

AGRICULTURE & HORTICULTURE NEWSLETTER

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Soil Fertility and Pasture Fertilization Steps

BY: CLINT PERKINS

1. **Soil Testing** - Soil testing is a valuable forage production practice under any economic scenario, but it is especially important during economically difficult periods. It is wasteful to apply more fertilizer than needed, but forage production will be reduced if too little is applied. It will also keep you aware of soil pH. Sometimes a \$12 soil test can save you from needlessly applying lime that is not needed just because someone at the coffee shop said all soils need lime. Or, if you do need to apply lime, the soil test will tell you precisely the amount to apply. Soil testing takes the guesswork out of fertilization. Fertilizer recommendations are tailored to the type of forage being grown.

2. **Timing of Fertilization** - The timing of fertilization becomes increasingly important as the need to maximize production efficiency increases. Timing is especially important with nitrogen fertilizer, which results in the greatest grass growth response, but which leaches easily. Applying nitrogen fertilizer just prior to times when conditions are likely to be optimum for forage growth, such as at the beginning of the growing season, helps maximize its utilization. Many producers get in too big of a hurry and fertilize bermuda grass too early. Night time temperatures should average about 65 degrees for a week before you apply fertilizer in the spring. In periods of limited soil moisture, delaying fertilizer application until moisture is present or is imminent can also increase efficiency.

3. **Use of Waste Materials as Fertilizer** - Each year many producers express interest in using various types of waste materials such as broiler litter, animal manures, sewage sludge, or effluents from various sources to fertilize (and to a lesser extent irrigate) forage crops. There are many considerations involved in the use of waste materials, but they unquestionably often offer a means for some producers to lower their fertilizer bills. Products that were not economically feasible to use in the past may have become feasible to use because of changed economic conditions. These are usually slow release nitrogen sources.

4. **Legumes** - The biological nitrogen fixation ability of forage legumes becomes increasingly attractive as the expense of nitrogen fertilizer increases. While soil pH, phosphorus and potassium requirements are higher for legumes, the combined cost of the increased requirement for these soil amendments is lower than the cost of nitrogen fertilizer. Another incentive for using clovers and other legumes is that they usually increase animal performance and can help offset certain animal disorders such as fescue toxicity and grass tetany. If pastures contain at least 30 to 40% legumes, the addition of commercial nitrogen fertilizer can usually be avoided.

5. **Acidification from Nitrogen Fertilizer** - Most nitrogen fertilizers decrease soil pH. This, amounts to a "hidden cost" associated with applying nitrogen fertilizer because even forage grasses must be limed periodically to offset low soil pH. In general, the more nitrogen fertilizer applied the more lime that needs to be applied.

6. **Long Term Pasture Health** - If phosphorus and/or potassium levels in the soil become depleted, forage stands will decline and weedy species such as bluestems will be likely to invade. Therefore, allowing levels of these nutrients to fall below the "medium" level of soil fertility is not in the best interests of long-term pasture health. Pastures having poor forage stands will not respond quickly to fertilization once livestock prices improve, plus the costs of weed control will then have to be borne. Next week, I will cover ways to improve efficiency of hay production/ utilization and efficiency of grazing.

Remember, it all starts with a soil test. I always use this analogy, do you put oil in your vehicle without checking the dipstick first? You should not fertilize your pastures without conducting a soil test. It will be the best \$12 spent! If you have any further questions, please contact Clint Perkins at the Smith County Extension Office located at 1517 W. Front Street in Tyler or call 903-590-2980.

Planting Fruit and Nut Trees

WRITTEN BY: DR. GREG GRANT

The dormant season is the perfect time to plant fruit and nut trees in East Texas. With the cooler temperatures, planting now allows trees to develop strong roots before spring growth begins. If you've ever considered adding fruit or nut trees to your landscape, now is the time to get started.

First, make sure you have enough space. Most fruit and nut trees require a full day of sun and an area of at least 25 feet by 25 feet. Keep in mind that a single regionally adapted pear tree, when properly cared for, can produce two bushels of fruit—or about 100 pounds! Avoid planting more trees than you can care for or use.

Bare-root trees require dormant season planting during the winter. Begin by preparing the site. Clear an area at least 4 feet by 4 feet of weeds and grass, and till or spade the soil. If the soil has a hardpan layer beneath it, break it up to allow better drainage. You can create a small berm to elevate the planting site if drainage is a concern.

Dig a hole large enough to accommodate the tree's roots, usually about 12 inches wide and 18 inches deep. Trim and remove any broken or dead roots. Place the tree in the hole and backfill with the same soil, ensuring the tree is planted at the same depth it grew in the nursery. Planting too deep will slowly kill the tree. Mulch around the base with about three inches of compost, pine straw, or other organic mulch. This helps suppress weeds and insulates the soil.

In spring, as grass and weeds begin to grow, maintain a 3- to 4-foot weed-free zone around the tree. You can do this by reapplying mulch or carefully spraying a non-selective herbicide (avoiding contact with the tree trunk or foliage). Keeping this area weed-free is critical for the tree's success.

In spring, as grass and weeds begin to grow, maintain a 3- to 4-foot weed-free zone around the tree. You can do this by reapplying mulch or carefully spraying a non-selective herbicide (avoiding contact with the tree trunk or foliage). Keeping this area weed-free is critical for the tree's success.

Choose fruit and nut varieties that are well-adapted to East Texas. Not all types thrive in our region (many don't), so selecting the right varieties is key. Medium-sized trees are generally cheaper, easier to plant, and establish better than larger ones. Prune young bare root trees to about 18–24 inches tall at planting. This helps balance the top growth with the reduced root system, promotes strong new growth, and makes training the tree easier.

Before purchasing, inspect the roots for health. Look for healthy white roots without brown streaks and check the trunk for any signs of damage. With proper care, many fruit trees can produce fruit as early as their second year after planting.

For a list of recommended varieties for Smith County, visit the Texas A&M AgriLife Extension Service-Smith County website at smith.agrilife.org and look under the horticulture links. You can also sign up for the free Agriculture-Horticulture monthly newsletter for program flyers, articles, and gardening tips. Information on specific fruit and nut trees is available on the Aggie Horticulture website under "Fruit and Nut Resources."

If you'd like to learn more about growing fruit, nut, and vegetable crops in East Texas, plan to attend the East Texas Fruit, Nut, and Vegetable Conference on Friday, February 7, in Tyler. Details are available on the same website or on the Texas A&M AgriLife Extension Service Smith County Facebook page.

MOO ! MOO ! MOO!

Written By: Anthony Brown

I hope everyone was able to survive these frigid temperatures that we received last month, I can honestly say; we experienced a winter this year oppose to the previous two years. We are not out of the clear just as, yet our last frost date is normally scheduled for March 15th, and our annual Easter snap. For many cattle producers around the county are preparing for the springtime this month. Whether it be calves being born, applying herbicide applications, preparing new grazing pastures, repairing hay equipment, and making sure bulls are ready for breeding purposes, are all things cattlemen will be responsible for to ensure they have another successful year in business. Things have been looking good for cattle producers with the market prices being high and have been a long road from where prices were a few years ago. Although the prices are favorable, inputs are always on the rise. To ensure that producers keep up with the demand of producing cattle; if one hiccup happens it can set them back financially and create unexpected challenges on their operations. Cattle producers need to understand that to remain in production they first must recognize that they are forage producers before cattle raisers. Meaning, the more adequate forage you have available the more pounds yield you will be able to produce. Depending on the weight of a cow, they typically will eat about 24lbs of forage a day. Herbicide applications are necessary to get rid of unwanted plants (weeds) in forage systems. If you have a hard time identifying a weed, I encourage you to reach out to your local County Extension Agent to help identify and get guidance on a chemical recommendation to ensure that you get the greatest yield for these years grazing or hay crop. You can get ahead of the game by doing an annual soil test to see what nutrients you are lacking that causes weeds and decrease the amount of good forage available. Our soil here in East Texas needs lime to help with the fertility of the soil. These amenities to your forage systems are not cheap, however, to make money it takes money. Once you make the necessary investments you will see the gains in your cattle and results in higher profits at the auction barn. A good management practice that can make or break an operation is bull selection. A good herd bull is the number one factor in cow-calf operation. Annual bull tests by veterinarians are recommended to ensure that your bull will be able to cover each cow once he's turned out in pastures with cows. Like humans, cattle have a 9-month pregnancy term, imagine if you have an infertile bull on your operation, you run a risk of losing thousands of dollars by the time you catch the problem. As calves are starting to be born this spring it's important that the bull you selected is a good fit for your cattle. Getting an expected progeny difference (EPD) score on a bull can give you an approximate idea on the expected birth weight and calving ease saving you time and money in the long run. Culling cows that are older and have a difficult time having calves are things you should do often. As mentioned previously the inputs in raising cattle are increasing each year and you cannot afford to feed any cow that is not producing a calf each year.

Care management of cattle is also important as well. Cattle need to meet nutritional balance after calves are born. If your forage is where it needs to be, most of their nutritional needs will be met. However, if you are lacking any minerals or protein, you will need additional supplementation with mineral and protein tubs. The healthier the cow is the quicker their calves will grow. If you can afford to feed calves on creep, sweet, or a mixed ration feed, you can decrease the number of days that you need to hold them before they are ready for auction, weighting around 450-500lbs + about six months old.

Lastly, with all the unpredictable weather that we have been experiencing these last few years. Timing is very crucial when it comes to harvesting fields for hay production. We sometimes have very short windows to harvest a hay crop and if your equipment is not up to par you are at risk of losing money, proper nutrients and a hay cutting. Haying equipment is very expensive and can be very costly if any part on your machinery is not maintained. Now is a perfect time while fields lay dormant to make equipment ready to roll when our first hay cutting is ready to be harvest around May or June. Please stay in contact with County Extension Agent, they are a great and helpful resource to enhance your operation.

GRASSBUR/SANDBUR

Identification and Management in Pastures and Hayfields

Scott A. Nolte, Ph.D.¹ and Zachary Howard²

Grassbur (field sandbur, sandbur, grass bur, sticker weed, etc.) is a troublesome, nasty grass weed species that affects desirable grass forage quantity and quality. Although young plants are often utilized as a grazing forage, seed capsules can penetrate animal tissues, causing pain and sometimes infection. More importantly, it has a negative effect on hay quality and substantially reduces forage value. There are many different grassbur species in Texas, although one of the more common is field sandbur, *Cenchrus spinifex*. Regardless, most are easily recognized in the mature stage of growth when the pernicious seed heads become apparent (Fig. 1). What you may interpret as the seed is a seed “capsule” that usually contains one to three seeds (Fig. 2). This capsule provides a nice environment for the seed to soak up moisture from the soil and hold it until the seed has received the other stimulants (warm temperatures, light, etc.) necessary for germination. This is also what makes it more



Figure 2

survivable than some other grass species in sandy soils that are more prone to dry out. Typical germination will occur when soil temperature rises above 52 degrees Fahrenheit or drops back below 75 degrees Fahrenheit. We often think of the grassbur species as being warm-season annual plants. However, many of these are classified as perennials, which can survive from one year to the next. Although foliage may get “burned” off by freezing temperatures in the fall or winter, sometimes these plants may survive and come back from the roots the following spring. These plants might be more difficult to eradicate since they have already developed a substantial root system the previous year. Whenever you have a weak stand of annual or perennial grass forage, grassbur will take advantage of this space and flourish. Therefore, one of the best cultural control measures is to keep your forage grass stands dense and healthy with proper management.



Figure 1

¹ Associate Professor & Extension Weed Specialist
² Extension Program Specialist



Figure 3

The most important consideration for control is recognition in the early stages of growth (Figs. 3 and 4). The leaves on young seedling plants are usually hairless, while the sheaths surrounding the stem may have hairs along the margins. The sheaths will generally become pubescent (with hairs) as the plant matures. A narrow-fringed membranous ligule is present with hairs on the fringe (Fig. 3). The stems are somewhat flattened and often purplish colored at the base. Tillers are produced on the plants early, which add to the competitiveness of this weed. These perennialized plants can be identified in the winter by cutting the crown of the plant open. The presence of green tissue when the foliage is dormant indicates the plant is a perennial (Fig. 5). When you are doubtful about seedling identification, you can dig up young plants and you will often find the bur attached to the seedling.

Whether perennials are present or not, the foundation of grassbur control is using a preemergence herbicide. In areas where only

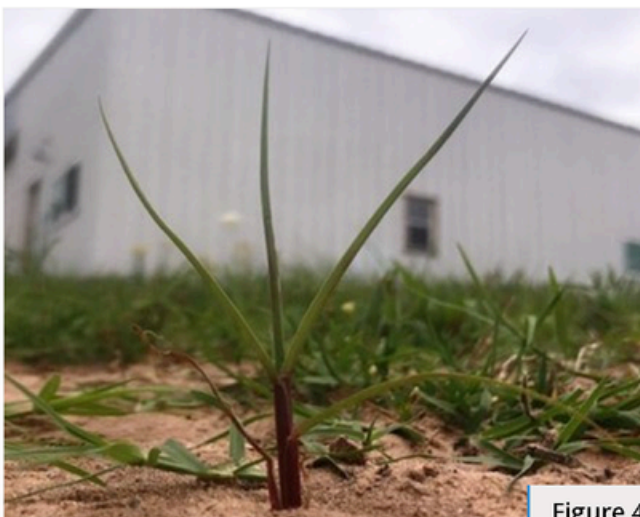


Figure 4



Figure 5

annual grassbur is observed, indaziflam (Rezilon) at 0.039 to 0.065 pounds of active ingredient (ai) per acre (3 to 5 ounces of product/acre) or pendimethalin (Prowl H2O) at 2 to 4 pounds of ai per acre (2.1 to 4.2 quarts of product/acre) can be applied during forage dormancy and before spring grassbur germination, typically mid-February (South and Central Texas) to mid-March (North Texas). Excellent results can be obtained by indaziflam if it is properly incorporated by at least 0.25 inches to 0.5 inches of rainfall or irrigation within 3 weeks of application. Good results can be obtained from pendimethalin if it is properly incorporated by at least 0.5 inches to 0.75 inches of rainfall or irrigation within 7 days of application.

For the best control of annual grassbur, a split application program is recommended. To address summer and/or fall season germination, a second application of indaziflam at 0.039 pounds of ai per acre (3 ounces of product/acre) or pendimethalin at 2 pounds of ai per acre (2.1 quarts of product/acre) will be necessary during the mid-growing season following a haying or grazing event. It is important to note that the maximum annual application rate for indaziflam is 0.078 pounds of ai per acre (6 ounces of product/acre). For pendimethalin, it is 4 pounds of ai per acre (4.2 quarts of product/acre).

Table 1. Maximum application rates in pounds of active ingredient per acre (product amount) for bermudagrass pastures.

Application Type	Indaziflam (Rezilon)	Pendimethalin (Prowl H2O)	Nicosulfuron + metsulfuron-methyl (Pastora)	Glyphosate (Roundup WeatherMax)	Imazapic (Plateau or Impose)
Single	0.065 (5 oz)	4 (4.2 qt)	0.0525 + 0.0135 (1.5 oz)	0.39 (11 oz)	0.19 (12 oz)
Split	0.039 (3 oz)	2 (2.1 qt)	0.04375 + 0.01125 (1.25 oz)	0.39 (11 oz)	0.095 (6 oz)
Annually	0.078 (6 oz)	4 (4.2 qt)	0.07 + 0.018 (2.5 oz)	2.25 (64 oz)	0.19 (12 oz)

If germinated seedlings or perennialized plants are present, the approach is to use one of three products that are labeled for postemergence control, meaning the product must be sprayed onto an emerged grassbur plant. Nicosulfuron + metsulfuron-methyl (Pastora) is one such product that must be applied to small grassbur plants (1.5 inches tall or across) at rates of 1.0 to 1.5 ounces per acre. It is only labeled for use on bermudagrass, so applying it on any other type of pasture or hayfield is illegal and could cause severe injury. There are no grazing or haying restrictions associated with the use of Pastora.

Another postemergence treatment is glyphosate (Roundup WeatherMax, a 4.5-pound glyphosate acid product), which is labeled for use on bermudagrass hayfields immediately after the first hay cutting at a rate of 0.39 pounds of acid equivalent (ae) (11-ounce product) per acre. This application also will control many annual grasses other than grassbur. Some stunting of perennial forage grasses will occur if a broadcast application is made when plants are not dormant. Higher application rates may be used for hard-to-control weeds; however, higher rates will cause a stand reduction in the forage species. It is important to treat as soon as possible after the first hay cutting for two reasons. First, there will be less crop injury since there will be less bermudagrass leaf area to take up the herbicide. Second, the product must contact the grassbur plants while they are small; this is less likely to happen if the bermudagrass has regrown and is covering the grassbur. A maximum of 2.25 pounds of ae (2 quarts) per acre per year can be applied with no grazing restrictions.

The third postemergence product should be used with caution. The active ingredient, imazapic (Panoramic, Plateau, Impose), will stunt bermudagrass growth for a period of at least 30 days. Some varieties, such as Jiggs and World Feeder, are more prone to injury than others. It is labeled for use in most perennial grass species, including native rangeland. When used while haying, the same suggestions for glyphosate apply to imazapic regarding the timing of application. It is an excellent herbicide, with both preemergent and postemergent activity, and is only recommended where controlling grassbur is more important than forage growth. It is relatively inexpensive and has a wide weed control spectrum. There are no grazing restrictions, but a 7-day haying restriction applies when using imazapic.

Always refer to product labels for specific information on recommended use patterns and other details. Contact your county AgriLife Extension agent for current information on control. You must keep hay fields scouted in the fall for grassbur presence to identify those areas where you might apply a preemergence, preventative herbicide in late winter or early spring, as described above. In the spring and throughout the summer, you should again scout the fields for early detection of grassbur and get postemergence treatments applied in a timely manner. No matter what the case, if you have had grassbur in the past, it is likely you will have it for years to come. However, a consistent weed management program can significantly reduce the grassbur pressure over time. Again, proper forage management will be the first step in grassbur control.

Grassbur/Sandbur Management in Turf

Zachary Howard¹ and Dr. Scott Nolte²

Grassbur (also known as field sandbur, sandbur, grass bur, sticker weed, etc.) is a problematic grassy weed that can disrupt the quality of any turf setting. The burs, part of the plant's inflorescence, are painful upon contact and can be carried by animals, clothing, tires, and lawn maintenance equipment. The bur contains one to three seeds, which remain dormant until favorable germination conditions arise. This begins when soil temperatures reach an average daily temperature of 52 degrees F. Germination generally peaks at average daily soil temperatures of 75 degrees F, and germination at further temperatures is possible. This results in two germination periods annually, in spring and fall, with seed production occurring in both seasons.

Although grassbur is often considered a warm-season annual, some species can perennialize. During winter, above-ground foliage ceases to grow and will die back, but the root system can survive to resume growth the next season. The perennial variants will begin producing green above-ground tissue sooner in the year, compared to seedlings germinating, and therefore can produce seed earlier in the year. Their extensive root systems and rapid spring green-up can make them more difficult to control.

Grassbur is adapted to areas characterized by sandy, dry soils with poor fertility, though it is not limited to these areas. Effective cultural control includes maintaining a well-watered, healthy, and dense turf to compete with and reduce grassbur numbers and growth.

As the season begins and soil temperatures reach the germination range, seedlings can be identified in areas with previous years' plants or burs near the soil surface. Seedlings typically have hairless leaves with sheathed stems that may have hairs along the margin. As the plant grows, the sheaths may grow hairs, and

the stems become somewhat flattened, often with maroon to purple coloring at the base of the plant (Fig. 1). Early tillering of seedling plants contributes to their competitiveness against nearby turf.

To tell whether a plant will return as a perennial, inspect mature plant carcasses in winter by slicing open the crown/root area where it meets the above-ground foliage to look for green tissue. Though this area is often small and faded, if green tissue is present, the plant is still alive (Fig. 2).



Figure 1.



Figure 2.

¹ Extension Program Specialist

² Associate Professor, State Extension Weed Scientist

The foundation for control of this species is a healthy turf stand. Once established, applying a preemergent herbicide is crucial for controlling grassbur germinating from seed. The choice of herbicide depends on the turf species and whether a Pesticide Applicator License is required (find more information at <https://texasagriculture.gov/Regulatory-Programs/Pesticides>). Products and rates of suggested products can be found in Table 1. Active ingredients such as dithiopyr, pendimethalin, indaziflam, and others can be found at big-box retail stores, while others such as a prodiamine+imazaquin+simazine pre-mix may require a pesticide distributor tailored to professional applicators.

Preemergent products should be applied and receive at least ½ inch of rainfall or irrigation before soil temperatures enter the germination window. Split applications are important for providing sufficient residuals for both germination seasons. Historical and current soil temperature data are available from sources such as:

- www.texmesonet.org,
- www.soiltemperature.app, and
- www.greencastonline.com/tools/soil-temperature.

Even with healthy turf and preemergent applications, perennial plants and sandburs germinating from seed may occur. Those that germinate regardless of the preemergent application may appear to be resistant, defined by “the inherited ability of a plant to survive and reproduce following exposure to a dose of herbicide normally lethal to the wild type” (WSSA, 1998, p. 789) to the herbicide applied. However, it is important that all matters of proper application techniques are followed according to the product label.



For managing these emerged plants, consider hand removal or a post-emergent herbicide (Table 2). The herbicide selection should again be based on the turf species and whether a Pesticide Applicator License is required. While retail options are available to purchase certain active ingredients, more specific solutions, including pre-mixes, can be found through pesticide distributors tailored to professionals. Another consideration for post-emergent herbicide use is selectivity, defined as “a chemical used in such a manner that it will kill weeds in a growing crop without damaging the crop, or will eliminate only the unwanted vegetation” (Jones et al., 1963, p. 55). It is necessary to read the product label for what turf species are tolerant to the chosen product. Herbicides such as glyphosate and glufosinate are nonselective and can injure or kill any plants they contact. Selective post-emergent herbicides that will not cause significant turf injury are limited and may only provide suppression of weeds, defined by a reduction in weed growth resulting in a reduction of the plant’s ability to compete with surrounding vegetation. Always read the product label for specifics about what vegetation it will control, where it is safe to use, and how to make the most effective application for specific situations.

References

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- WSSA. (1998). Technology notes. *Weed Technology*, 12(4): 789-790.



Table 1. Preemergent herbicides

Preemergent Herbicide	Commercial Name Examples	Vol./ Application	Max Vol./Year	Max Applications/ Year	Area	Length of Residual ^A	Application Timing: 2nd Application Interval	Tolerant Turf Species
Proflamime + imazaquin + simazine	Coastal	48–64 oz.	113 fl. oz.	3	acre	4 month/ max rate	6–10 weeks	Warm season: St. Augustinegrass, Bermudagrass, Zoysiagrass, Centipedegrass Cool Season: N/A
Isoxaben + dithiopyr	Crew	150–200 lb.	600 lbs. product	4 (@ 150-lb. rate), 3 (@ 200-lb. rate)	acre	3 months/ max rate	5–10 weeks	Warm season: St. Augustinegrass, Zoysiagrass, Buffalograss, Bermudagrass, Bahiagrass Cool season: Fine Fescue, Tall Fescue, Perennial Ryegrass, Kentucky Bluegrass
Dithiopyr	Dimension 2EW	0.73 fl. oz.	2.2 oz.	Not listed	1,000 sq. ft.	4 months/ max rate	3–4 months	Warm season: Bahiagrass, Bermudagrass, Buffalograss, Carpetgrass, Centipedegrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass Cool season: Bentgrass, Kentucky Bluegrass, Fine Fescue, Tall Fescue, Ryegrass Perennial
Dithiopyr	Dimension .25G	3.6–4.6 lbs.	13.8 lbs.	Not Listed	1,000 sq. ft.	Not listed	6–10 weeks	Warm season: Bahiagrass, Bermudagrass, Buffalograss, Carpetgrass, Centipedegrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass Cool season: Bentgrass, Kentucky Bluegrass, Fine Fescue, Tall Fescue, Ryegrass Perennial
Pendimethalin	Pendulum AquaCap	1.1–1.6 fl. oz. (3.1–4.2 pts.)	Not listed	Not listed	1,000 sq. ft. (acre)	2–4 months/ max rate	5–8 weeks	Warm season: Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass Cool season: Kentucky Bluegrass, Fine Fescue, Tall Fescue, Perennial Ryegrass, Bentgrass

Table 1. Preemergent herbicides

Preemergent Herbicide	Commercial Name Examples	Vol./ Application	Max Vol./Year	Max Applications/ Year	Area	Length of Residual ^A	Application Timing: 2nd Application Interval	Tolerant Turf Species
Pendimethalin	Pendulum 2G	1.7–2.3 lbs. (75–100 lbs.)	Not listed	Not listed	1,000 sq. ft. (acre)	2–4 months/ max rate	5–8 weeks	Warm season: Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass Cool season: Kentucky Bluegrass, Fine Fescue, Tall Fescue, Perennial Ryegrass, Bentgrass
Indaziflam	Specticle Flo	6–10 fl. oz.	18.5 fl. oz.	Not listed	acre	Not listed	45–90 days	Warm season: Bermudagrass, Zoysiagrass, Centipedegrass, St. Augustinegrass, Buffalograss, Bahiagrass, Seashore Paspalum Cool season: N/A
Indaziflam	Specticle G	2.9–4.6 lbs. (125–200 lbs.)	9.2 lb. (400 lb./ acre)	Not listed	1,000 sq. ft. (acre)	Not listed	30–45 days	Warm Season: Bermudagrass, Zoysiagrass, Centipedegrass, St. Augustinegrass, Buffalograss, Bahiagrass, Seashore Paspalum Cool Season: N/A
Benefin-oryzalin	XL 2G	2.3–3.4 lbs. (100–150 lbs.)	200–300 lbs.	Not listed	1,000 sq. ft. (acre)	2–3 months	2–3 months	Warm season: Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, St. Augustinegrass, Zoysiagrass Cool season: Tall Fescue

^AResidual length will depend upon rate used and environmental factors.

Table 2. Post-emergent herbicides

Post-emergent Herbicide	Commercial Name Example	Vol./ Application	Max Vol./Year	Max Applications/ Year	Area	Control or Suppression	Application Timing: 2nd Application Interval	Tolerant Turf Species
Fenoxaprop-p-ethyl	Acclaim	0.08–90 fl. oz. (3.5–39 fl. oz.)	2.75 fl. oz. (120 fl. oz.)	Not listed	1,000 sq. ft. (acre)	Control	28–35 days	Warm season: Zoysiagrass Cool season: Kentucky Bluegrass, Perennial Ryegrass, Fine Fescue, Tall Fescue, Annual Bluegrass, Creeping Bentgrass
Sodium salt of asulam	Asulox	5 pints	N/A	1	acre	Control	1 app / season	Warm season: St. Augustinegrass, Tifway 419 Bermudagrass Cool season: N/A
Thiencarbazonemethyl/iodosulfuron/dicamba	Celsius WG	0.085 oz. / 2.4 grams	0.17 oz. / 4.82 grams (7.4 oz.)	Not listed	1,000 sq. ft. (acre)	Control	2–4 weeks	Warm season: St. Augustinegrass, Bermudagrass, Centipedegrass, Zoysiagrass, Buffalograss Cool season: N/A
Prodiamine + imazaquin + simazine	Coastal	48–64 oz.	113 fl. oz.	3	acre	Suppression	6–10 weeks apart	Warm season: St. Augustinegrass, Bermudagrass, Zoysiagrass, Centipedegrass Cool season: N/A
Glufosinate-ammonium	Finale XL T&O, others	3.2 oz./gallon ^c	246 oz.	Not listed	acre	Control	Not listed	Warm season: Non-selective ^D Cool Season: Non-selective ^D
Fluazifop-P-butyl	Fusilade II	3–4 fl. oz.	Not listed	Not listed	acre	Control	28 days	Warm season: Zoysiagrass Cool season: Tall Fescue, Fine Fescue
Fluazifop-P-butyl	Oranamec	6–9 fl. oz.	27 fl. oz.	Not listed	1,000 sq. ft.	Control	Not listed	Warm season: Zoysiagrass Cool season: Tall Fescue
Imazaquin	Image 70 DG	0.2–0.26 oz. (8.6–11.4 oz.)	8.6–11.4 oz.	Not listed	1,000 sq. ft. (acre)	Control	Not listed	Warm season: Bermudagrass, Centipedegrass, St. Augustinegrass, Seashore Paspalum, Zoysiagrass Cool season: N/A
Flazasulfuron	Katana	0.045–0.068 oz. (2–3 oz.)	0.2 oz. (9 oz.)	3	1,000 sq. ft. (acre)	Control	28 days	Warm season: Bermudagrass, Buffalograss, Zoysiagrass, Centipedegrass, Seashore Paspalum Cool season: N/A
Monosodium acid methanearsonate ^A	MSMA 6 Plus	1–2 fl. oz.	4 lbs. a.i. ^B	2	1,000 sq. ft.	Control	1–3 weeks	Warm season: Bermudagrass, Zoysiagrass Cool season: Bluegrass

Table 2. Post-emergent herbicides

Post-emergent Herbicide	Commercial Name Example	Vol./ Application	Max Vol./Year	Max Applications/ Year	Area	Control or Suppression	Application Timing: 2nd Application Interval	Tolerant Turf Species
Glyphosate	Roundup ProMax, others	1.28 oz./ gallon ^c	11 fl. oz.	Not listed	1,000 sq. ft.	Control	Not listed	Warm season: Non-selective ^d Cool Season: Non-selective ^d
Sethoxydim	Segment II	0.6–0.9 fl. oz. (1.5–2.5 pts.)	0.9 fl. oz. (3.0 pts.)	Not listed	1,000 sq. ft. (acre)	Control	Not listed	Warm season: Centipedegrass Cool season: Fine Fescue

^aFor use on golf courses and sod farms only

^bAbbreviation: active ingredient

^cSpot spray application

^dDetrimental to desired turf

Helpful Resources

Horticulture

East Texas Gardening with Keith Hansen: easttexasgardening.com

Facebook Page: facebook.com/easttexasgardening

Greg Grant 's Blog: arborgate.com/greg-ramblings

Facebook Page: facebook.com/ggrantgardens

Neil Sperry's Web Site: neilsperry.com

Facebook Page: facebook.com/NeilSperryTexas

Plant Answers: plantanswers.com

Texas Gardener Magazine: texasgardener.com

Facebook Page: facebook.com/texasgardenermagazine

Agriculture

Ranch TV: <https://ranchtv.org>

Facebook Page: facebook.com/ranchtv/

Texas A&M Wildlife and Fisheries Extension: <https://wfsc.tamu.edu>

Videos: <https://www.youtube.com/user/WFSCAgriLife>

Facebook Page: facebook.com/wfscextension/

Texas A&M Natural Resources Institute: <https://nri.tamu.edu>

Facebook Page: facebook.com/tamuNRI/

Wild Pig Resources and Videos: <http://feralhogs.tamu.edu>

University Based

Texas A&M Aggie Horticulture: aggie-horticulture.tamu.edu

Facebook Page: facebook.com/aggiehorticulture

Integrated Pest Management: ipm.tamu.edu

Insect Answers and Information: citybugs.tamu.edu

Disease Diagnostic Laboratory: plantclinic.tamu.edu

Turf and Grass Care: aggieturf.tamu.edu

Texas A&M Forestry Service: tfsweb@tamu.edu

Soil Testing Information: Soiltesting.tamu.edu

Gardens

SFA Garden in Nacogdoches: sfagardens.sfasu.edu

The Garden at Texas A&M: gardens.tamu.edu



Vegetable Garden Planting Guide

for the East Texas Area

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
ASPARAGUS (Crowns)												
BASIL *												
BEANS, BUSH & POLE												
BEETS												
BROCCOLI *												
BRUSSEL SPROUTS *												
CABBAGE *												
CANTALOUPE (Muskmelon)												
CARROTS												
CAULIFLOWER *												
CHARD, SWISS												
CILANTRO												
COLLARDS/KALE *												
CORN, SWEET												
CUCUMBER												
DILL												
EGGPLANT *												
GARLIC (Cloves)												
LETTUCE (leaf)												
MUSTARD												
OKRA												
ONION (sets)												
PARSLEY *												
PEAS, ENGLISH/SNOW												
PEAS, SOUTHERN												
PEPPERS *												
POTATO, IRISH (Tubers)												
POTATO, SWEET (slips)												
PUMPKIN												
RADISH												
ROSEMARY*												
SPINACH												
SQUASH, SUMMER												
SQUASH, WINTER												
TOMATOES *												
TURNIPS												
WATERMELON												

* = TRANSPLANTS

Plant seed unless otherwise noted

By: Greg Grant, Smith County Extension Agent- August 2021

THINGS TO DO IN FEBRUARY



>>> PLANT CARE

- Prune hybrid tea, grandiflora, and floribunda roses mid-month at 45-degree angles just above outward facing buds. Remove dead wood and crossing branches. Prune climbers after first bloom by removing oldest canes only. Prune shrub, tea, China, polyantha, and miniature roses with hedge clippers.
- Plant roses, groundcovers, trees, shrubs, vines, fruit/nuts, petunias, and snapdragons.
- Plant onion sets early in the month.
- Plant Irish potatoes around Valentine's Day.
- Begin to plant your garden with lettuce, cilantro, parsley, radishes, mustard, carrots, beets, turnips, broccoli, Brussels sprouts, kale, collards, Swiss chard, spinach, and cauliflower.
- Cut back frozen perennials and tropicals.

PEST <<<

- Begin regular disease prevention programs for susceptible roses.
- Treat aphids on ornamentals with strong spray of water, insecticidal soap, or other appropriately labeled insecticide.
- At first sign of cabbage loopers on broccoli, cabbage, and cauliflower apply BT (*Bacillus thuringiensis*).



>>> ODDS AND ENDS



- Clean, sharpen, and oil outdoor tools.
- Check irrigation systems for missing or broken heads. Clean filters.
- Service mowers and power equipment.
- Clean out and/or mount bluebird nest boxes.
- Clean out and/or erect purple martin houses.
- Keep bird feeders filled with black oil sunflower seed.
- Keep bird baths clean and filled.



EAST TEXAS FRUIT, NUT, & VEGETABLE CONFERENCE

FRIDAY, FEBRUARY 07, 2025

Earth-Kind Pollinator Management

Garett Slater, Texas A&M AgriLife Extension
Assistant Professor and Honey Bee Extension
Entomologist - Overton, Texas

Earth-Kind Pecan Production

Bob Whitney, Texas A&M AgriLife Extension
Organic Program Specialist I - Stephenville, Texas

Earth-Kind Vegetable Production

Dr. Greg Grant, Texas A&M AgriLife Extension Service
- Smith County Extension Agent , Horticulture

Earth-Kind Fruit & Berry Production

Dr. Tim Hartmann, Assistant Professor &
Extension Specialist - Fruit Crops - College Station

Location:

Cross Brand Cowboy Church
11915 FM 2015
Tyler, Texas 75708

Time:

Registration opens: 7:30 am
Program Starts: 8:00 am
Adjourn: 12:00 pm

Registration:

Go to the link or scan QR code :

<https://smith.agrilife.org/fnvc/>

Online **20.00** dollars per person
Onsite **30.00** dollars per person
(Registration will accept credit/debit card
5% conveniences fee on all transactions)
Any questions please contact- (903)590-2980





North East Texas Land Summit Tuesday February 18, 2025

Greater Tyler Association of Realtors
2772 SSE Loop 323, Tyler, Texas 75701

Registration is at 8:30 am
Program starts at 9:00 am
Adjourn at 4:00 pm

Online registration is \$50.00 per person
Registration deadline is February 17, 2025
by 5:00 pm

Online registration will accept credit/debit
card. If you need assistance with registering
online, please call (903) 590-2980

(5% convenience fee when using credit/debit
cards)

Ins and Outs of the Residence
Homestead Tax Exemption (1 hour credit)
Instructor: **Blake Bennett**
Course Number: 46632

Rural Land Deals: How to Git- R- Done
(2 hours credit)
Instructor: **Tiffany Dowell Lashmet**
Course Number: Forthcoming
Content: Lease arrangement, mineral rights,
easements, Right-to Farm

Using Insurance to Manage Property Owner
Risk (1 hour credit)
Instructor: **Texas Farm Credit/ Farm Bureau**
Course Number: 47044

Completing the Farm & Ranch Contract
Correctly (3 hours credit)
Instructor: **Blake Bennett**
Course Number: 48770



Registration link and QR Code below:
www.smith.agrilife.org/etxlandsummit/



MONTHLY MEETING



FEBRUARY 3, 2025

10:00 Am

Snacks Provided by: Tricia, Marcia & Parie

Kaufman County AG Extension Office
2471 TX 34, Kaufman

Kris Kumar will lead Rose Pruning Class
Open to the Public

Mid-Sabine Cattlemen Conference



February 28, 2025

**Carthage Civic Center
(Conference Room)
1702 South Adams St.
Carthage, TX 75633**

**TEXAS A&M
AGRI LIFE
EXTENSION**

Program Cost \$20

Pre-Register

February 21, 2025

**To the Panola or Harrison
County AgriLife Extension
Offices**

Panola - (903)693-0380

Harrison - (903)935-8413

- 8:30 a.m.** *Registration & checkout vendors*
- 9:00 a.m.** **Management Strategies for Feral Hog Control**
Dr. Aaron Sumrall - Pig Brig Director for Outreach Education
- 10:00 a.m.** **Soil & Nutrient Management Strategies for Sustainable Pastures and Beef Systems**
Dr. Monte Rouquette - Professor of Forage Physiology
- 11:00 a.m.** **Break and Visit Vendor Booths**
- 11:15 a.m.** **Fire and Leafcutter Ant Management**
Dr. Robert Puckett - Associate Professor & Extension Entomologist
- 12:15 p.m.** **Lunch and Visit Vendor Booths**
- 1:00 p.m.** **Bovine Internal Parasites: Are Current Methods Working?**
*Dr. Thomas Hairgrove - Associate Prof. & Extension Specialist
Extension Veterinarian*
- 2:00 p.m.** **Pesticide Modes of Actions**
*Dr. Mark Matocha - Professor & Extension Specialist Ag &
Environmental Safety*

4 CEUs

2 General

2 IPM

Program Vendors:

East Texas Seed Co.

LSB Industries

*Azelis Agriculture &
Environmental Solutions*

Rozell Sprayer Manufacturing

Thompson Feed

*Vital Earth - Carl Pool
Fertilizer*

Educational programs of the Texas A&M AgriLife Extension Service are open to all people without regard to race, color, religion, sex, national origin, age, disability, genetic information or veteran status. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating. Those individuals needing special assistance at an AgriLife Extension program should contact the Texas A&M AgriLife Extension Office at (903)693-0380 at least two weeks prior to the program and or event.

TRI COUNTY BEEF & FORAGE

Cherokee, Rusk & Smith Counties

TDA CEU HOURS
3

Friday, April 4, 2025 | \$10 Registration Fee
Cherokee Co Expo | 611 SE Loop 456 | Jacksonville

8:30am Registration (\$10 cash or check payable to Cherokee Beef & Forage)



9:00am Weed Identification & Herbicide Update (1 General)
Clint Perkins, Smith County CEA-Ag/NR



10:00am Weed Control Using Impregnated Fertilizer (1 General)
Darren Rozell, Rozell Sprayer Manufacturing Co



11:00am Beef Cattle Conformation
Dr. Ron Gill, AgriLife Extension Beef Cattle Specialist

12:00pm LUNCH



12:30pm Risk Management Programs - Pasture, Rangeland & Forage Insurance (PRF);
Livestock Risk Protection Insurance (LRP)
Kevin Hatcher, Texas Farm Credit

1:00pm Herbicide Trial Updates & Results (1 General)
Clint Perkins, Smith County CEA-Ag/NR

2:00pm Adjourn

RSVP to 903-683-5416 by March 31st for meal count. Persons with disabilities needing accommodations for effective participation in the meeting should contact Cherokee County AgriLife Extension office at least a week in advance of the meeting or event to request mobility, visual, hearing or other assistance. Texas A&M AgriLife Extension Service is an equal opportunity employer and program provider.



Smith County Master Gardeners 2025 Library Series

Please join us at 11:30 a.m. at the
Tyler Public Library Taylor Auditorium
201 S. College Avenue
Tyler, TX 75701

Lectures are free and open to the public



January 17

Dr. Andrew King

“Hot New Plants for East Texas... and Some Others We’ve Forgotten About”

Dr. King will discuss new plants adapted for Est Texas as well as reminding us about some we may have forgotten. Dr. Andrew King is an Assistant Professor at Texas A&M AgriLife REsearch & Extension Center in Overton, Texas

February 21

Luke Alfaro: Urban Tree Stress

Luke will discuss tree stress and how to manage stress and promote health trees in East Texas. Luke Alfaro is the Urban Forester and Arborist for Tyler, Texas.

March 21

Dr. Garrett Slater: Getting Started with Bees: The Fundamentals of Beekeeping”

The Basics of Beekeeping will be discussed. Dr. Slater is an Assistant Professor and Honey Bee Extension Entomologist in the Department of Entomology for Texas A&M Extension Center in Overton, Texas.

April 25 (1:00 pm - 2:00pm)

Dawn Stover: “Gardening for Worms! Host Plants for Butterfly Caterpillars”

Dawn will discuss gardening specifically for butterfly caterpillars and provide plant suggestions for our region. Dawn Stover -FPAC-NRCS, TX is a Study Leader/Agronomist for the USDA-NRCS, at East Texas Plant Materials Center in Nacogdoches, Texas.

May 16

Dr. Greg Grant: Saving Savanna: Our Disappearing Oaks

Dr. Grant will take a look at the plights of oaks and savannas and provide ideas and inspiration for steps gardeners and landowners can take to restore habitat and diversity. Dr. Greg Grant serves as the Horticultural Agent for Smith County within the Texas A&M Extension Service



“Texas A&M AgriLife Extension Service is an equal opportunity employer and program provider.”



Spring Conference hosted by the Cherokee County Master Gardener Association

“If you need me, I’ll be in the
garden”

22 Mar 2025 - \$20 per person

First Christian Church
1920 Beaumont St. Jacksonville TX

Registration - 12:00 – 12:50
Mini Talks/Food/Vendors – 12:00 – 12:45
Keynote Speaker – 1:00 – 2:10
Food, Vendors, Mini Talk break – 2:15 – 2:50
Speaker Two – 3:00 – 3:50
Final Free Raffle tickets drawn – 4:00
Last minute shopping and collect your silent auction items
Conference ends 4:15

This year’s guest speakers

Mr. Greg Grant, Horticulture, Smith County Texas A&M AgriLife
Extension Service

Mr. Michael Johnson, U.S. General Manager for David Austin
Roses

4 Mini Educational Talks will be held in the food & vendor area
*Persons with disabilities needing accommodations for effective participation in
the program should contact the County Extension Office at least one week prior to
the conference to request mobility, hearing, visual or other assistance.*

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the County Commissioners Courts Cooperating.*