bulls. It is not unusual for a bull to lose 10 to 15% of their body weight during the breeding season. If the bull becomes too thin the producer should consider replacing him because his ability to breed cows will be reduced. Observe bulls to ensure they are actively checking cows and breeding normally. Watch for injuries. Multiple cows coming back into heat after being bred or a high number of cows showing heat late in the breeding season are also important warning signs.

In conclusion, a successful breeding season is not only dependent on the BCS of the cows but also on the success of the bulls. Bulls have more influence on the success of the breeding season and the herd's future genetics because a cow produces one calf a year, while a bull can potentially sire 25 to 50 calves annually. Breeding success is vitally important to the profitability of the beef operation. Through good management practices breeding efficiency can be obtained. It is important to remember that both the cow and the bull are vital parts to the breeding equation.

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.



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