

# TWIN CREEKS SPOTLIGHT

**K-STATE** | Twin Creeks  
Research and Extension District

**SEPTEMBER & OCTOBER 2022**



## "Thank-You 4-H Parents & Supporters!"

County fairs in the Twin Creeks Extension District have come to a close. While it is always nice to check county fair off the list, I always enjoy another year of watching the youth showcase their exhibits that they invested so much of their time and energy into!

As a former 4-H member, show pig producer, and extension agent I am fully aware of the blood, sweat and tears it takes to prepare exhibits for their grand debut at any show, but especially the county fair. And, so much of it wouldn't be possible without the help of parents, siblings, teachers, 4-H club leaders, project leaders and other supporters who guide our youth as they perfect their projects.

I also know how easily a proper "thank-you" to those helping hands can slip through the cracks during such a chaotic time... therefore, I wanted to extend a sincere "THANKS!" to you! To shape my thoughts, I spent some time looking at other articles that provided the proper thanks to similar individuals. I found an article on the Raised in a Barn website that was titled "Thank You Parents of FFA Members" and felt that it was fitting to share!



- Thank you for either inspiring your child to join 4-H (FFA), or saying, "Go for it" when your child asked if they could or should join. You might have never heard of this organization until your child came home talking about how cool it seemed, and ever since that day you have become a proud parent of a 4-H or FFA member.
- Thank you for working countless concession stands, and fundraising events to help the organization. It's a lot of work, and it is time consuming. That didn't matter to you, you still took time to help those kids out.

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<https://www.twincreeks.k-state.edu/>

- Thank you for dragging a trailer full of livestock down the road to the fair, or taking a van full of kids to a judging competition. You like helping these kids out, and don't mind spending time with them.
- Thank you for spending those early morning and late nights for competitions. You sit in the stands and cheer the team on.
- Thank you for pushing your kids to be the best they can be. You watched your child grow in their time spent in 4-H and FFA, and you pushed them to do their best and be their best.
- Thank you for helping other kids out. It doesn't matter what their last name is, if they share the same passion, they're "your kids."
- Thank you for helping other kids out. It doesn't matter what their last name is, if they share the same passion, they're "your kids."
- Thank you for not being afraid to get dirty. You didn't mind working the show ring, and helping catch a loose calf. You got your hands dirty anyways.
- Thank you for being a parent to an 4-H or FFA member. They might not thank you all the time, but they are thankful for you



Thank you parents!

Some information in this article has been adapted from an article written by an unknown author, titled "Thank You Parents of FFA Members" and can be found here: <http://raised-in-a-barn.org/raised-in-a-barn/2016/02/23/thank-you-parents-of-ffa-members>

*Jenilee Godsey is a Youth Agriculture Agent for the Twin Creeks Extension District which covers Decatur, Graham, Norton and Sheridan counties. Email her at [jenileem@ksu.edu](mailto:jenileem@ksu.edu) or reach her by telephone at the Graham County Office, (785) 421-3411.*

*Thank you, Shelly!*

Shelly Holland, Sheridan Office Professional, is moving on to a new position. We want to thank Shelly for her work with Twin Creeks Extension, our 4-H families, and our clientele!



Written By: **Keith VanSike** & **Alyssa Rippe-May** Twin Creeks Extension District

“Utilizing High-Nitrate Corn and Sorghum”

High producing crops such as corn and sorghum tend to accumulate high nitrate levels in periods of drought, excessive heat, hail, and in other environmental stresses. All plants contain nitrate, used to create amino acids, the building blocks for proteins. However, in years of poor growing conditions when yields are expected to be low or little grain fill occurs, nitrates accumulate in the lower leaves and stalk of the plant instead. High production fields with high fertilizer application have increased potential to see this nitrate accumulation in plants.

The dry conditions we have experienced mean some failed corn and sorghum fields may be used as livestock feed. However, producers must be keenly aware of the potential for nitrate accumulation. Nitrate toxicity occurs in livestock if nitrate intake is faster than the body’s ability to break it down. This causes an accumulation of nitrite in the rumen, moving to the bloodstream, rendering the blood unable to carry oxygen throughout the body. The end result is eventual asphyxiation and death.

Toxicity is related to the total amount of nitrate in the diet (including water) and how quickly it is eaten. In general, if forages contain more than 6,000 ppm nitrate, they should be considered potentially toxic. Animals under physiological stress from sickness, hunger, lactation, or pregnancy are more susceptible to nitrate toxicity than healthy animals. See the table below for effects of various nitrate levels, reported as nitrate.

ppm Nitrate (NO ) <sup>3</sup>	Effect on Animals
0-3,000	Virtually Safe
3,000 - 6,000	Moderately safe in most situations; limit use for stressed animals to 50% of total ration.
6,000 - 9,000	Potentially toxic to cattle depending on the situation; should not be the only source of feed.
9,000 and above	Dangerous to cattle and often will cause death.

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As you receive your own test results, be sure to watch how nitrates are reported. Depending on the chemistry that is reported, you may need to use a conversion factor to utilize the table above.

It is wise for producers to test their drought-stricken forages for nitrate levels. Nitrate testing can be done through a variety of good, certified labs in our area. Testing is especially important following a rain as nitrates move throughout the plant.

Delaying harvest or grazing 7-14 days may be necessary to prevent toxicity. Knowing how a forage will be fed is integral to making appropriate decisions.

## Baling

If swathing and baling is your plan, harvesting the forage 6 to 12 inches above the ground will avoid the highest concentrations of nitrates in the plant. Collecting a representative sample prior to harvest will help you make an accurate determination. Be sure to collect only above your planned cutting height and take samples throughout the field. Combine several samples from different areas of the field, then cut up stalks and leaves, and mix well. Only after mixing well should you remove your test sample to be sent to the lab.

If high nitrates are found, grinding and mixing with other ground hay can help dilute the nitrate concentration. Frequent feeding in limited amounts and blending gradually with other feeds can help animals slowly acclimate if levels are not too high. Supplementation of 2 to 5-pounds of grain or by-products provides energy for rumen bacteria to more quickly convert the nitrite to a usable form. Molasses can also provide needed energy for rumen microbes. Formulating rations to ensure adequate energy, protein, and particularly Vitamin A will help. Nonprotein nitrogen (urea) should not be fed with high nitrate feeds.

## Silage

Ensiling is the safest way to utilize high nitrate forages. If you wish to ensile the droughted forage, silages made from stressed forages should be analyzed after ensiling as the fermentation process usually removes about 50% of nitrates. This is not the same as harvesting as hay, in which nitrate concentrations remain in the dry hay. It is still not a bad idea to leave 6 inches of stubble in the field. That is the portion of the stem with the highest concentration of nitrates. Utilize safe silage pile sampling techniques by removing silage from the pile first, then grabbing your sample from the tractor bucket. Mix several samples together to then remove your subsample for the lab.

## Grazing

Grazing high nitrate forages can be a dangerous practice. Grazing pressure should be limited so that animals do not consume the parts of the plant forage testing shows to be dangerous. Although animals tend to consume the leaves and the top portions of the plant, which contain less nitrates, the risk of consuming a high-nitrate portion of the plant still exists.



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In addition, the longer the animal is left on a field or the shorter the plants, the more that animal is forced to eat the lower portions of the plant increasing the risk of nitrate poisoning.

For more information, see K-State Research and Extension publication MF3029, "Nitrate Toxicity", at your local county Extension office.

This article was adapted from "Nitrate toxicity in drought-stressed corn and sorghum", [K-State Agronomy eUpdate, Issue 917](#).



### Nitrate Toxicity

**FORAGE FACTS** series

**Forage Toxicity**

6,000 ppm nitrate, they should be considered potentially toxic (Table 1).

Symptoms of nitrate toxicity may appear within a few hours after eating or not for several days. Signs of toxicity include reduced appetite, weight loss, diarrhea, and rumen bloat. However, these are nonspecific symptoms of numerous disorders and are not a reliable diagnosis of nitrate poisoning. Lower nitrate levels can cause abortion without any other noticeable symptoms.

Acute toxicity usually is not apparent until methemoglobinosis approaches lethal concentrations. Symptoms include cyanosis (bluish color of mucus membranes), labored breathing, muscular tremors, and eventual collapse. Coma and death usually follow within two to three hours. Postmortem confirmation of nitrate toxicity is chocolate-colored blood; however, the color will change to dark and within a few hours after death.

A veterinarian should perform the diagnosis and treatment of nitrate toxicity. In acute cases where time is limited, an antidote of methylene blue can be injected to convert the methemoglobin back to hemoglobin.

Forage suspected to contain high nitrate levels should be tested by a laboratory before feeding to livestock. Unfortunately, different laboratories may report nitrate level as nitrate (NO<sub>3</sub>), nitrite-nitrogen (NO<sub>2</sub>-N), or potassium nitrate (KNO<sub>3</sub>). Potassium nitrate, nitrite-nitrogen, or percent nitrate can be converted to ppm nitrate using the conversion factors in Table 2.

**Plant Species**

Nearly all plants contain nitrate, but some species are more prone to accumulate nitrate than others. Crops such as sorghum and grain sorghum, sudangrass, hybrid sorghum-corn, and pearl millet are notorious nitrate accumulators. Cereals and other

**Table 1. Level of nitrate (ppm) in forage material and animal effect on animals.**

ppm Nitrate (NO <sub>3</sub> )	Effect on Animals
0-1,000	Usually safe.
1,000-6,000	Moderately safe in most situations, but on the second animals to 50% of the total ration.
6,000-9,000	Potentially toxic to cattle depending on the situation; should not be the only source of feed.
9,000 and above	Dangerous to eat and often will cause death.

**Table 2. Conversion factors for expressing nitrate content of forage.**

Conversion Factor	Conversion Factor
Potassium Nitrate × 0.61	Nitrate (ppm NO <sub>3</sub> )
Nitrite-Nitrogen × 4.42	Nitrate (ppm NO <sub>3</sub> )
% Nitrate × 10,000	Nitrate (ppm NO <sub>3</sub> )

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## Office Professional - Hoxie Office

Applications are now open for a full-time Office Professional in our Sheridan County office! Hours are Monday - Friday, 8 am - 4:30 pm. Starting pay will depend on experience. KPERS retirement and stipend are available. General secretarial experience is preferred, however we are willing to train the right person. Applications will be reviewed beginning September 2nd. Position open until filled.

For a complete job description and application, stop by any Twin Creeks District Office or call us at 785-475-8121.



## Chasing Clovers

Written By: Patsy Maddy  
4-H Youth Development Agent



### Invest in Your Child's Future"

It's time to invest in your child's future! School is well under way and some parents may be looking for an extracurricular activity to keep their child engaged. The 4-H program in Twin Creeks Extension District would like to offer that opportunity!

Youth from the age of 5 to 18 years old are eligible to enroll in the Kansas 4-H program. Our Cloverbud program invites youth 5 and 6 years old by January 1, 2023 to enroll in 4-H to explore the many different project areas to get a taste of involvement in the 4-H program. Cloverbuds will engage in hands-on activities with older 4-H members as well as adult volunteers.

Youth who are 7 years old up to 18 years old by January 1, 2023 are eligible to enroll as a full 4-H member. Enrollment can be with a community club and/or shooting sports project clubs.

Enrolled 4-H members choose projects from foods, clothing, Legos and woodworking to rockets, entomology, shooting sports and livestock.

There are over 50 different project areas to choose from and a self-determined project where youth can research their own area of interest if they can't find it in the regular projects.

Throughout the year, youth will work on their projects to gain education either through project meetings, online classes and webinars, project challenges and self-research. Our 4-H program works with volunteers who have been screened and vetted through our state 4-H office to ensure that we are providing a positive and safe, learning environment for our youth.

In addition to learning about their project areas, youth belong to a community club which teaches parliamentary procedure, teamwork, public speaking skills, leadership and citizenship. Most clubs meet monthly to conduct general business and could also involve community service projects, guest speakers and/or field trips.



learn about our government), Project Days (learning activities for specific project areas) and much more.

Our 4-H members also have opportunities to get involved with area and state events and activities. Day camps, 4-H Club Day (an opportunity to showcase public speaking and presentation skills), Officer and Leadership Training, Discovery Days (college life experience on the K-State Campus for older members), CIA (Citizenship in Action at Topeka to

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4-H is America's largest youth development organization, empowering nearly six million young people across the U.S. and over 70,000 youth in Kansas with the skills to lead for a lifetime. Youth complete hands-on projects in areas like health, science, agriculture and citizenship, in a positive environment.

Our 4-H program focuses on six C's: Connection, Confidence, Competence, Character, Caring and Contribution. According to a longitudinal study by Lerner and Lerner, 4-H members are two times more likely to participate in STEM activities outside of school, two times more likely to make healthier choices, and four times more likely to contribute to their communities.

So, Invest in YOUR Child's Future and get them enrolled in our Twin Creeks District 4-H program. We are excited about the opportunities that our 2022-23 year will offer! Please contact Twin Creeks district 4-H Youth Development Agent, Patsy Maddy, at [pmaddy@ksu.edu](mailto:pmaddy@ksu.edu) or 785-877-5755 for interest in joining 4-H in either Norton, Decatur, Sheridan or Graham counties. We will be awaiting your email or phone call!



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## **4-H Program Assistant**

Applications are now open for a 4-H Program Assistant serving the Twin Creeks District with primary responsibilities in Sheridan and Graham Counties. If you enjoy working with youth in a team-based environment, stop by our Sheridan or Graham County offices for full details on this opportunity!

For full details, see <https://bit.ly/TCDHelpWanted>.





## Eating & Aging Well

Submitted By: **Karen Shepard**  
Family Consumer Science Agent



## Food Preservation Workshops to be Offered

Come learn about today's recommended methods for home food preservation while dispelling food preservation myths and unsafe practices of the past.

In recent years, there has been increasing interest in home food preservation. Canning is a method to preserve fresh produce that allows you to enjoy seasonal food all year long. While these methods have existed for centuries, we have learned much about the science behind these methods in the past few years.

K-State Research and Extension, Family and Consumer Science agent, Karen Shepard will be holding food preservation workshops that will teach you the basics of canning using the water bath and the pressure canner method in two separate evenings.

### Who is this for:

Anyone interested in learning the basics of food preservation.

### What will you learn?

- The basics of using a water bath canner for canning high acid foods such as fruits, tomatoes, pickles, salsa, jam and jelly.
- The basics of using a pressure canner based on current USDA canning guidelines for canning low acid foods such as vegetables and meat.

### Tomato Salsa Workshop (water bath method)

- Date: September 21, 2022
- Time: 6:00 p.m. (may take approx. 2- 2 ½ hours)
- Location: Sheridan County 4-H Building, Hoxie, Kansas
- Price: \$10
- Register Deadline: Friday, September 16, 2022.

### Green Beans or Carrots Workshop (pressure canner method)

- Date: September 28, 2022
- Time: 6:00 p.m. (may take approx. 2 to 2 ½ hours)
- Location: Sheridan County 4-H Building, Hoxie, Kansas
- Price: \$15
- Registration Deadline: Friday, September 23, 2022



Preregistrations are required. All fees must be paid by the registration deadlines. Walk-in registrations will NOT be permitted.



## Roots & Chutes

Written By: Alyssa Rippe-May  
Interim District Director &  
Livestock and Farm Management Agent

### Thank You Notes

This is my last week with Extension, and I've been wrapping up all the "loose ends" that come with being in a job for almost 7 years. Going through binders and meeting notes, leaving messages for how to accomplish things next year, clearing out my desk clutter, and so much more. Of course, I stumbled upon my pile of thank you notes at the back of my desk; notes received over the years from 4-H members, horticulture clients, farmers, and others. A thank you of any kind, a note, email, or just said, sure has helped me through the rough days in this position. Now, it's my turn to say thank you to all of you.

Seeing the thank you in my desk that arrived following 4-H Camp my very first year makes me grateful for the 4-H families and all our youth. Though I was not in 4-H as a kid, it certainly helped me grow as an adult, and I have formed lasting relationships through this amazing organization. Thank you.

Seeing the note from a judge after fair reminds me how grateful I am for amazing volunteers. Extension is built upon the leadership of dedicated volunteers who go out and make initiatives happen in our communities. Thank you to the superintendents, the committee members, and the board members who volunteer their time to make our communities better.

Seeing the note from the farmer makes me grateful for all the hard-working people I have met over the years, and the many ways you all have taught me. Book knowledge only goes so far, and each of you helped me apply facts to real-world decisions. Thank you for the opportunity to learn alongside you!

Finally, the note from a colleague reminds me what an amazing system Extension is. Thank you to each and every Extension staff member and agent who puts in many extra hours to make the "behind-the-scenes" items happen. I am so grateful to have worked with you!



**Alyssa, we thank you for your service and friendship during your time with Twin Creeks Extension District! We wish you all the best with your next adventure.**



## INFORMATION ON UPCOMING PROGRAMS

### Family & Consumer Science

- Food Preservation Workshops, Sheridan County 4-H Building  
-- September 21 and 28, 2022

### Youth Agriculture

- Kids Ag Day, Neff Family Farm -- September 14, 2022
- Beef Across Kansas, 'The Next Step' -- September 25, 2022

To stay current on upcoming program dates, registration info, etc. [follow us on Facebook](#) and/or check our [Twin Creeks District Website!](#)



## Clover Corner



### Statewide Events & Deadlines

<b>Sep 9-18</b>	Kansas State Fair - Hutchinson
<b>Sep 25</b>	Beef Across Kansas, "The Next Step" - Zoom (Tentative Date)
<b>Sep 30-Oct 2</b>	Kansas Junior Livestock Show - Hutchinson
<b>Oct. 1</b>	KS Youth Leadership Council Applications Due
<b>Oct 29</b>	Shutterbugs - Big Creek, Hays

### County/District Events & Deadlines

<b>Sep 8</b>	Record Book Help Session - 6-8:00 PM - Zoom
<b>Sep 15</b>	4-H Active Member Requirement Forms Due to Local TCD Office by 5:00 PM
<b>Sep 20</b>	Record Book Help Session - 6-8:00 PM - Zoom
<b>Sep 22</b>	Record Book Help Session (Livestock Project Focus) - 6-8:00 PM - Zoom
<b>Oct 1</b>	4-H Enrollment Opens for 2022-2023 Program Year!
<b>Oct 3</b>	All 4-H Record Books due by 5:00 PM to your local TCD office
<b>Oct 23</b>	Twin Creeks District 4-H Officer/Leader Training - Time TBD - Goddard Place, Graham County
<b>Nov 1</b>	New Family Orientation - 7:00 PM - Zoom
<b>Nov 3</b>	Club Leader Orientation - 7:00 PM - Zoom

Note: Youth events are open to ALL youth (with Extension agent approval for youth not currently enrolled in the 4-H program). If you have a youth that is interested in an event please contact Patsy Maddy, Twin Creeks Extension District 4-H Youth Development Agent [pmaddy@ksu.edu](mailto:pmaddy@ksu.edu).

Go to the Twin Creeks District website at <https://tinyurl.com/qukdd97> for a complete listing of all activities and events at the local, district, area and state levels.





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