The McPherson County Extension Agents and staff continue to be available for all of your needs! While we are still currently closed to the public our phones are answered each day during regular business hours and thought remotely-agents are working full time to serve our community! We look forward to having you into our office again soon and resuming additional in person programming! Thank you to everyone who helped sew masks in this time! All have been donated with a request for more! If you would be willing to help, please contact the Extension Office!

‘Our Valuable Records’ is Available Free For Downloading, Printing

The new coronavirus pandemic has many of us thinking about topics that, let’s face it, we’d rather not. But in an emergency, would your family or trusted friend know who to contact? Your bank? Your financial adviser? Your insurance company?

Free resources from K-State Research and Extension are available online for downloading and printing, including Our Valuable Records, which can help anyone gather important information in one place. That information can be kept in a safety deposit box or other secure location and can be invaluable in emergencies.

“It may take a bit of time if you are starting from scratch to collect this information in one place, but the effort is well worth it,” said Elizabeth Kiss, financial management extension specialist and the publication’s author. “Having this information in an easy-to-retrieve form can make recovery from natural disaster or a health emergency go more smoothly.”

The form includes space for family members’ names, birthdates and more, plus contact information space for key advisers, such as attorney, executor, doctor, religious adviser, insurance agents, and banker. It can also help gather basic information about vehicles and other property and credit, bank and retirement accounts.

Suggested Resources from K-State Research and Extension

Some Misconceptions about Raw Milk by Karen Blakeslee

In Kansas, consumers have the choice to purchase raw milk directly from the farm only. The milk must be clearly labeled as “raw” or “unpasteurized-ungraded” milk.

Numerous research studies show that raw milk can contain disease-causing pathogens. Pasteurizing raw milk has long been a proven and effective process to make milk safe to consume since the late 1800’s. It prevents tuberculosis and brucellosis, among other pathogens, from causing illness in humans.

Some other misconceptions are also associated with consuming raw milk. They include:

* Raw milk will not cure lactose intolerance. All milk, raw and pasteurized contains lactose which can cause lactose intolerance in people who do not have the lactase enzyme to break it down.
* Raw milk does not contain probiotics to benefit gastrointestinal health. Raw milk can contain many human pathogens to cause gastrointestinal disruption.
* Raw milk is not nutritionally superior to pasteurized milk. When milk is processed, pasteurization has minimal effect on vitamins and minerals. Milk fat is homogenized to make it more digestible and stable. Milk protein does not change.


Learn more at the Kansas Department of Agriculture.
Time to Grill? Think Food Safety First, says K-State Expert

As BBQ season begins, a food thermometer can be a best friend

MANHATTAN, Kan. – Home cooks often hail Memorial Day as the beginning of grilling season, which leads Kansas State University food safety specialist Karen Blakeslee to suggest they buddy up with a familiar kitchen utensil.

“A food thermometer should be your best friend,” said Blakeslee, coordinator of the university’s Rapid Response Center. “You should never determine meat doneness based on color. Use a food thermometer and make sure meat is cooked to the recommended minimum internal temperature.”

For the three most common types of grilled meats, those recommendations include:

* Steaks, chops and roasts – 145 degrees Fahrenheit.
* Ground meat – 160 F.
* All poultry – 165 F.

Blakeslee said a food thermometer should be inserted into the center of the thickest part of the meat, away from bone, fat and gristle. For ground meat – such as hamburger patties – insert into the side so that the thermometer is positioned through the center of the food.

“There are many types of thermometers to choose from when cooking,” Blakeslee said. “For checking food temperature, a digital or dial food thermometer is best. Digital temperatures can sense temperature at the tip of the probe and give a quick temperature response.”

She cautioned that digital thermometers cannot be left in the food during cooking.

“Other food thermometers have a temperature probe connected to a separate digital display. If grilling, use one designated for the high heat of grilling. For large cuts of meat – such as roasts – a meat thermometer can be inserted into the roast and left in during cooking.”

Blakeslee lists several other food safety tips as folks gear up for outdoor grilling:

Use separate plates and utensils for raw meats and cooked meats.

Keep hot foods hot and cold foods cold. Hot foods should be maintained at a temperature above 140 F, while cold foods should be kept below 40 F.

Wash your hands frequently, especially after handling raw foods, before and during meal preparation, and before eating.

Prepare several ice chests to keep food cold and to separate items. Keep beverages in one chest, ready-to-eat foods in another, and raw meats in a third.

Do not wash meat or poultry before cooking. “This increases the chance for cross-contamination and is not necessary,” Blakeslee said. “Cooking meat to the proper internal temperature is your best defense.”

Some non-food safety tips include positioning the grill away from flammable areas, checking the charcoal or gas supply so you don’t run out while preparing meals, and keeping children and pets away from a hot grill.

Blakeslee said K-State Research and Extension has published a comprehensive guide to safe food handling, title ‘At-Home Safe Food Handling: It’s in Your Hands.’ The publication is available for free through the K-State Research and Extension bookstore.

Blakeslee and other K-State food safety specialists also maintain a website with food safety tips for grilling, tailgating and picnics.

“Plan ahead to keep the party simple,” Blakeslee said. “If you are having guests over, ask them to bring other menu items or supplies such as utensils, plates and beverages. The main goal is to have fun.
ZORMS (Zoom meeting norms)
Adapted for the University of California
4-H Youth Development Program
Revised April 9, 2020 | smworker@ucanr.edu

Before the meeting

- Download the Zoom app onto your computer or phone.
- Add your picture to your zoom account profile. The photograph will display when you turn off your video.
- Log in a couple of minutes ahead of time. The scheduled start time is when talking should begin, not when one should problem solve their connection.

During the meeting

- Join meetings with video on and audio muted. Users can set these as default on their end; meeting host can also set to mute people upon entry.
- Remain on-camera at all times (except for internet bandwidth issues). This helps better simulate an in-person meeting.
- Remain available-to-be-on-mic. You can mute while others are speaking and be ready to participate. This helps reduce background noise.
- Feel free to raise your hand on camera or using nonverbal tools in Zoom. Zoom is more like a walkie talkie where people need to take turns.
- When speaking, look directly into the camera. Helps make people feel like you are speaking to them.
- Open chat pod at the start of the meeting. Respond and comment as needed. Also, forgive typos, as many are working off cell phones and cannot see the words as they type them.
- Have grace with yourself and others. We’re all figuring this out together!

For Zoom meeting hosts & facilitators

- Call on people by name when input is needed. It is so much easier to “hide” in zoom meetings.
- When showing a link in the sharing screen slides, also sharing the link into the chat box so people can clink right way.
- When people join by phone: (1) rename the number with their name; and (2) read any chat question aloud for the group.
Hello!! Well we made it to summer! What a ride the past couple months have been! I hope that you have had some time to work on all of your 4-H project learning. Please reach out if there are projects that you are feeling lost in as you attempt to learn and create. We do have many curriculum resources at the Extension Office that can be checked out!

THANK YOU so much to everyone who helped spread the word about the Virtual Cow Patty Bingo fundraiser! A special thanks to Mia Bower and her mom Lori for working so hard to create the graphics and emcee the event and to Isom Marston and dad Shad for bringing in our poo contestant cattle! Kim Baldwin held the winning square winning $200! 4-H Council was able to raise more than $1000 to help run our future events! There have been some comments about maybe making this a yearly event- what do you think?!

~Lindsey

4-H Calendar

June
1  Rabbit ID’s due into the Extension Office
3  4-H Innovation Labs Begin (each Wednesday)
4  4-H Council, 7:00 pm
15  State Nomination Deadline for Market Swine, Market Sheep, Meat Goats, & Commercial Heifers/Ewes/Gilts
16-18  OzSome 4-H Camp Connection

4-H Council

The next 4-H Council meeting will be Thursday, June 4 at 7 PM. Please try to have representatives from your club present. This will be another ZOOM meeting!

Clover Corner Information?

If there is information you would like to share with fellow McPherson County 4-H’ers, let Lindsey know! The deadline to have information included in the July/August newsletter is June 18. Email info to lmueting@ksu.edu

Eight Weeks of Virtual 4-H

Though we have completed the eight weeks of learning opportunities- you still have a chance to participate! These sessions are all archived on the McPherson County 4-H Facebook page and will very soon be online at www.mcpherson.ksu.edu under 4-H Youth Development information! Check out some learning opportunities for many projects and some great work by some of our very own 4-H members who helped with sessions!

Oz-Some 4-H Camp Connection

If you registered for Oz-Some Camp Connection be on the lookout for your camp package in your mailbox! It will arrive prior to our camp excitement! We will also be highlighting other camp thoughts and questions on Facebook throughout June- let’s keep the camp spirit alive!

McPherson County 4-H Fair

At this time we continue to plan and hope for an in person 4-H Fair! Make sure that July 24-27 is on your calanders for our fair activities! As you know, the Covid-19 situation is very fluid and as we follow state, extension and county guidelines, things can change quickly. We will continue to stay in communication with all 4-H families the best we can as situations change and adapt! We appreciate your patience, flexibility and most important willingness to jump in and assist where needed as we tackle these unknown times!
PROJECT NEWS

K-State Research and Extension and Kansas 4-H are unable to host any in person meetings, trainings, events, etc until after July 4. If you would be willing to help virtually in a specific project area, please contact Lindsey! Club and County leaders are also welcome to plan events after the July 4 date for our 4-H members!

Campference is Going Virtual- June 23-24!

It will include some of our favorites in a new way, like a talent show, a campfire, camp groups and a camp craft. Delegates will also take part in a 4-H Community Conversation and participate in a skill building workshop.

Campference is for Ages 12-14, before January 1, 2020. Registration is open until June 12, 2020. Participation will require an internet connection and a device (computer, tablet or phone). More information is available at: https://www.kansas4-h.org/events-activities/camping/campference/index.html

Horse - Remember that horse levels testing can now be done online. Contact the Extension Office if you are interested in completing any levels. (Level 1 is the only requirement for all ages for district/state shows).

Reminder... State Livestock Nominations are due on June 15th for Sheep, Meat Goats, Swine, and Commercial Heifers

Members that are wanting to show animals for the KJLS or State Fair must now turn in DNA hair samples in addition to the paper forms. These are due to the State Office by June 15th to nominate an animal to show at KJLS or State Fair (Market Beef were due May 1st). Our office has the envelopes needed to do the DNA samples but the rest of the forms are available at www.youthlivestock.ksu.edu Please contact Lindsey ASAP if you are planning to nominate animals and still need KS 4-H eID tags.

Youth Livestock Quality Assurance - REQUIRED

Youth for the Quality Care of Animals (YQCA) is a national, multi-species youth livestock quality assurance program. This training will be required yearly for all Beef, Sheep, Swine and Goat exhibitors prior to the 4-H Fair. This is also required prior to nominating any animals for State Shows! We will attempt to hold at least one in person training in July after restrictions are lifted. At this time the course can also be completed online if you would like to complete it sooner! Visit https://www.asi.k-state.edu/research-and-extension/youth-programs/YQCA.html for more info!

You will need to register online for online or in person trainings at https://yqca.learnGrow.io/ click on this link and it will take you to 4honline family profile, click on 4-H’er taking training.

Family of the Year Nominations

Each year every club has the opportunity to nominate a family for the “Family of the Year” award. We have lots of deserving families that volunteer a lot of time and energy to the McPherson County 4-H program and to their club. So it is time to recognize those efforts. So at your next club meeting consider which family you would like to nominate for this award. Award nominations for clubs are due on August 1 to the Extension Office. At the August Meeting of 4-H Council (Aug 6), we will announce the nominations and then council members will take it back to their clubs for a vote before voting as a 4-H Council. So get your nominations ready, nomination forms are available at www.mcpherson.ksu.edu. Remember there are other awards nominations as well later in the fall as we get ready for Achievement Banquet.
Join K-State Research and Extension for a new gardening series called “K-State Garden Hour”. This free weekly series will be every Wednesday from 12 - 1 p.m. via Zoom. This virtual series will provide information on a variety of horticultural topics, as well as highlight educational topics related to plant selection, entomology, plant pathology, and integrated pest management.

Whether you are new to gardening or have some experience, you’re sure to learn something new. Discussions will be led by K-State Extension professionals throughout the state of Kansas. This event is limited to 500 participants. Sessions will be recorded and posted here after each event: https://hnr.k-state.edu/extension/info-center/k-state-garden-hour-webinar-series/k_state_garden_hour.html.

Wednesday, June 3: Making and Supporting Pollinators In The Garden
Jason Graves, Central Kansas District Horticulture Extension Agent

Making and supporting pollinators should not be optional since they are essential to maintaining the vast number of ecosystem services we all rely on every single day. Jason will explore who our pollinators are, understanding pollinator needs and what we can do to make and support pollinators in our own yards.

Each webinar in the series has a separate registration page. You will need to click on each webinar that you would like to attend. Please pre-register for each session here: https://hnr.k-state.edu/extension/info-center/k-state-garden-hour-webinar-series/k_state_garden_hour.html.

You can also find, promote, and share each webinar on Facebook, via our Facebook Events: https://www.facebook.com/pg/kstate.hnr/events/?ref=page_internal.

If you have any questions, or if you would like to be listed as co-host on our Facebook Events to help promote this program, please email our team at ksuemg@ksu.edu.

**Sorghum Management Considerations: Planting Practices**

The most critical planting practices affecting yields in sorghum are: row spacing, row arrangement, seeding rate/plant population, planting date, and hybrid maturity.

Sorghum plants can compensate and adjust to diverse environmental conditions through modifications in the number of tillers, head size, and final seed weight. For sorghum, the final number of seeds per head is the plant component that varies the most; and thus has more room for adjustment than the other plant components (seed weight and number of tillers).

**Seeding rate/plant populations**

Sorghum population recommendations range from a desired stand of 23,000 to more than 100,000 plants per acre depending on annual rainfall Table 1:

<table>
<thead>
<tr>
<th>Avg. Annual Rainfall (inches)</th>
<th>Seeding rate (x 1,000 seeds/acre)*</th>
<th>Recommended Plant Population (x 1,000 plants/acre)</th>
<th>Within-row Seed Spacing (65% emergence)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20</td>
<td>30-35</td>
<td>25-27</td>
<td>21-18, 10-9, 7-6</td>
</tr>
<tr>
<td>20 to 36</td>
<td>35-64</td>
<td>25-45</td>
<td>18-10, 9-5, 6-3</td>
</tr>
<tr>
<td>26 to 32</td>
<td>50-80</td>
<td>35-55</td>
<td>13-8, 6-4, 4-3</td>
</tr>
<tr>
<td>&gt; 32</td>
<td>70-125</td>
<td>50-90</td>
<td>9-5, 4-2, 3-2</td>
</tr>
<tr>
<td>Irrigated</td>
<td>110-150</td>
<td>80-110</td>
<td>5-4, 3-2, 2-1</td>
</tr>
</tbody>
</table>

*Assuming 65% field emergence.
(Sorghum Management Considerations continued)

Because of sorghum’s ability to respond to the environment, final stands can vary at least 25 percent from the values listed above, depending on expected growing conditions, without significantly affecting yields. Lower seeding rates minimize risk of crop failure in dry environments. Sorghum can compensate for good growing conditions by adding tillers and adjusting head size, but yields can be reduced in a dry year if populations are too high. For a high-yielding environment (>150 bu/acre), under narrow rows, high plant populations can be a critical factor for improving sorghum yields.

Higher seeding rates also should be used when planting late. Increase rates by 15-20 percent if planting in late-June or later. Late planting will restrict the time that sorghum plants will have in the season for producing productive tillers, thus decreasing the plants’ ability to compensate for inadequate stands.

Recent research in Kansas has confirmed these long-term recommendations. In these studies, sorghum yields were maximized at 25,000 plants per acre (optimum between 20,000 to 30,000 plants per acre) in western Kansas at 17 inches annual precipitation; 40,000 in central Kansas at 30 inches annual precipitation; and 50,000 in eastern Kansas at 32 inches annual precipitation. For western Kansas, final stands of about 20,000 to 30,000 plants per acre can attain yields of 60 to 80 bushels per acre or more. For central and eastern Kansas, final stands of 50,000 to 70,000 plants per acre can maximize yields, with the final objective of having 1 to 1.5 heads per plant.

Having more than the recommended number of plants per acre results in fewer fertile and productive tillers and thinner stems, which will reduce yield in the drier environments and increase susceptibility to drought. On the other side, thin stands can compensate for better-than-expected growing conditions somewhat by producing more and/or larger heads. However, under high-yielding environments, a higher final plant population will be needed to increase yields as much as possible (Table 1).

Planting date
A summary of research data performed in the last several years has confirmed that the optimum planting date for maximizing yields will be around early June (Figure 1). Still, the decision related to the optimum planting date should be timed so plants have the best possible chance of avoiding hot, dry weather at the flowering stage, but can still have sufficient time to mature before the first frost.

Planting date has some effect on seeding rates. Sorghum will tiller more readily in cool temperatures and less readily under warm conditions. As a result, later plantings in warmer weather should be on the high side of the recommended range of seeding rates for each environment since there will be less tillering. The potential for greater tillering with earlier planting dates makes sorghum yields more stable when planted in May and early June compared to late June or July plantings.

![Optimum Planting Date](image)

**Figure 1.** Planting date effect on final sorghum yields (Tribune/ Hutchinson/ Manhattan, Vanderlip; Scandia 1994-96, Gordon; St. John 1993-95, Martin and Vanderlip; Columbus 2000/03, Kelley). From Sorghum: State of the Art and Future Perspectives, Agronomy Monographs 58, 2016, chapter “Genotype x Environment x Management Interactions of US Sorghum Cropping Systems” doi:10.2134/agronmonogr58.2014.0067, Ignacio A. Ciampitti and P.V.V. Prasad (Eds).

Planting depth
Seed placement is also a critical factor when planting sorghum. Optimum seed placement for sorghum is about 1-2 inches deep. Shallower or deeper planting depths can affect the time between planting and emergence, affecting early-season plant uniformity. We recently conducted a planting depth study, using late planting (about mid-June) under uniform soil temperatures and three seed placements – shallow, 0.5 inch; optimum, 1.5 inches; and deep, 3 inches. Optimum and deep placement resulted in similar shoot growth while shallower placement resulted in delayed development with fewer number of leaves and less total shoot mass (Figure 2).

![Sorghum Planting Depth](image)

**Figure 2.** Seed placement effect on early growth and development, Manhattan, 2014 (ciampitti et al., 2014)
(Sorghum Management Considerations continued)

Row spacing
The other factor that can influence yield is row spacing. The last three columns in Table 1 show that plant spacing within the row becomes greater as row spacing decreases. This greater intra-row plant spacing reduces plant-plant competition early in the growing season when head number and head size are being determined.

A response to narrow row spacing is expected under superior growing environments, when water is a non-limiting factor. Narrow rows increase early light interception, provide faster canopy closure, reduce evaporation losses, can improve suppression of late-emerging weeds (a major issue in sorghum), and maximize yields. The influence of row spacing on sorghum yield has not been entirely consistent in K-State tests. In a summary of experiments conducted in Kansas, the comparison between wide (30-inch) vs. narrow (15-inch) row spacing shows a close relationship, with an overall yield benefit of 4 bushels per acre with narrow rows. In addition, narrow rows out yielded wide rows in 71 percent of all observations evaluated (Figure 3).

A more consistent response to narrow rows was documented when yields were above 70 bushels per acre, with a greater chance of having higher yields when using narrow rows. In summary, the potential for a positive yield response to narrow rows is greatest in high-yielding environments, but the response is not always consistent. Under low-yielding environments, conventional (30-inch) wide row spacing is the best alternative.

Should populations be adjusted with narrow rows?
Research results indicate that the population producing the greatest yield doesn’t change with different row spacing, but the magnitude of response to population potentially can be greater with narrower row spacing in high-yielding environments.

Planting date seems to have an interaction with row spacing. Over three years at the North Central Experiment Field, there was essentially no difference in yield between 15-and 30-inch rows for late-May plantings, but there was a 10-bushel yield advantage for 15-inch rows for late June plantings. A similar response was observed at Manhattan in 2009 when no difference in row spacing was recorded yield advantage over 30-in rows with the June planting. The opposite response was seen at Hutchinson in 2009 where narrow rows had a 6 bushel/acre yield advantage with a May planting date, but wide rows had a 6 bushel/acre yield advantage with a June planting date. In all cases, yields were less with the June planting, but the June plantings at Belleville and Manhattan averaged more than 115 bushels/acre, while yields at Hutchinson were less than 92 bushels/acre.

Figure 3. Yield in narrow rows versus yield in wide rows. From a total number of 75 observations, 71% had a greater yield in narrow as compared to wide row spacing.

Hybrid selection
The selection of sorghum hybrids should be based not only on maturity, but also on other traits such as resistance to pests, stalk strength, head exertion, seeding vigor, and overall performance. The selection of a sorghum hybrid based on its maturity should be strictly related to the planting date, expected duration of the growing season, and the probability the hybrid will mature before the first freeze event. Shorter-season hybrids might be a better fit for late planting dates (mid-June to July depending on the regions); while a longer-season hybrid is recommended when planting time is early and the duration of the growing season is maximized.

For the summary of planting date information in Figure 1, hybrid maturity showed a very complex pattern across the diverse locations. Overall, longer-season hybrids showed a better yield at the mid-May planting time, but yields were less than 100 bushels per acre. For medium- and short-season hybrids, the early June planting date produced yields of more than 100 bushels per acre. The goal is to plant a hybrid maturity at each particular site/environment (weather and soil type) so the plants can bloom in favorable conditions, and have adequate grain fill duration before the first fall freeze occurs.

Summary
Determine your desired population based on average rainfall and expected growing conditions. There is no need to go overboard.

1. Make sure you plant enough seed for your desired plant population. About 65-70 percent field germination is a good general rule to use.
2. Think about using narrower row spacing to close the canopy sooner and potentially capture greater yields in yield environments of 70 bushels per acre or more.
3. Planting data and hybrid selection are tied together and are related to the conditions experienced by sorghum plants during the late summer. Think about this before deciding your planting time and selecting a hybrid.
Bagworms

For those of you that have been waiting patiently or for some...impatiently; it is time to ‘get ready’ to spray for bagworms. In due time, bagworms will be present throughout Kansas feeding on broadleaf and evergreen trees and shrubs. Therefore, now is the time to initiate action against bagworms once they are observed on plants. Bagworms are primarily a pest of conifers; however, they have expanded their host range to include a number of broadleaf plants, such as: rose, honey locust, and flowering plum. It is important to apply insecticides when bagworms are small to maximize effectiveness and subsequently reduce plant damage.

A number of insecticides are labeled for use against bagworms including those with the following active ingredients (common trade names are in parentheses): acephate (Orthene), Bacillus thuringiensis subsp. kurstaki (Dipel), cyfluthrin (Tempo), lambda-cyhalothrin (Scimitar), trichlorfon (Dylox), indoxacarb (Provaunt), chlorantraniliprole (Acelepryn), and spinosad (Conserve). Most of these active ingredients are commercially available and sold under various trade names or as generic products. Several insecticides, however, may not be directly available to homeowners.

The key to managing bagworms with insecticides is to apply early and frequently enough to kill the highly susceptible young caterpillars feeding on plant foliage.

K-State Expert Offers Tips When Lawn Is Too Wet To Mow

Never mow more than one third of grass at a time

MANHATTAN, Kan. – While Midwest farmers believe it never rains enough for their liking, many homeowners sometimes claim just the opposite when it comes time to mow their lawn.

Ward Upham, a horticulture specialist with K-State Research and Extension, said a solution during times when rain comes at less-than-ideal times for homeowners is to mow the grass when possible – even though that usually means the grass is higher than normal.

“But,” he cautions, “set your mower as high as possible and cut the grass down in steps.”

That means homeowners will have to mow more often, Upham said, moving down the height of their mower blade gradually until they’re taking off one-third of the grass blade.

“It is always best never to take more than one-third of the grass blade at one time,” Upham said. “If more is taken in one cutting, the plant reacts by using stored energy reserves to quickly send up new growth. This reduces the amount of energy available for the plant to deal with stress or damage done by insects or disease.”

Sidebar: It’s time to fertilize warm-season grasses

June is the time to fertilize such warm-season grasses as bermudagrass, zoysiagrass and buffalograss, said Kansas State University horticulture specialist Ward Upham.

“These species all thrive in warmer summer weather, so this is the time they best respond to fertilization,” Upham said. “The most important nutrient they need is nitrogen; these species need it in varying amounts.”

Upham recommends the following for each grass variety:

Bermudagrass – This requires the most nitrogen of the three. Plan for four applications maximum, about four weeks apart, one pound of nitrogen per 1,000 square feet. Plan the last application no later than Aug. 15. “You may also wish to only fertilize two or three times depending on how aggressive you wish the bermudagrass to be,” Upham said.

Zoysiagrass – Too much nitrogen is worse than too little. Upham recommends 1 ½ to 2 pounds of nitrogen per 1,000 square feet, split evenly between two applications: one in early June and the second in mid-July.

Buffalograss – This requires the least amount of nitrogen of the three. This variety requires just one application of one pound per 1,000 feet, in early June.

Slow release nitrogen fertilizer is preferred for zoysiagrass and bermudagrass. Slow- or quick-release nitrogen fertilizer is appropriate for bermudagrass.