MARTY'S TOOLBOX

Texas A&M AgriLife Extension

Welcome to Marty's Toolbox, your go-to hub for timely information and helpful resources concerning Agriculture, Gardening and Horticulture to support Wise County's current needs and challenges. Explore the tools, stay informed, and take action.

If you have any questions, feel free to call, email or stop by!

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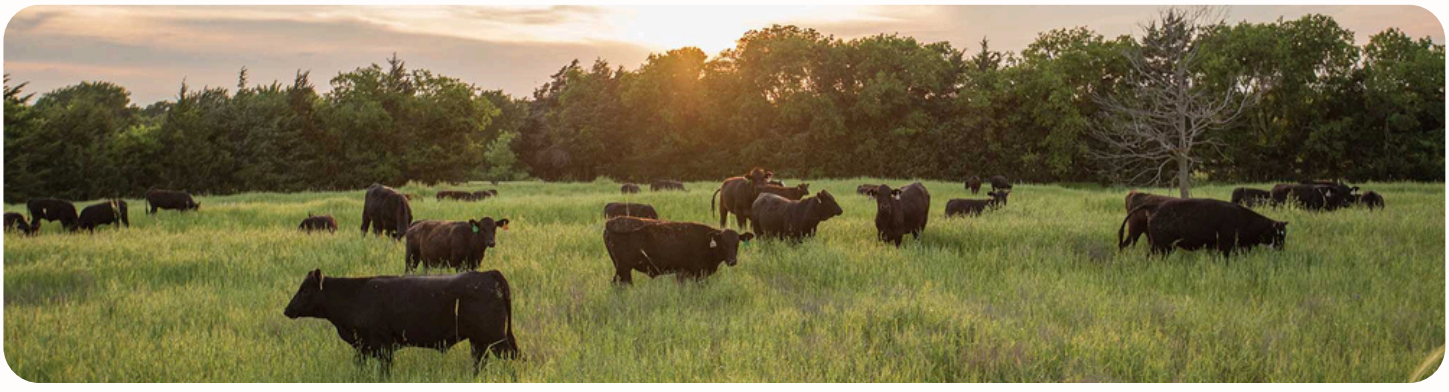


Websites and Resources to Keep on Hand

Forage/Plant Testing Labs:

Go to the following link to see list of testing labs with all their information you need to send off samples, and the costs:
Forage and Plant Testing Labs

Plants of Texas Rangelands: Identify Grasses

https://rangeplants.tamu.edu/

Database for Pesticides Labels:

Read all about the product directly from the Label—such as directions for use, ingredients, hazards, grazing restrictions, etc…
https://www.cdms.net/LabelsSDS/home

Web Soil Survey:

Explore your land and see what you have, or don't have! From soil type, pH, erosion, to much more.
https://websoilsurvey.nrcs.usda.gov/app/

Keep an eye out for Fall Armyworms again:

They're BACK! There are so many insecticides to choose from so check out the "Armyworm Fact Sheet" with the ones that are tested and "Managing Insect Pests of Texas Forage Crops" at the following links:
Armyworm Fact Sheet
Managing Insect Pests of Texas Forage Crops

Also, see my article "The Battle with ALL Armyworms" at the following link:
The Battle with All Armyworms

Poison Ivy:

For some great information on getting ahead of the spread of Poison Ivy, go to the following:
3 Things You'll Want to Waste No Time Cleaning After a Run-In with Poison Ivy

What is Wrong with my St. Augustinegrass in my Yard?

St. Augustinegrass problems often stem from disease, pests, or improper care. Common issues include brown patch or gray leaf spot fungus, chinch bugs, White Grubs, and improper watering leading to yellowing or browning. Poor soil quality and excessive fertilizer can also contribute to decline, along with all the stress from the last few years of drought that stressed all our plants. This spring has been very wet contributing to all kinds of fungal diseases. I have big yellow patches that I have put everything under the sun on this spring, starting with Caravan G(granular fungus and insect control in one bag) then from fungicides like Bio Advanced Fungus control for Lawns-(dry and liquid), Scotts DiseaseEx granular, Propiconazole liquid. And as for different insecticides there are Scotts GrubEx, BioAdvanced 3-In-1 for Southern Lawns, BioAdvanced 24 Hour 10 -lb Grub killer, Bio Advanced Complete Insect Killer, Sevin Granules 20 -lb Lawn insect control. And fertilizers like performance Max, Milorganite, Ironite, and Texas Turf Lawn fert, all granular. But just as the Morgan luck would have it, every time I put something out it came a flood and washed it out of the yard and down the creek. So needless to say I wasted a lot of time, energy and money on my treasured St Augustine Lawn, and it still has yellow spots! So, between the droughts, floods, and diseases it's been a real struggle this year! Lets hope it survives another summer and does better next spring!

For more information on St. Augustinegrass, go to:

St. Augustinegrass Lawn Management

10 Signs a Tree in Your Yard Needs to Be Removed

Folks in Wise County have had to make some tough decisions over the past few years about their sick or dying trees damaged by adverse weather mainly stressed by the droughts of 22-24, and by the ice storm in February of 2021. I have looked at thousands of trees to help them make the call to give it more time, treat it with a fungicide or insecticide, or to cut it down and remove it. It's a hard choice to remove that big ole favorite tree in your yard that has been there forever and provided so much shade and give your place eye appeal. But many times this is the best option. With removal comes the expense to hire someone if you cannot do it yourself or if it is dangerously close to power lines or could harm your house if it fell on either. Many are older folks with limited income so it makes it tough to hire someone. If you need me to come take a look to help you decide what to do, I would be happy to do so. Many times, I can diagnose over the phone by sending me photos. Just give me a call and we'll decide what we need to do.

For more information, go to:

10 Signs a Tree Needs to be Removed

New World Screwworm – What you need to know

Detecting New World screwworm and mandatory reporting:

This fly is a threat to humans and their companion animals, and should the fly arrive in Texas, these groups must be educated as well.

Signs of screwworm infestation can include: irritated behavior, head shaking, smell of decaying flesh, and presence of maggots in the wound of a living animal.

Anyone who finds fly larvae infesting a living animal, called myiasis, must report this to a state veterinarian. The protocol for reporting can be found on the Texas Animal Health Commission website or the USDA-APHIS website at:

https://www.tahc.texas.gov/animal_health/feverticks-pests/EMGuide_NWS-ProducerGuidance.pdf

https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm

The USDA-APHIS factsheet can be found at: **New World Screwworm**

The Texas A&M AgriLife Extension factsheet can be found at: **Screwworm Factsheet**

Screwworm Infestation in Dog

Screwworm Larva

Adult New World Screwworm Fly

Pasture Management Tips for June

1. Managing Warm-Season Forages:
   - Monitor Growth: Evaluate forage growth and make sure pastures are not overgrazed.
   - Grazing Rotations: Implement grazing rotations to allow forages to recover and maintain quality.
   - Supplemental Feeding: Consider supplemental feeding if drought or other conditions are impacting forage availability.

2. Weed Control:
   - Mowing: Mowing before weeds set seed is crucial to reduce weed populations.
   - Chemical Weed Control: Follow a chemical weed control program to minimize competition with desired forages.

3. Addressing Drought Conditions:
   - Water Sources: Ensure adequate water sources are available for livestock.
   - Forage Reserves: Have adequate forage reserves or plan for supplemental feeding if needed.

4. Other Important Considerations:
   - Soil Health: Monitor soil health and consider soil testing to ensure optimal conditions for forage growth. For more information, go to: https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soils/soil-health
   - Pest Management: Monitor for and address any pest issues, such as insects or diseases, that may affect forages. For more information, go to: https://www.nrcs.usda.gov/resources/guides-and-instructions/pest-management

For more specific guidance, consult with a local Texas A&M AgriLife Extension agent or refer to the Texas A&M AgriLife Extension website for relevant publications.

Maintaining a Healthy Lawn

By Marty Morgan, Wise Ag Agent

Well we are well into spring and summer is right around the corner so we need to pay attention if we want to maintain a healthy lawn. Maybe you over or under water? Maybe you use the wrong type or amount of fertilizer. Maybe your tools haven't been properly maintained. Avoid these common mistakes, and your lawn will reward you.

Concerning Improper Mowing

Cutting your grass too short, too soon, or too poorly can result in a damaged lawn that isn't healthy and doesn't look nice. The type of grass can dictate the best mowing height. 2 to 3 inches is a good target height for most lawns in North Texas. Scalping the lawn is never good and the taller grass is healthier for a lawn because it shades the soil surface, keeping it from drying out, and therefore reducing watering needs. It's also harder for weeds to grow in shaded soil. Cutting grass too short can damage it and render it vulnerable to pests, disease, and heat stress. No matter the ideal height for your region, mow often enough that you never have to remove more than one-third of the grass blade to avoid shock. Adjust the mower height to the appropriate level and, while you're at it, make sure the mower blades have been sharpened. Dull blades rip instead of slice the grass blades, and this can stress the lawn, resulting in brown tips and possible water loss or even disease.

What about Improper Watering?

Apply the Goldilocks rule to watering your lawn: not too much, not too little, but just the right amount. I recommend watering 1 inch a week unless we are having extreme heat, when temperatures are consistently above 90 degrees Fahrenheit, then we should move to watering 1 inch twice a week. In drought years like 2023 it seemed like we couldn't water enough, and our lawns suffered tremendously. If you don't have a rain gauge to measure how much water you're putting down, use an empty pie tin and see how long it takes to accumulate an inch of water. Or you can use several empty dog or cat food cans and average it together to measure the amount. Another way is to dig 3 to 4 inches into the soil to see how far the water has penetrated. My rule in all soil types except sand is that after digging down 3-4 inches if the soil is sticky and able to be rolled up into a ball its too wet! If the soil will crumble in your hand and is moist then its "just right" . And of course if there is no moisture then it is too dry. So water accordingly using common sense. Even if your measurements are a little off, remember that it's better to water deep and infrequently, than to water often and shallow. Deep watering encourages deeper root growth and allows the soil to dry out between waterings, thus reducing the risk of fungus and disease. And nobody wants to deal with diseases. I have found that watering very early in the morning is the best time, I water my lawn starting at 12:30am for 15 stations set at 20-40 minutes each. It usually finishes up about the time the sun comes up. Doing this allows the water to effectively penetrate the soil before the sun can evaporate it. And of course, watering during the heat of the day results in evaporation losses which robs the water from the grass before it's able to reach the roots. Remember watering in the evening can lead to fungal problems because there's not enough sunlight to dry the grass enough as the temperature falls.

Maintaining a Healthy Lawn. . . continued

What about using the wrong kind or amount of Fertilizer?

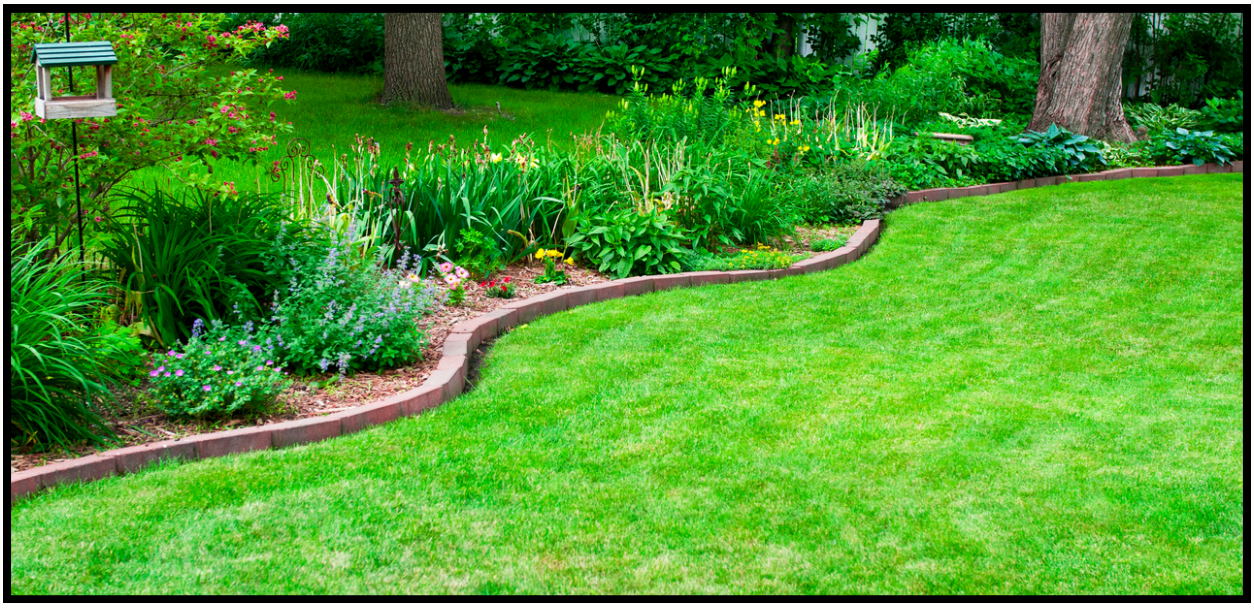
Feeding your lawn helps keep it healthy and lush by supplementing soil that lacks necessary nutrients (like nitrogen). Testing the existing soil pH and nutrient levels is imperative to determine the type of fertilizer to use and how often to apply it.

Once you know what type of nutrients your lawn craves, select the right fertilizer. “Most turfgrass agronomists recommend an all-purpose fertilizer ratio of 4-1-2 (nitrogen-phosphorus-potassium) as a starting point,” Feldman says. He adjusts this ratio based on soil type, geographical agronomic conditions, grass type, the season, and local fertilizer laws.

Opinions vary about fertilizing frequency, ranging from twice a year to five times or more. The decision can depend on the type of fertilizer chosen. For example, granular fertilizer might limit you to two applications per season, but liquid fertilizer can be applied more frequently because it delivers lower amounts of nutrients. Whatever you choose you should fertilize proactively, so you don’t starve your grass, adding avoidable stress.

Apply fertilizer uniformly to ensure even distribution, then allow a rest period to permit the fertilizer and water to settle in so that the nutrients are completely absorbed.

There are no big secrets to lawn care. You have to cut it right, water it right, feed it right, and treat it right (insects and diseases). Learn these four basics, and you will have less weeds and pests because a healthy lawn is less susceptible to problems. But it’s easy to make mistakes when you don’t know what your unique lawn needs. A SOIL TEST is very important in assessing the soil pH and nutritional needs of your lawn. Other factors are grass type and weather/climate.



Controlling Grasshoppers

Controlling Grasshoppers in the Lawn, go to:
https://citybugs.tamu.edu/factsheets/landscape/lawns/ent-1005/

Controlling Grasshoppers in the Pasture/Field:
Chemical Control: Grasshoppers are susceptible to many insecticides. The length of control will depend on the residual activity of the insecticides and the frequency of treatment. Controlling grasshoppers over a large area will reduce the numbers present which can re-infest a treated area. Remember, smaller grasshoppers are more susceptible to insecticides than larger ones.

Insecticides that can be used on pastures and hayfields:
ALWAYS READ AND FOLLOW ALL LABEL INSTRUCTIONS ON PESTICIDES!

- Mustang Max (9.6% zeta-cypermethrin)
- Karate Z (lambda cyhalothrin): Do not harvest for hay until 7 days after application
- Baythroid XL (beta-cyfluthrin)
- Dimilin 2L: Dimilin must be applied when grasshoppers are about 1/4 inch. Dimilin is not effective on adults. (generics now available)
- Sevin 4F, Sevin XLR, Sevin 80S, generic Carbaryl: 14 day waiting period before grazing or harvesting
- Tombstone Helios (cyfluthrin)
- Multiple products (examples include Lambda-Cy, Grizzly Z, Kendo, etc.; lambda-cyhalothrin)
- Prevathon (chlorantraniliprole): For optimum control, apply to nymphs.
- Coragen (chlorantraniliprole)
- Besiege (chlorantraniliprole + lambda-cyhalothrin): labeled for grasshoppers and armyworms.

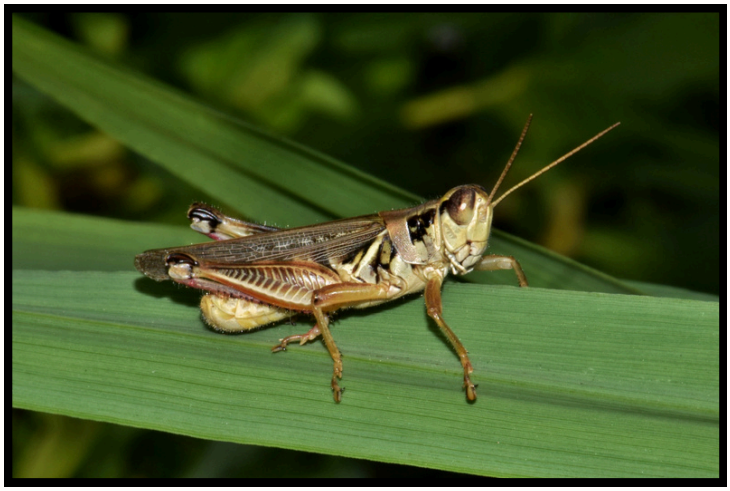
My favorites are Besiege and Prevathon as they provide the best residual action for the money. Depending on rate used, Beseige can run from $10-14/acre, and Prevathon(or Coragen) from $15-24/acre. They are all great products.

For more information on controlling grasshoppers in the Pasture, go to the following:

Managing Insect Pests of Texas Forage Crops

Grasshoppers and Their Control

Forage Fax - Scouting for Grasshoppers



Effective Fly Control Strategies

By Marty Morgan, Wise Ag Agent

Horn flies are a very damaging pest for beef cattle here in Texas. Research has shown that a calf infested with more than 200 flies will weigh 15 to 20 lbs less at weaning. In order to suppress them in the best way you should understand their life cycle and possible control strategies.

Identifying the Fly

Horn flies look very similar to stable flies so in order to identify them you should observe their feeding behavior. Horn flies feed most often on the animal's back shoulders, and sides. Stable flies tend to feed primarily on the cow's legs. The horn fly will lay it's eggs in fresh manure and the eggs reach maturity within 10 to 20 days.

Horn flies usually are first observed in early spring and tend to peak in early summer. This decline is due to the hot and dry temperatures in late summer. The cooler temperatures in the fall generally causes an increase in numbers again till later in the year. When the first good frost shows up they will go dormant till the spring warm-up.

There are many resources available to learn about the horn fly such like from your local veterinarian or your local extension office. Another source of information you can go to is the Livestock Veterinary Entomology department at Texas A&M University at:
https://livestockvetento.tamu.edu/.

Fly Control Methods

In order to suppress the horn fly population effectively you should use what is called an integrated pest management (IPM) approach. An IPM relies on multiple tactics in order to control fly populations. These tactics include cultural, biological, and chemical methods in order to suppress these pests.

Ear Tags impregnated with an insecticide is a very common product type that many producers use. These are popular because once they are applied to the cow they continue working for months. Sprayers and dusters are another option that can be used. These products though tend to not suppress flies for very long.

Feed additives are another popular approach for fly control. Some tend to go with this option because it is less labor intensive. You just put the feed or mineral out and that is it.

With each product there is it's own set of pros and cons that go with them. It is best to visit with your veterinarian to see with options would work for you. Then weigh the options and go with the product that works best for you.

Common Landscape Herbicides and Their Effect on Trees

https://extension.msstate.edu/sites/default/files/publications/publications/p3273.pdf

Do you have Hypoxylon Canker on your tree?

By Marty Morgan, Wise County Agriculture Agent

Hosts

Hypoxylon canker occurs on many oak species (commonly blackjack, live, post,southern red, and white) and is found in forest areas and home landscapes. The disease is usually associated with stresses caused by drought, heat, wound or chemical injury. Thus, healthy trees are more resistant to the disease.

Symptoms

Leaves of trees infected with Hypoxylon turn yellow and wilt, and entire branches die. The bark sloughs off, exposing the stroma. The stroma may appear dusty brown,black, silver, or white depending on it's age as it progresses from it's asexual to sexual stage.

Control

No effective means of control are available. Trees infected with Hypoxylon should be removed to prevent secondary infections on other susceptible trees. The spores from the stroma become exposed and are spread by rain and wind.

Lawn Management for Homeowners

By Marty Morgan, Wise County Agriculture Agent

If you haven't applied a preemergent herbicide, get it out soon! Application window is based upon weed seed germination and that is based upon soil temperatures. As warm as the weather has been, it is very likely that some weeds have already sprouted but many have not. Go ahead and apply a preemergent herbicide and water it in per the label directions. It will still be effective on the seed that hasn't yet germinated. Beyond that, scout for any weeds in the lawn. Do you find any weeds in the lawn and are there enough to warrant a problem? This allows you to formulate a treatment plan for the warmer months ahead. Apply preemergence herbicides when soil temperatures reach 55 degrees F for 4 to 5 consecutive days. In North Texas, this is usually between Valentine's Day and 1st week of March. Its still not too late but I would do it within the next week or so. Remember, preemergence herbicides must be active in the soil to be effective. They are useless sitting on the surface and most degrade rapidly. Be sure to water in your selected product per the label directions or hopefully a rain will help you out.

Here are some great publications to help you with timing and products on certain weeds and grasses you may have in your Lawn using either or both pre and post herbicide applications.

Preemergence Herbicides for the Home Lawn:

https://aggieturf.tamu.edu/wp-content/uploads/sites/24/Preemergence-Herbicide-Guide-4.pdf

A Homeowner's Guide to Herbicide Selection for Warm-Season Turfgrass Lawns:

https://aggieturf.tamu.edu/wp-content/uploads/sites/24/HerbicideSelection_proof44-1.pdf

Controlling Grassburs in Texas Pastures & Turf

By Marty Morgan, Wise County Agriculture Agent

We all have grassburrs in Wise County, some worse than others. Out of all the many pastures I looked at in 2024, and some hay fields too, the grassburs were very plentiful, whether annual or perennial. Yes, I said perennial! I am seeing more and more perennial with each passing year. You will know the perennial varieties when you see the plant that has a massive grassy clump with a healthy batch of many stickers arising out of it and standing tall and proud. Whether perennials are present or not, the foundation of grassbur control is using a pre-emergence herbicide. In areas where only annual grassbur is observed, indaziflam (Rezilon) is a great product, and a split application program is recommended of 3 oz pre and 3 post-emergence. You can also use Prowl H2O if desired. If you have perennial grassburrs 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 in order to be effective. Pastora is one and the preferred option by most of us. There is also Roundup WeatherMax for applying to a Bermudagrass hayfield right after a cutting of hay no more than 7 days, be careful and read the directions carefully. Then the last option is one that is tough on your bermudagrass as it can or may stunt it for up to 30 days, this is Panoramic, Plateau or Impose all with the active ingredient imazapic. For your pre-emergent the optimum time to apply is the last week of February and no later than the first week of March, at least that is what has been working here in Wise County. And it will likely take a couple or more years of applications to gain good control. For post emergents the best time to spray is approximately 2-3 weeks after greenup in the spring. Read the Label on whatever you choose to use.

Another good one for turfgrass is Dimension with the active ingredient Dithiopyr with sandbur listed on label.

For more detailed information, the following publication from our State AgriLife Extension Weed specialist on Battling Grassburs:

Battling Grassburs

Grassbur/Sandbur Management in Turf

By Marty Morgan, Wise County Agriculture Agent

Here is a long awaited new publication on Grassbur/Sandbur Management in our Turf grass/lawns. This year stickers have been the worst I have ever seen them. They are literally everywhere this year as it seems like every seed came up this time. So here is some great information and tables of Pre and Post-Emergent Herbicides products to use for helping us control them next year. The sad reality is they are never going to go completely away, but these products can help you keep them manageable. This was put together by our State Weed Specialist Dr. Scott Nolte and Zachary Howard, Extension Program Specialist II, Weed Science. They did a Great Job!

For the last several years I have been recommending a pre-emergent product with Dithiopyr as the active ingredient (product of choice for me is one called Dimension). It does a great job in your lawns if follow the label and put out the correct amount and apply it at the right time. As I always say timing is everything! You can put it out as a Pre-emergent in late Feb or early March and again 3 weeks or so after grass greens up in April after the last freeze usually. I like Dimension because it also comes in granular form as well as liquid and to me the granular is much easier to apply with a spreader, less of a mess! Just remember to water it in.

Grassbur/Sandbur Management in Turf

The Scoop on Blue-Green Algae

By Marty Morgan, Wise County Agriculture Agent

I have received many calls here lately about the Blue-green Algae scare. What is growing in my ponds? What can I do about it? And is it toxic to my dogs, cows, and kids? Hopefully this article will answer most of your questions about the subject and put your mind at rest.

Blue-green algae are also called cyanobacteria because they are biologically similar to bacteria in many ways. As single cells, large colonies and filaments, blue-green algae grow in a wide variety of conditions and can become dominant in nutrient-rich water bodies. One characteristic of these cyanobacteria is their ability to form blooms so thick it appears that blue-green paint covers the surface of the water. Two forms found in Texas are known to produce substances which cause taste and odor problems in water supplies. In some cases, blue-green algae, particularly Anabaena and Microcystis (both found in Texas), can produce toxins that are poisonous to fish and wildlife that drink water contaminated with the toxins. Fish kills have occurred in private stock ponds as a result of blue-green algal blooms and there have been a few reports of livestock dying from drinking water contaminated with blue-green toxins. In addition to toxicity to fish and wildlife, there are documented cases of blue-green algal toxins harming humans through the consumption of poorly treated waters.

The Texas Parks and Wildlife Department responds to harmful algal blooms when there have been impacts to fish or wildlife but does not conduct regular water quality testing or monitoring of water bodies in lieu of any reported fish and wildlife kills. Any ongoing water quality testing or monitoring would be conducted by the governing water controlling authority that manages a particular area. It is recommended that one avoid areas with visible cyanobacterial or algal concentrations and/or scums in the water as well as on the shore. Direct contact and swallowing appreciable amounts are associated with the greatest health risk. The active ingredients that have been successful in treating Blue-Green algae include: 1. Copper Complexes (Rated: Excellent)(Cutrine Plus, K-Tea, Captain and Clearigate), 2. Alkylamine salts of Endothall (Rated: Good)(Hydrothol 191)and Sodium Carbonate Peroxy-Hydrate (Rated: Good). Copper Sulfate or “blue stone” is probably the most commonly used algal treatments because of its availability and low cost. Copper sulfate comes in several forms depending on how finely it is ground. Smaller crystals will dissolve easier than larger crystals. In very hard water it is difficult to use copper sulfate because it binds with the calcium, precipitates out of solution, and renders the copper ineffective as an algaecide. Other Copper products to use include Cutrine Plus, K-Tea, Captain and Clearigate. Another good product is Airmax Algae Defense.

One danger with any chemical control method is the chance of oxygen depletion after the treatment caused by the decomposition of the dead plant material. Oxygen depletion can kill fish in the pond. If the pond is heavily infested with weeds, it may be possible (depending on the herbicide chosen) to treat the pond in sections and let each section decompose for about two weeks before treating another section. Aeration, particularly at night, for several days after treatment may help control oxygen depletion also. Non-toxic dyes or colorants prevent or reduce aquatic plant growth by limiting sunlight penetration, similar to fertilization. Some examples of non-toxic dyes and other products include but are not limited to: Aquashade, Blue Springs, Crystal Blue. A simple test you can do is the Jar or Stick tests: Blue Green Algae Jar Test

Trees are Susceptible to Stressors from Extreme Weather Conditions

By Marty Morgan, Wise County Agriculture Agent

Well, here in Wise County and all over North Texas, we have been experiencing trees of many types that are dead or dying.

On a weekly basis I witness trees like post oaks, red oaks, cedars, cypress, juniper spruce, ash and pines that are succumbing to environmental stressors which can, and most often does, lead to secondary stressors like disease and insects. I conduct many site visits each week looking at trees in decline.

Trees have a vascular system called phloem and xylem. These vascular tissues transport nutrients up and down the tree. Xylem transports and stores water and water-soluble nutrients in vascular plants. Phloem is responsible for transporting sugars, proteins and other organic molecules in plants. Some diseases plug the entire flow or partial flow which can choke the life out of the tree. This happens in live oaks with oak wilt, oak decline or sudden oak death in our post oaks. Another great example of interruption in the flow is what we talked about last month, Hypoxylon canker.

Insects on the other hand do not stop the flow but they can transmit and infect the vascular tissues with lethal viruses and bacterial pathogens. With several consecutive years of harsh weather conditions throughout Texas, including extended hard freezes, droughts and heatwaves, North Texas trees have become vulnerable to secondary threats. And we have seen this play out to a larger degree over the last few years. These threats — mainly for cedar, spruce and pine trees — include bark beetles or borers, cedar or pine needle blights and rust fungi. Also there are Ips engraver beetles and others, many types of borers, and of course the deadly fungus like Hypoxylon canker have brought forth significant mortality to mainly our post oak trees. Red oaks and other types are not immune from attack.

Trees experience threats like insects and diseases regularly, and when a healthy tree encounters these stressors under positive conditions, they can show little to no negative reaction to the threat. However, environmental conditions such as droughts, extreme winter weather and new construction development close to the tree can add primary stress.

As the trees encounter prolonged stress under these factors, they become more susceptible to secondary threats. For example, we are still experiencing stressors from the severe droughts of 2011 and 2014-15 as they are still oppressing the surviving trees today. Experts say that our trees are under such severe stress that it takes one little additional factor like a cedar bark or pine beetle to push the tree into mortality. I can give a witness to that as I receive many calls each week about dead trees. Cindy and I are also victims and have lost many of our big, tall pine trees as well as many Post Oak trees on our property. I was doctoring them with everything under the sun, but nothing worked. I believe the experts are correct, there is no cure for Hypoxylon canker, and that's a fact. And once you see beetles, it's too late to treat. There is usually no hope for the pine or cedar trees survival. Symptoms of beetles in pine trees include discolored crowns, dying branches and numerous white-to-reddish brown pitch tubes on the bark. Symptoms of cedar bark beetles occur in cypress and juniper trees and include the discoloration and dropping of leaves; twig and branch decline; and small exit holes present on the bark of trunk or limbs which are sometimes accompanied by "sawdust" around the boring or tree. Adult cedar bark beetles are approximately the size of a grain of rice with cylindrical bodies and a reddish colored back.

Trees are Susceptible to Stressors from Extreme Weather Conditions...continued

Management Tips

Insecticides are used as drenching preventive sprays on the trunks and larger branches. These insecticides need to be applied prior to adult beetle infestation. (Remember that overwintering beetles begin emerging in spring as soon as daytime temperatures consistently reach 50-60 degrees.) However, timing can be difficult to determine since bark beetles can have multiple, overlapping generations and life cycles. Adults have been observed entering trees during warm days as early as late-February on through November. Because of this extended activity, two treatments (early spring and summer) may be needed to protect trees during high-risk conditions. Insecticides used to prevent bark beetles include either permethrin, bifenthrin, or carbaryl (Sevin) as the active ingredient.

There are many products currently on the market containing these active ingredients. Follow the manufacturer's recommendation for the proper rate for bark beetle treatment. Bark beetle applications at the labeled rate should provide at least three months control of these beetles. When a preventively sprayed tree later dies of beetle attack, it is usually for one of the following reasons: 1) the tree was sprayed after it was attacked; 2) the spray was applied at too diluted; 3) the entire bark surface of the susceptible part of the tree was not sprayed; or 4) the material wore off and was no longer effective. I am by no means endorsing or promoting any of these products mentioned here, but I want you to know about them so you can make an informed decision. There is Bio Advanced Tree and Shrub Protect and Feed. It comes in granular or liquid form and the granular is easiest to apply but seems to be more expensive than the liquid used as a drench around your tree. Besides feeding your tree it also provides season long control, so do it in the early spring and forget about it until fall, unless you see a problem appear before then. There are other similar products you can use too that are Systemic Tree & Shrub Insect Drench and granules with most of them having the same active ingredient of Imidacloprid at different percentages which protects plants for 12 months, and the solution is absorbed through the roots, so protection won't wash off due to rain or regular watering. Another product with the same ingredient is Merit which also comes in granules or liquid. Any product with the active ingredient of Imidacloprid is great treatment but be aware that it can and will kill honey bees, especially if sprayed on blooming plants. That is what I like about these systemic insecticides you can put in the soil and then it is taken up through the roots for less exposure.

If you have any questions please be sure and contact me.

Hypoxylon Canker Answers

By Marty Morgan, Wise County Agriculture Agent

Hypoxylon canker is a disease that appears as a dead lesion on limbs, branches, and trunks of affected trees. The canker develops just under the bark and in advanced stages, causes a white rot decay of the sapwood. This decay contributes to tree mortality, compromises the structural integrity of the tree, and makes it a danger to life and property.

Cause:
Caused by the fungus Hypoxylon atropunctatum, hypoxylon cankers attacks hardwood trees such as oaks and pecans. It causes infected bark to slough off the pecan tree revealing a powder-like reddish substance on the wood. Infected wood will develop a brownish black crusty growth while infected trunks and limbs die. Water-stressed trees are susceptible to this fungal disease and -- once infected -- there is no control available. Maintaining proper care of the pecan tree, preventing soil compaction and protecting wounds by painting over them will help prevent hypoxylon canker.

The Biscogniauxia (Hypoxylon) atropunctatum fungus is an opportunistic pathogen, meaning it does not affect healthy and vigorous trees. However, Hypoxylon can quickly colonize weakened or stressed trees, occurring on trees growing in many habitats, such as forest sites, pastures, parks, green spaces, and urban development areas. Hypoxylon canker can affect any type of oak, including black, blackjack, laurel, live, post, southern red, Texas red, water, and white oaks.

Environmental Factors:
Hypoxylon is a fungus and its spores spread from diseased to healthy trees. Opportunistic fungi, usually already present on many trees, cause disease when the tree's resistance is insufficient to prevent the fungi from infecting it. Many sources of stress can decrease resistance to opportunistic pathogens.

Urban Development:
Many factors in urban environments stress trees and can set in motion a chain of events that leads to stress, decline, and tree death.

- Construction damage wounds roots and causes site disruption that results in tree stress and decline.
- Construction of driveways, patios, sidewalks, and swimming pools can damage essential roots and root flares that provide necessary water and minerals for a healthy tree.
- Soil compaction and adding fill soil causes drainage issues and suffocates roots

Natural Factors:
Climatic conditions such as drought, flooding, hail damage, heat, ice storms, and lightning can predispose trees to Hypoxylon infection. Insect attacks and other diseases such as oak wilt and root rots also induce stress and make a tree susceptible.

Hypoxylon Canker Answers…continued

The signs of the fungus are:

- Early stages – Light to dark reddish-brown to olive-green crusty fungal (stroma) tissue over the cankered area (Fig. 4a)
- Later stages – Grey surface that eventually flakes off after 6 to 12 months to reveal a dark brown to black crusty material that gives the tree a burnt appearance (Fig. 4b)
- Advanced stages – Small patches a few inches long that will eventually merge into large strips along the trunk and major limbs of the tree (Fig. 4c)

Figure 4. Stages of Hypoxylon canker: early stages (a), later stages (b), advanced stages (c). *Sources: David N. Appel, Sheila McBride*

Once Hypoxylon canker is evident, it is usually too late to try to save the tree. Large portions of the tree will be dead, reducing its desirability as a landscape specimen. The structural integrity of the wood is also compromised, and the tree becomes a hazard. Carefully inspect and consider removing trees with symptoms of Hypoxylon canker.

Symptoms:

Trees stressed by environmental extremes and in danger of succumbing to Hypoxylon canker manifest symptoms typical of a declining tree (Fig. 2). These symptoms include:

- Yellow, brown leaves
- Small leaves and reduced twig growth
- Thinning canopy
- Dead limbs and branches
- Epicormic shoots (water sprouts) growing on trunks and large limbs
- Dieback of feeder roots
- White and stringy sapwood in the cankered area

Hypoxylon Canker Answers...continued

Figure 2. Declining trees at high risk of Hypoxylon canker.
Source: David N. Appel

As these symptoms progress, the outer bark falls from the tree to expose the fungus, Biscogniauxia (Hypoxylon) atropunctatum, that causes the disease (Fig. 3).

Figure 3. The disease causes bark to pop or fall off, revealing the fungal mat underneath. *Source: Kevin Ong*

Control:

Managing the disease depends on maintaining vigorous, healthy trees, preventing the factors that lead to stress, and allowing the tree's natural resistance mechanisms to inhibit the pathogen. If a tree succumbs to stress, take measures to reverse the condition before the pathogen can invade. Remedial action should maximize the regeneration of the root system and allow the tree to cope with the subsequent strain.

Hypoxylon Canker Answers...continued

Vertical Mulching:

An aggressive way to improve the soil environment and stimulate feeder roots is through vertical mulching. In addition to fertilizing and root zone aeration, vertical mulching increases gaseous exchange in the root system. It also lessens damage from excessive water, provides necessary aeration during wet periods, allows water penetration during drought, and promotes the formation of fine feeder roots. With vertical mulching, a porous matter such as pea gravel, sand, or a mixture of compost with pea gravel, rice hulls, or sand is added to holes drilled throughout the root zone of the tree (Fig. 7). The holes should be 18 to 24 inches deep and a few inches in diameter.

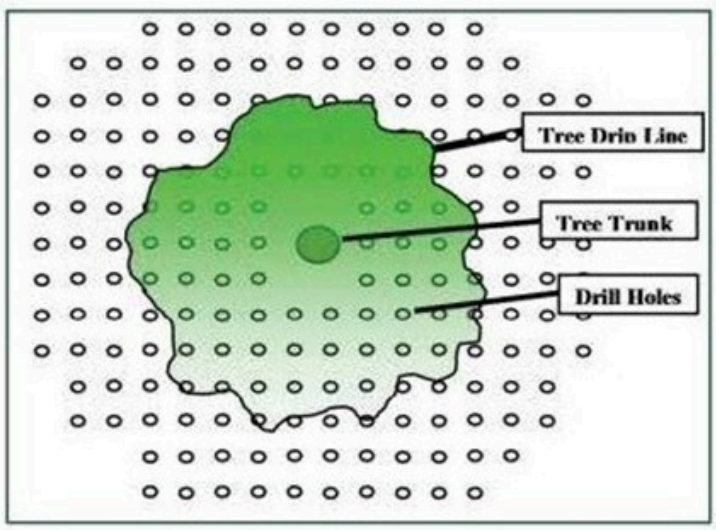


Figure 7. Vertical mulching diagram illustrating placement of holes.

Remedial Pruning:

If 15 percent or less of the canopy is affected, use proper pruning practices to remove all dead branches. If specific branches are infected, carefully remove those branches, making sure to remove all of the infected tissue. Sanitation pruning consists of cutting an infected branch 8 to 12 inches below the visible injury or canker. To avoid spreading pathogen during pruning, sanitize the pruning tool before each cut with a 10 percent solution of bleach (one part bleach to nine parts water). To prevent rust, dry and oil tools after use.

Tree removal:

If more than 15 percent of the canopy is infected, consider cutting the tree down. B. atropunctatum causes a white rot of the wood and trees killed by it may quickly become a hazard. Since the fungus is already present throughout a stand, destroying the wood to prevent further infections is questionable. Avoid storing diseased wood in the immediate vicinity of remaining trees.

Avoid the Heat and Prussic Acid

By Marty Morgan, Wise County Agriculture Agent

Take care of yourself and your animals during a heat wave:

Well there is nothing like the Texas Heat beating down on you and your animals come summer time. I don't have to tell you it is brutally hot out there! We should take care of ourselves first, yes, but don't forget about your animals. They depend on you to think ahead and prevent them from getting heat stress. Let's talk about us first. To stay cool wear a broad-brimmed hat and loose-fitting, breathable, light-colored clothing and complete more strenuous activities in the early morning hours while temperatures are cooler. Sunscreen is always a good addition to avoid sunburn and overexposure. But two of the most important precautions to take during extreme heat are staying hydrated by drinking plenty of water and avoiding alcoholic and caffeinated drinks. Taking intermittent breaks to cool down inside or in a shady, breezy location is a great idea too. Think of breaks as not only letting your body cool down but also strategy time where you can plan your next efforts. I do a lot of this in my vegetable garden! If working outside with someone, keep an eye on each other, and it gives you someone to complain about the hot weather with. If working by yourself, please let someone know what you're doing and where, so they can check on you now and then. I say this with authority as I experienced severe heat exhaustion when I was 40 years old. I spent 5 days in the hospital recovering from it! So take it serious, no matter how tough you think you are, your not tough as Texas Heat!

When it comes to our animals (chickens included) we should recognize and avoid heat stress in our livestock or pets. In hot weather, they should always have access to shade and water and cool water is best if available. Heat stress is more severe with high humidity so they can tolerate higher temperatures with lower humidity to a point. When moving or working livestock, check the forecast for the temperature and humidity of the times you will be gathering, working, or hauling them. The Temperature Humidity Index or THI is an excellent resource to ensure the livestock will not experience significant heat stress. The THI is determined using a formula that accounts for both ambient (in the shade) temperature (Fahrenheit) and humidity (%): So I want to reiterate that for gathering, working, or hauling you should check the forecast for temperature and humidity. If working or moving them, and they begin to experience any signs of severe heat stress—such as rapid breathing or open-mouth panting, foaming at the mouth—release them and call a veterinarian for assistance. Try to stay cool out there and contact us if you need more information.

Prussic Acid Answers:

There are times of the year that producers need to be concerned about Prussic acid poisoning in cattle on pastures or in hay put up. Prussic acid can occur after stressful conditions such as frost, drought, extended periods of cloudiness or exposure to a herbicide that kills grasses. Any condition that causes stress to the grass has a potential of producing this poison that can kill your cattle. It's not a common occurrence, but poisonous prussic acids can form in forages like Bermuda, Ryegrass, Alfalfa etc… but is most common in Sorghum's and Sorghum Grasses like Johnsongrass and Sudan. So I thought I would explain a few things concerning Prussic Acid(PA) and hopefully answer any questions one might have on the subject. I'm sure no authority on the matter but I have dealt with this issue all of my life and want to share my experiences. The first question we need to answer is about grazing cattle in suspect pastures.

Avoid the Heat and Prussic Acid....continued

If cattle are already grazing pastures with Johnson grass present, then the only time I would worry about PA is the first frost. Pull them out of the pasture immediately after a frost for about two weeks and let the PA dissipate, then resume grazing. If you are turning in on a suspect pasture for the first time with Johnsongrass present, turn in a couple of test cows to see if they have a reaction in an hour or two, if not turn in the rest of the herd. Another thing I always did is to fill the cattle up on hay before turn in, which normally always worked. If you are baling sorghum forages or pastures with Johnsongrass, allow hay to cure properly to remove the danger of prussic acid poisoning from hay containing these forages. Usually the PA dissipates in 48 hours or so, so give it 3-4 days to be safe. If you don't it could still be in the hay you put up and serve out to your livestock.

Prussic Acid Poisoning:

Plants can produce toxic levels of prussic acid, especially when stressed during cold temperatures and droughts. Cyanide-producing compounds in living plant cells are converted to prussic acid when cells are crushed or otherwise ruptured. The prussic acid potential of plants is affected by species and variety, weather, soil fertility and stage of plant growth. Prussic acid is one of the most potent toxins in nature. As ruminants like cows and goats consume plant materials containing cyanide-producing compounds, prussic acid is liberated in the rumen, absorbed into the bloodstream and carried to body tissues where it interferes with oxygen usage. When lethal amounts are consumed, animals can die without visible symptoms of poisoning, but bloating is a common symptom seen. Symptoms from smaller amounts ingested include labored breathing, irregular pulse, frothing at the mouth and staggering. If your are baling Sudan, Sorghums or pastures with Johnsongrass, allow hay to cure properly to remove the danger of prussic acid poisoning from hay containing these forages. If grazing, watch cattle closely if you have to leave them exposed to Sudans or Johnsongrass. Of course, you can't save a dead animal, but those displaying symptoms prior to death can be treated. A proprietary sodium nitrite-sodium thiosulfate combination can be administered and repeated once if necessary. It must be injected intravenously and very slowly. The dosage and method are critical, so keep a veterinarian's emergency phone number close by. Most animals that live two hours after onset of symptoms are likely to recover, it just depends on how big of dose they get of the Prussic Acid.

Great Information on Fall Armyworms and Kahkiweed Control

Fall Armyworms:

The Fall Armyworm has been reported in Wise County and parts of North Texas. I have assembled some great information on identifying, controlling and choice of products available, so check it out. Remember to identify a Fall Armyworm they will have the inverted Y on their heads and three yellow stripes down their back. If they don't have that inverted Y then they are True Armyworms and they don't usually pose as big a problem for our forages. Anyway, here in my toolbox this week with some great information for you to help control and eliminate the little grass hogs. Stay on top of it as they can wipe you out overnight seems like. Get your product out early in the worms life cycle, from pre-hatch to half inch long is best for most products but some does have longer acting control for any stage. That means get out in the grass and look for them on a daily basis if possible so you can detect them early. Small Fall Armyworms are much easier to kill than larger ones. A population of 3 to 4 or more Fall Armyworms per square foot is a reasonable treatment threshold. Insecticides vary in price; grazing and harvesting intervals; mode of action; speed of action; and safety to the environment and to the applicator. The insecticide label usually recommends a range of application rates. In general, use higher rates of insecticides (and higher volumes of water) when the grass is thick, when Fall Armyworm populations are high, when caterpillars are large, and to get the longest residual effect. Some insecticides will kill only smaller caterpillars, so check the comments about each insecticide. Pay close attention to the number of times a particular insecticide can be applied per hay cutting and per season. Within a season, rotate between different modes of action, if possible. I am talking mainly pastures and hayfields here, but they can get in your lawn too so you homeowners beware! What kills the Fall Armyworms will most likely kill grasshoppers with the exception of the Insect Growth Regulators Intrepid 2F.

Products for Pasture or Hay field application:

See the following publication – Armyworm Fact Sheet, for a list of products available to use, and restrictions on Page 3.

Armyworm Fact Sheet

Products for Homeowners on Lawns:

See the following publication - Weed, Insect and Disease Control in Turfgrasses, for a list of products to use, use rates and restrictions on Pages 58-60.

Weed, Insect and Disease Control in Turfgrass

As always, read and follow label directions – the label is the law!

Field Guide to Common Texas Insects - Fall Armyworms

Fall Armyworm Identification and Control

Management of Fall Armyworms in Pastures and Hayfields

Great Information on Fall Armyworms and Kahkiweed Control....continued

Khakiweed: