

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

NEBLINE Newsletter Archive from Nebraska
Extension in Lancaster County

Extension

5-2024

NEBLINE, May 2024

Follow this and additional works at: <https://digitalcommons.unl.edu/neblines>



Part of the [Adult and Continuing Education Commons](#), [Agricultural Education Commons](#), [Early Childhood Education Commons](#), [Entomology Commons](#), [Family and Consumer Sciences Commons](#), [Health and Physical Education Commons](#), [Horticulture Commons](#), [Other Education Commons](#), [Other Plant Sciences Commons](#), and the [Outdoor Education Commons](#)

"NEBLINE, May 2024" (2024). *NEBLINE Newsletter Archive from Nebraska Extension in Lancaster County*. 385.

<https://digitalcommons.unl.edu/neblines/385>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in NEBLINE Newsletter Archive from Nebraska Extension in Lancaster County by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



Weed Control in Pastures and Hayfields

By John Nelson, Extension Educator in Lancaster County

Perennial systems like pasture and grass hay fields present some of the most difficult weed control scenarios for producers and acreage owners in southeast Nebraska. Summer annual grasses, particularly foxtail species, have been especially troublesome in recent years.



Foxtail in a pasture.

The consensus among pasture and hay experts is that a healthy and vigorous hay stand is the most effective and cost-efficient method to control weeds. The past two years of drought have made it difficult to maintain competitive pastures and hay fields in southeast Nebraska, so unfortunately, problems with weed control

in these systems are to be expected.

Many factors can contribute to a grass pasture losing its ability to compete with weeds. The aforementioned drought conditions naturally lead to overgrazing and improper haying. Grazing too heavily or at the wrong time, or cutting hay at the improper grass growth stage can lead to stand loss. When stand loss occurs, especially in suboptimal growing conditions, weeds can easily invade. Once weeds take over, it can be difficult and expensive to re-establish desirable grass.

Pasture management is a long-term project, with very few quick fixes available for producers. The most prudent course of action in achieving a productive and profitable pasture or hay field is to continually monitor and manage the entire system, including grazing/haying, fertility and herbicide usage.

Fertilizing Is Key to a Healthy Pasture

Proper fertilization is one key to maintaining a healthy and competitive stand. Smooth brome requires annual nitrogen fertilization, which can be done in the spring, late summer or split applied, depending on the grazing or haying production system.

Phosphorus fertilization

is also recommended in smooth brome pastures in eastern Nebraska. Phosphorus recommendations are based on the availability of phosphorus as measured by a soil test. Phosphate fertilizers can be applied with nitrogen in either the spring or fall. Most research in eastern Nebraska has shown that pastures do not usually respond to potassium fertilization, due to the high natural levels in the soil.

More details on pasture and hay fertilization can be found in Nebraska Extension NebGuide “Fertilizing Grass Pastures and Hayland” (G1977), at <https://extensionpubs.unl.edu/publication/1147>.

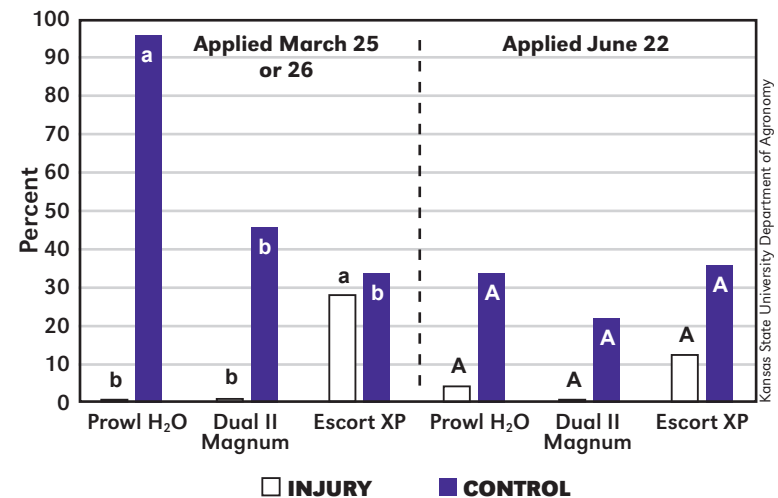
Controlling Foxtail

Grassy weed species such as foxtail can be especially difficult to control in grass pastures and hay fields. Because of the similarities between pasture grass species and grassy weeds, herbicide options are limited for the control of weeds such as foxtail.

Kansas State University conducted a study in northeast Kansas to evaluate three different herbicides — pendimethalin (Prowl H₂O), metsulfuron (Escort XP) and S-metolachlor (Dual II Magnum) — for pre-emergence control of foxtail in smooth brome grass hay fields. Because these herbicides are only for pre-emergence control, application timing is critical.

Pre-emergence herbicides must be applied before weed seeds germinate, so the researchers chose to make

Foxtail control and brome injury 8 weeks after herbicide application. Means within an application date with similar letters are similar.



applications in late March and mid-June, after hay harvest. Of the three herbicides tested, the March applications of Prowl H₂O were significantly more effective than any other herbicide or application timing, controlling 97% of emerging foxtail (see graph).

From this study, one can see making weed control decisions early in the spring is critical to managing infestations of grassy weeds in pastures. The data

also shows that there was some control from the June herbicide applications, but all products controlled less than 40% of the foxtail when applied later in the season.

FOR MORE INFORMATION

Extension publications for pasture and grass hay are listed at <https://croptechcafe.org/extension-publications-for-pasture-and-grass-hay>.

Non-Profit Organization
U.S. Postage Paid
Permit No. 36
Omaha, Nebraska

CHANGE SERVICE REQUESTED

Nebraska Extension in Lancaster County
444 Cherry Creek Road, Suite A
Lincoln, Nebraska 68528-1591

Navigating Nutrition Information: Separating Fact from Fiction

By Alyssa Havlovic, MS, RDN, ACSM EP-C, Extension Educator in Lancaster County

Nutrition is a topic that has gained popularity on the Internet and on social media outlets. The ability to search for and find information at our fingertips has empowered individuals to feel as though they possess the knowledge and expertise to provide advice on topics about food and nutrition. Unfortunately, this can often lead to inaccurate information shared by unqualified individuals. So how do you know if what you are reading online is evidence-based or if it's just another myth, diet trend or misinformation? This article will provide you with the tools to make your own informed choices to support your health and well-being and improve your ability to separate fact from fiction when it comes to nutrition information.

Spotting Misinformation

Misinformation refers to the sharing of inaccurate or incomplete information that can mislead an individual as a result of negligence, unconscious biases or an honest mistake. A growing presence of misinformation may come from a variety of sources including social media influencers or self-proclaimed “nutritionists,” personal blogs, forums or websites, misleading marketers and advertisers, celebrity endorsements or misleading media headlines.

Caution: Red Flags

When reading an article, blog or post online, here are a few RED FLAGS to watch out for:

- It has an advertising feel. The author says something like “do what I do, and you’ll look like me,” or they provide an affiliate link, which can lead to biases.
- Fear mongering. The author refers to something as “toxic” or “cancer-causing” with no scientific evidence to support the claim.
- They use absolutes. Using words such as “cure-all” or “all or nothing” or claims of “eliminating” a medical condition are quite extreme statements.
- No sources are cited. Always be

skeptical of a claim until you can see the supporting research.

- No credentials or reviewers are listed. Check for a “reviewed by” section on the website or article.
- If it sounds too good to be true (it probably is...). Using words like “cure” and “overnight results” are big red flags.

Green Means Go! Green Flags

Now, let’s look into a few GREEN FLAGS or things to look for in an article, blog or post online:

- The sources are cited. Credible sites such as “.gov” or “.edu” or “.org” are often credible, research-based websites. However, some “.com” sites can be credible as well.
- Tone assessment. The author uses words like “may lead to” or “some studies have shown.”
- Check the author. Is the article written by someone with any of the following credentials: Registered Dietitian (RD/RDN), medical doctor (MD or DO) or MS, MPH or Ph.D. or reviewed by someone with one of these credentials?
- Citations are present. The information shared is supported by evidence that is linked within the site, post or article.
- Affiliation or potential for bias is noted. The author discloses any affiliations and potential conflicts of interest.

Sources for Fact-Checking

There are several websites available that present scientific, evidence-based nutrition information. If you find yourself questioning if an article you read is accurate or not, consider visiting one of the following websites to fact-check the claims you read, such as:

- [Nutrition.gov](https://www.nutrition.gov)
- [Healthline.com](https://www.healthline.com)
- [MayoClinic.org](https://www.mayoclinic.org)
- [EatRight.org](https://www.eatright.org)
- [CDC.gov/nutrition](https://www.cdc.gov/nutrition)
- [ConsumerReports.org](https://www.consumerreports.org)
- ods.od.nih.gov (NIH Office of Dietary Supplements)

Takeaway Message

Always be skeptical of the potential

for misinformation. When forming your own opinions — consider both red flags and green flags. Try your best to stick to reliable and evidence-based sites.

Interpret accurate, unbiased information with applicable guidelines and recommendations. Read past the headline, as it

often can be misleading on its own. And always do extra research, if you can!

Source: Diekman C, Ryan CD, Oliver TL. Misinformation and Disinformation in Food Science and Nutrition: Impact on Practice. *J Nutr.* 2023 Jan;153(1):3-9. doi: 10.1016/j.tjnut.2022.10.001. Epub 2022 Dec 22. PMID: 36913465. <https://pubmed.ncbi.nlm.nih.gov/36913465/>

RECIPE OF THE MONTH

By Alyssa Havlovic, MS, RDN, ACSM EP-C, Extension Educator in Lancaster County

May is Beef Month! Beef is a good source of zinc, iron and protein. This recipe features top round steak, which is an affordable, leaner cut of beef derived from the rump area of a beef animal. Be sure to slice meat thinly, against the grain of muscle fibers for the best eating experience.

PEPPER STEAK SANDWICH

(Yield: 6 servings)

- 1 pound beef top round steak, trimmed and cut into 1/8-inch thick strips
- 1/3 cup low-fat Italian dressing
- 1 Tablespoon vegetable oil
- 1 large bell pepper, scrubbed with clean vegetable brush under running water, sliced into 1/8-inch thick slices
- 1/2 medium onion, scrubbed with clean vegetable brush under running water, cut into 1/8-inch thick slices
- Salt and pepper to taste (optional)
- 6 hoagie buns or French rolls
- 6 slices of low-fat cheese

1. Wash hands with soap and water.
2. In a medium bowl, combine sliced beef and Italian dressing. Wash hands after handling uncooked meat.
3. Cover and marinate in the refrigerator for 30 minutes to 2 hours.
4. Remove beef from marinade; discard marinade.
5. In a large, nonstick skillet, heat oil over medium-high heat. Add beef in small batches and stir-fry for 1-2 minutes or until the meat is browned and reaches an internal temperature of 145°F on a food thermometer. Set aside and keep warm.
6. Return the skillet to medium heat. Add peppers and onion. Stir-fry for 5-6 minutes or until vegetables are crisp-tender.
7. Return beef and juices to skillet. Cook and stir for 1-2 minutes or until heated through. Season with salt and pepper, if desired.
8. Toast the buns, and top with cooked steak and vegetables. Top with a slice of cheese.
9. Store leftovers in a sealed container in the refrigerator for up to four days.

Nutrition Information: Serving Size (1 sandwich): Calories 380; Total Fat 12g; Saturated Fat 4.5g; Cholesterol 50mg; Sodium 540mg; Total Carbohydrates 41g; Fiber 2g; Total Sugars 3g, includes 1g Added Sugars; Protein 29g; Vitamin D 0%; Calcium 15%; Iron 20%; Potassium 4%

Nutrition Software Used: ESHA Food Processor



Photo by Marusa Jones, Nutrition Education Program

Care for New Bedding Plants

By Sarah Browning, Extension Educator in Lancaster County

Home gardeners are itching to get outside and will soon be buying bedding plants — both annual flowers and vegetables — from local garden centers and greenhouses. Selecting strong, healthy plants, along with proper care and planting, will help insure a successful start to the gardening season.

Select Healthy Plants

Select short, stocky plants with dark-green foliage, which indicates the plants have received a good level of nutrients and sunlight. Avoid tall spindly plants, which have stretched to get more sun. Avoid plants with pale green, yellowish or damaged leaves.

Smaller transplants become established in the garden more quickly than larger ones. Quicker establishment enables them to grow and set flower buds faster, ultimately resulting in more productive plants. Larger plants often take longer to recover from transplant stress. For example, short, stocky, six-week-old tomato transplants will produce more fruit than larger tomato transplants that have already started blooming when you purchased them. When selecting bedding plants, bigger is usually not better once the plants get larger than 8-10 inches tall.



Select short, stocky plants with dark-green foliage.

Avoid Transplant Shock

Bedding plants purchased from greenhouses or garden centers should not be planted directly into the garden. Suddenly exposing them to intense sun and strong winds often results in leaf damage or plant death. Bedding plants



Gardeners are itching to get outside and will soon be buying bedding plants.

should be “hardened off” or acclimated to outdoor growing conditions before transplanting into the garden.

Start the hardening off process by initially placing the plants outside in a shady, protected site for a few hours at a time. Gradually, over the course of 7-10 days, expose the plants to more sun and wind, and leave them outside for longer periods. Closely watch the plants throughout the hardening off process for signs of wilting, leaf scorch or cold damage.

Potting soil can quickly dry out on warm, sunny days resulting in plants becoming too dry and wilting or dying. Thoroughly water the transplants when the soil surface is dry to the touch.

Bring transplants indoors overnight if there is a possibility of frost. Frost tolerant seedlings, such as cabbage, broccoli and cauliflower, can remain outdoors. After 7 to 10 days of hardening, the bedding plants should be ready for planting.

When to Plant

Most annual flowers should be planted outdoors when the danger of frost is past. The average last frost date for Lancaster County is May 10th.

A few frost-tolerant annuals, such as pansy, sweet alyssum and snapdragon, can be planted one to two weeks earlier.

Cabbage, broccoli and cauliflower transplants can also be planted outdoors in early April. Tomatoes, peppers, cucumbers, melons and other warm season vegetables should be planted after the average last frost date, unless the gardener plans to provide protection if cold night temperatures return.

Once hardened off, plant them in the garden in the evening or on a cloudy day, if possible. Planting at these times lessens transplant shock and allows the plants to recover somewhat before being exposed to direct sun.

Many annuals, such as petunia, snapdragon, salvia and periwinkle, should be pinched back to encourage branching; yes — that means removing any flowers! Others, such as impatiens, are self-branching and don't require pinching. It's also advisable to remove flowers on blooming annuals, which aids root growth and plant establishment. Vegetable transplants should not be pinched.



Pinch the flowers off new transplants immediately after planting. This encourages them to put more energy into root growth and establishment ahead of flower production.

Apply a starter fertilizer solution to each plant about one week after transplanting. A starter fertilizer solution can be prepared by mixing two tablespoons of an all-purpose garden fertilizer, such as 5-10-5, in one gallon of water. When the fertilizer has completely dissolved, give each plant approximately one cup of starter fertilizer solution.

FOR MORE INFORMATION

For more tips on success with bedding plants, check out these online articles: *Growing Annual Flowers*, <https://go.unl.edu/growing-annuals> *Hardening Off Transplants*, <https://go.unl.edu/harden-off>



By Mary Jane Frogge, Extension Associate in Lancaster County

Plant ground covers under shade trees that do not allow enough sunlight to grow turfgrass. Vinca minor or English ivy are ground cover plants that grow well in shade.

To grow annuals in containers on the patio, use a lightweight soil mixture. Keep the plants well watered, because the soil dries out fast. Apply a water-soluble fertilizer according to package directions every two weeks.

In May, have successive plantings of beans and sweet corn to extend the harvest season in the vegetable garden.

When you visit botanical gardens and arboretums, take your camera and notepad with you. Plan now for changes you will make in your landscape.

Grow your own dried flowers. Raise static, globe amaranth, straw flowers and other everlastings to provide flowers for this year's arrangements.

For maximum landscape interest in a small, vertical space, try annual vines. They can hide plain walls and fences. When trellised, vines can create shade and privacy while hiding undesirable views. Try morning glory, nasturtium vine and scarlet runner bean.

Watering roses with soaker hoses or drip irrigation will reduce the spread of black spot disease.

Mulch around newly planted trees and shrubs. This practice reduces weeds, controls fluctuations in soil temperature, retains moisture, prevents damage from lawn mowers and looks attractive.

Stay out of the garden when the vegetable plant leaves are wet. Walking through a wet garden spreads disease from one plant to another.

Four or five layers of newspaper will serve as an effective mulch in the garden. Cover it with grass clippings or wood-bark, like cedar, to prevent it from blowing away.

Plan a landscaping project on paper first. Do not over plant. Be sure you know the mature size of each plant and allow for growth.

In May, plant marigold, petunia, ageratum and begonia transplants. All are good border plants.

Cash Rent Survey

The University of Nebraska–Lincoln's Department of Agricultural Economics annually surveys land industry professionals across Nebraska, including appraisers, farm and ranch managers, agricultural bankers and related industry professionals. Results from the survey are divided by land class and summarized by the eight Agricultural Statistic Districts of Nebraska.

Land industry professionals responding to the annual survey attributed the rise in Nebraska agricultural real estate values to purchases for farm expansion, current livestock prices, 1031 tax exchanges, the amount of land offerings for sale and as a hedge against inflation. Farms or ranches in strong financial positions look to expand their

operations by purchasing additional land. Competition in the industry remained strong as operators faced fewer land offerings available for sale. Inflation pressure continued from the prior year as many operations invested in land or purchased agricultural equipment to hedge against future increases.

Source: *Cornhusker Economics*, March 13, 2024.

FOR MORE INFORMATION

Read the *Cornhusker Economics* full article at <https://go.unl.edu/3mgx>. For questions regarding this survey, contact Agricultural Systems Economist Extension Educator Jim Jansen at 402-261-7572 or jjansen4@unl.edu.

Table 2. Reported **cash rental rates for various types of Nebraska farmland and pasture**: 2024 averages, percent change from 2023 and quality ranges by Agricultural Statistics District ^a

TYPE OF LAND		AGRICULTURAL STATISTICS DISTRICT	
		EAST	SOUTHEAST
Dryland Cropland	Average	\$240/acre -2% change	\$195/acre -3% change
	High Third Quality	\$290/acre	\$240/acre
	Low Third Quality	\$195/acre	\$155/acre
Gravity Irrigated Cropland	Average	\$320/acre 5% change	\$285/acre -2% change
	High Third Quality	\$355/acre	\$325/acre
	Low Third Quality	\$275/acre	\$255/acre
Center Pivot Irrigated Cropland ^b	Average	\$355/acre 3% change	\$340/acre 1% change
	High Third Quality	\$405/acre	\$390/acre
	Low Third Quality	\$295/acre	\$285/acre
Pasture	Average	\$65/acre 7% change	\$61/acre 9% change
	High Third Quality	\$78/acre	\$73/acre
	Low Third Quality	\$49/acre	\$45/acre
Cow-Calf Pair Rates ^c	Average	\$66.45/pair 6% change	\$64.35/pair 7% change
	High Third Quality	\$75.20/pair	\$73.65/pair
	Low Third Quality	\$54.95/pair	\$50.45/pair

^a Source: Reporters' estimated cash rental rates (both averages and ranges) from the University of Nebraska–Lincoln Nebraska Farm Real Estate Market Developments Survey, 2023 and 2024.

^b Cash rents on center pivot land assumes landowners own total irrigation system.

^c A cow-calf pair is typically considered to be 1.25 to 1.30 animal units (animal unit being 1,000 lb. animal) for a five-month grazing season. However, this can vary depending on weight of cow and age of calf.

No Matter Where You Live, Submit a Request Before You Dig!

By *Becky Schuerman*,
Extension Educator in
Lancaster County

Spring is here, and that often means it's time to start outdoor projects. Whether you are spading in new trees, putting in a koi pond or other excavated landscape features, drilling a new well or installing a new onsite wastewater system, you want to make sure a "Locate Request" has been submitted to Nebraska811 before digging.

Nebraska811 is the statewide one-call notification center, set up by Nebraska state law. It is the link between people who want to excavate and the underground facility owners/operators.



Everyone, everywhere in the state of Nebraska must contact Nebraska811 before excavating or disturbing the soil, even in your own backyard! Submit a locate request two business days prior to starting the digging. By contacting Nebraska811, you will be placing a request for the underground utilities in your excavation area to be located and marked. Contacting Nebraska811 is required by state law (Nebraska Statute 76-2321) and is designed to protect you, underground facilities and the public.

White lining is the process of pre-marking the area where digging will occur with white paint and/or white flags. White lining saves time, avoids confusion, and prevents damages by indicating to locating crews exactly where work will take place. Although not required, Nebraska811 strongly recommends white lining whenever possible.

Locate requests must be submitted to Nebraska811 at least two business days prior (excluding weekends and holidays), but not more than 10 business days before your planned excavation by calling 811 or 1-800-331-5666 (both numbers are toll free) or going online to <https://www.ne1call.com>.

The following information is required in order to submit a locate request.

Contact Information:

The name and phone number of the person making the notification and the on-site contact person.

Excavator

Information: The name, address, email address and phone number of the excavator.

Excavation

Information: The type of work and maximum depth of excavation. The date and time excavation is scheduled to commence. The extent of excavation being planned, including whether the excavation involves tunneling or horizontal boring.

Location

Information: The county, city or nearest city, whether the site is inside the city limits, address of the site or nearest intersection and directions to the site.

Marking

Instructions: A specific

description of where the work will take place and whether the proposed area of excavation is white-lined.

Driving Directions:

Starting from the nearest intersecting street, how far and in which direction to the site.

Once a request is submitted, the utilities affected by your proposed dig site will promptly be notified by Nebraska811.

The utility companies notified must respond by the start date/time by informing you if they are clear from your dig site or by marking the approximate location of their underground utilities. If digging must take place in the area defined as the tolerance zone (18 inches on either side of the mark, plus half the width of the facility), hand digging and extreme caution is suggested. The excavator should exercise such reasonable care as may be necessary for the protection of the underground facility.

It's FREE. It's EASY. It's the LAW. Protect yourself and your wallet by contacting Nebraska811 before you dig.

Information for this article is from the Nebraska811 "Excavation Safety Guide."



Math Exploration

By Hayley Perez, Extension Educator in Lancaster County

Math Whiz in the Making: Fostering Math Skills at Home

Math can sometimes feel intimidating, but for young children, it's all about exploration and discovery! The good news is that you don't need fancy flashcards or expensive toys to nurture their mathematical thinking. By incorporating math concepts into everyday activities, you can help your child develop a strong foundation for future learning (National Association for the Education of Young Children; NAEYC).

Make it Playful:

Children learn best through play. Singing counting songs, playing hopscotch or sorting toys by color are all fantastic ways to introduce basic math concepts like counting, comparing and sorting. Reading bedtime stories with a mathematical twist can also be a fun way to integrate math. Look for books that highlight numbers, shapes or patterns.



Bake a Batch of Fun:

Baking cookies or muffins is a delicious way to introduce measuring and fractions. Let your child help you count out ingredients, use measuring

cups and even halve recipes to explore basic division.

Become Builders Together: Building with blocks or Legos is a fantastic activity that promotes spatial reasoning and problem-solving skills. Encourage your child to experiment with creating different shapes and structures.



Embrace Everyday Routines: Daily routines offer a wealth of opportunities for math practice. Ask your child to help you set the table, counting out plates and utensils. Grocery shopping becomes a counting adventure! Talk about the quantities you need and compare prices.

Focus on the Journey, Not the Destination:

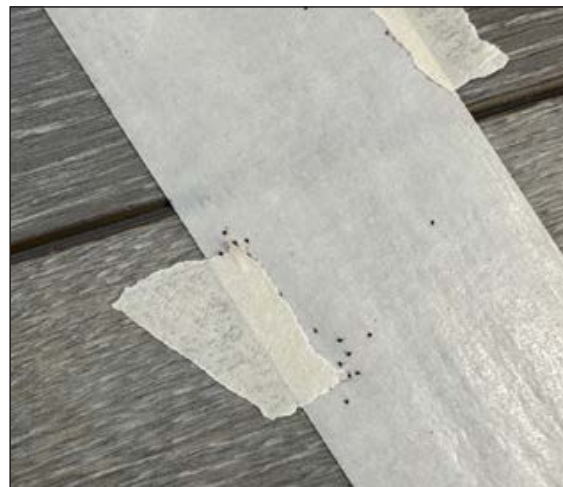
Remember, the goal is to cultivate a love of learning, not to drill facts. Keep the atmosphere positive and focus on the process, not achieving a perfect answer. Celebrate their curiosity and encourage them to explore different solutions.

By incorporating these simple strategies, you can transform everyday activities into engaging math lessons. Most importantly, have fun together! After all, a positive attitude is the best foundation for a lifelong love of learning.

By Kait Chapman, Extension Educator in Lancaster County

Home-invading insects are a common issue for many homeowners, from fall-invading stink bugs to foraging ants. A key strategy to keep these insects at bay is to prevent them through exclusion, i.e., make your home inaccessible to these many-legged invaders. Strategies for insect-proofing your home range from caulking and sealing cracks, crevices and other potential entry points, fixing broken screens on windows to installing door sweeps. Inspecting for these entry points requires one to “think like a bug,” but a general rule to follow is: If light can get through an opening, so can an insect.

While these strategies are essential in preventing many home-invading bugs, others are trickier to keep out. Reports of clover mites invading homes have been an increasing trend at Nebraska Extension in recent years. Clover mites are small, eight-legged arachnids, with adults only reaching a minuscule one-thirty-second of an inch in size. While the mites



Clover mites on tape. (Approximate size)



Clover mites on tape. (Highly magnified)

are most often recognizable due to their reddish (or occasional greenish) color, true identification requires a microscope to see their elongated front legs.

Clover mites are common in landscapes around the home. They utilize grasses, honeysuckle, ivy, elm, apple, gooseberry, clover and other weeds as host plants to feed on. In the winter, clover mites spend time in sheltered locations as eggs, becoming active again as temperatures reach over

45°F in the spring. As populations rise and temperatures shift, these mites incidentally invade structures such as homes, in both the spring and fall. Homeowners often find themselves with

hundreds of mites coming through minuscule gaps, typically around windows or doors. And while the presence of so many “creepy-crawlies” may be concerning, there’s some relatively good news: 1) they don’t bite or cause damage to the home, and 2) they don’t reproduce indoors.

And while clover mites are harmless to people and homes, there

is a significant drawback: they may be difficult to manage. If you do find yourself with clover mites in the home, you can use a vacuum for simple removal or lay insect-trapping sticky boards around indoor entry points. Because they don’t truly infest a home, insecticides used indoors are unnecessary and not recommended. Though not highly effective, insecticides containing a pyrethroid-active ingredient and labeled for clover mites can be applied around the home’s perimeter and repeated as needed. A pesticide-free strategy to preventing the mites is to reduce vegetation, leaving a greater than 18” grass-free band around the home.

A good thing to keep in mind is that these strategies work best together. If your home has a history of clover mites, consider using multiple methods to help manage and prevent them.

Photos by Jody Green, Extension Educator in Douglas/Sarpy Counties

4-H Achievement Celebration

Lancaster County 4-H and 4-H Council presented the Lancaster County 4-H Achievement Celebration on Tuesday, Feb. 13. The Lancaster County Board of Commissioners proclaimed Feb. 13 as "4-H Achievement Day." For a complete list of award recipients and link to photos on Flickr, go to <https://lancaster.unl.edu/4h/achievement>.



NEBRASKA 4-H ANNUAL ACHIEVEMENT AWARD

These are a record of a 4-H'ers annual achievements in 4-H.

Completed a Junior application: (Below back row L-R) Silas Pracheil, Reagan Breuer, Noah Babcock, Andrea Bettenhausen, Parker Hansen, Alexa Smith; (front row L-R) Cora Pracheil, Claire Breuer, Hannah Breuer, Emily Bauman; (not pictured) Adam Gabel, Amorita Payne



Completed a Senior application: Acacia Carlson, Khloe Cuttlers, Ethan Gabel, Morgan Gabel, Clara Johnson, Carley Parrott

NEBRASKA 4-H DIAMOND CLOVER PROGRAM

At the beginning of the 4-H year, youth choose goals from a provided list, and at the end of the 4-H year, complete a report which documents their accomplishments. Youth may progress from Level 1-6.

Level 1 – Amethyst: Luke Bartek, Piper Bauman, Ian Bettenhausen, Lexus Cooper, Zeadyn Denney, Rosalyiah Gaytan, Mary Janssen, Sarah Grace Kennedy, Macey Mays, Mallory Mays, Olivia Mays, MacKenzie McCoy, Gracie Mittan-DeBuhr, Abigail Page, Jordyn Schmeekle, Delaney Steinmetz, Eleanor Senft, John Sullivan, David Thaller, Thomas Thaller

Level 2 – Aquamarine: Molly Boysen, Emily Crawford, Mia Crawford, Sophie Huenink, Isaac May, Lucy Pflanz, Josephine Polk, Grace Tetzlaff

Level 3 – Ruby: Brayden Belew, Payzleigh Belew, Andrea Bettenhausen, Reese Dell, Evelyn May, Maria Polk

Level 4 – Sapphire: Tenley Bauman, Khloe Cuttlers, Parker Hansen, Brooklynn Nelsen, Amorita Payne, Catherine Polk, Micah Pracheil, Alexa Smith

Level 5 – Emerald: Claire Polk

Level 6 – Diamond: Vanessa Peterson

LANCASTER COUNTY 4-H COMMUNITY SERVICE AWARDS

Presented to 4-H'ers who have completed the most hours of community service.

Age 14 and over: Mia Crawford, Aleya Cuttlers, Khloe Cuttlers, May Frain, Cali Kaiser, Christian Kaiser, Olivia Mays, Kamryn Wanser, Christina Xu

Age 13 and under: Emily Bauman, Monica Bauman, Tenley Bauman, Molly Boysen, Emily Crawford, Parker Hansen, Sophie Huenink, Macey Mays, Mallory Mays, Gracie Mittan-DeBuhr, Amorita Payne, Vanessa Peterson, Alexa Smith, Isabelle Tonkin, Katy Weaver

NEBRASKA 4-H CLUBS OF EXCELLENCE

Clubs of Excellence have met criteria outlined by the State 4-H office.

Clever Clovers, Fantastic 4, Fusion 4-H'ers, Horticulture Club, Joe's Clover Knights, Lancaster Leaders, Little Green Giants, Malcolm Trap Club, N-Bots 4-H Club, Prairie Explorers, Rabbits R Us, Southern Lancaster Kids, Star City Cornhuskers, Tails N' Trails, Villa Marie Eagles

LINCOLN CENTER KIWANIS OUTSTANDING 4-H CLUB AWARDS

Lincoln Center Kiwanis Club awards traveling trophies to the top 4-H clubs participating in the Lancaster County Super Fair.

Category I (5-10 members): Silver Spurs (Leader: Kim Bowen)

Category II (11-20 members) & Wayne C. Farmer Memorial Cup overall winner: Fantastic 4 (Leader: Jennifer Smith)

Category III (21 or more members): Star City Cornhuskers (Leader: Stephanie Polk)

LANCASTER COUNTY 4-H COUNCIL LEADERSHIP AWARD

This award recognizes youth in grades 10-12 who show outstanding qualities in servant leadership.

(Below L-R) Madelyn Egelhoff, Caraline Higgins, Claire Polk, Micah Pracheil, Carley Parrott; (not pictured) Ethan Gabel



LANCASTER COUNTY OUTSTANDING 4-H MEMBERS

Presented to individuals 14 years of age or older who have excelled in their involvement with the Lancaster County 4-H program.

(Above L-R) Lilee Chevalier, Clara Johnson

LANCASTER COUNTY MERITORIOUS SERVICE TO 4-H

Presented to individuals or organizations who have exhibited consistent and strong support of the Lancaster County 4-H program.

(Below right) Marsha Prior (with Extension Associate Kristin Geisert)



8 Lancaster County 4-H'ers Modeled Their Sewn Garments at Omaha Fashion Week

The “Student Night Designer Showcase” at Omaha Fashion Week was held Feb. 21 at the Design Center in downtown Omaha. Omaha Fashion Week has become the fourth largest fashion event in the nation. Nebraska 4-H was among seven groups that presented youth designs on the runway that evening. Thirty-two 4-Hers were chosen from 17 counties in Nebraska, including eight from Lancaster County. To be considered in the 4-H Collection, garments must have been sewn for 4-H in 2023, be fashion-forward, runway appropriate and display high-quality construction.

The Lancaster County 4-Hers and the garments they sewed and modeled:

- **Tenley Bauman** — Black patterned fitness leggings and blush pink cropped zipper hoodie jacket.
- **Clara Johnson** — Cobalt blue halter-style sequin sheath gown with long tulle neckline train.
- **Josie Johnson** — Cinnamon satin above-the-knee dress with ivory tulle bow bodice tie.
- **Lauren Johnson** — Pink cotton print sleeveless jumpsuit with magenta elastic waist detail.



Behind the scenes at Omaha Fashion Week: (front row L-R) Dayton Jons, Alexa Smith; (Back row L-R) Extension Associate Kristin Geisert, Tenley Bauman, Piper Pillard and Vanessa Peterson.

- **Dayton Jons** — Royal azure blue knee-length coat with hooded collar and floral lining.
- **Vanessa Peterson** — Sage green chiffon homecoming dress with dyed-to-match applique detail.
- **Piper Pillard** — Chambray blue multi-colored floral embroidered flared-leg jumpsuit.
- **Alexa Smith** — Black knit cap sleeve crop top with cheetah print elastic waist skirt.

4-H Events Open to All Youth

For more information about the following, go to <https://go.unl.edu/lan4hnews> or contact Elizabeth Thiltges at 402-441-7180.



DOG WORKSHOPS, MAY 9 & 23 — The Greater Lincoln Obedience Club and Nebraska Extension in Lancaster County will present 4-H Dog Workshops on Thursdays, May 9 and May 23, 6 p.m. at the Greater Lincoln Obedience Club, 5740 Johanna Road, Bay 4, Lincoln. These workshops are open to all youth ages 8–18 and their families. Learn about obedience, beginning steps of training, etc. Cost per participating youth is \$10 for each workshop. Please register at least two days before each workshop. For payment information and to register, go to https://go.unl.edu/greater_lincoln_obedience. Bring your dog. Health requirements: Dogs are required to be current on their vaccination of rabies. Immunization records must be presented and will be checked at arrival. Any dog brought that does not have a rabies immunization record will be asked to leave immediately. Dogs shall be free of fleas, ticks, ear mites, worms, other parasites and infectious diseases.

CAT WORKSHOP, MAY 18 — Nebraska Extension in Lancaster County will present a 4-H Cat Workshop on Saturday, May 18, 9 a.m. at the Nebraska Extension in Lancaster County conference rooms, 444 Cherrycreek Road, Suite A, Lincoln. Open to all youth and their families. Learn how to prepare a cat for a 4-H show, how to successfully bathe a cat, how cats are judged and more. Fee of \$5 per participant to be paid upon arrival. Bring your cat if you would like to practice showmanship and gain some showmanship tips. If you do bring your cat, health requirements must be met. Any cat not meeting these health requirements will be asked to leave the building immediately. Immunization records must be presented and will be checked at arrival. See the rest of the health requirements at <https://go.unl.edu/catmay24>.

Support 4-H by Eating Out, May 1 & 2

Hungry? Support 4-H by eating out at upcoming restaurant fundraisers for Lancaster County 4-H Council! 4-H Council helps support 4-H programs, activities and scholarships.

- **Runza at 33rd & Pioneers on Wednesday, May 1,** 5–8 p.m. 4-H Council will receive 15% of the proceeds.
- **Culver's restaurants at Lincoln's three locations on Thursday, May 2** — Scoops of Thanks Day. All day long, you'll receive a scoop of Fresh Frozen Custard in exchange for your \$1 donation.

4-H Council thanks Runza and Culver's, and everyone who takes advantage of these yummy fundraisers!



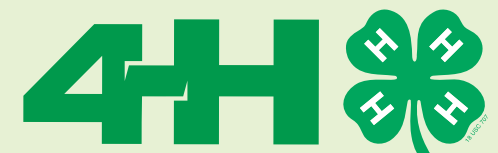
Support 4-H During

“Give to Lincoln Day,” May 30

Lancaster County 4-H Council is one of the nonprofits the community can give donations to during “Give to Lincoln Day” hosted by Lincoln Community Foundation. Your donation is increased by a proportional share of a \$650,000 challenge match fund!

For more information or to make a tax-deductible donation, go to <https://go.unl.edu/giveto4hcouncil>

give
TO LINCOLN DAY
MAY 30, 2024





HEART OF 4-H VOLUNTEER AWARD

Connor Biehler

Lancaster County 4-H is proud to announce Connor Biehler of Lincoln as winner of the May “Heart of 4-H Award” in recognition of outstanding volunteer service.

He has volunteered with Lancaster County 4-H for 4 years, and with other counties for 20 years — including Saunders, York and Butler. At the Lancaster County Super Fair, Connor judges livestock and horse herdsmanship. All 4-H clubs, FFA chapters and independent members exhibiting in animal shows are automatically judged for Herdsmanship. Emphasis is on animal care, but other judging criteria include clean and orderly stalls, pens and alleys. Courtesy, conduct and sportsmanship of the exhibitors are also important.

As a Beef Extension Educator who serves Lancaster and seven other counties, Connor goes above and beyond to help with the 4-H youth development program. He has also helped at the Nebraska State Fair with 4-H Beef Show check-in and Fed Steer Challenge.

“4-H has always been a focal point of my life starting back when I was a young child attending meetings with my Mom, who has been a club leader for over 30 years,” Connor says. “Through my time as a 4-H member, I found my true passion in the livestock industry. I certainly attribute 4-H — and showing livestock — to helping me find my career path. My favorite experience as a 4-H volunteer is interacting with the youth and the future of agriculture and other industries.”



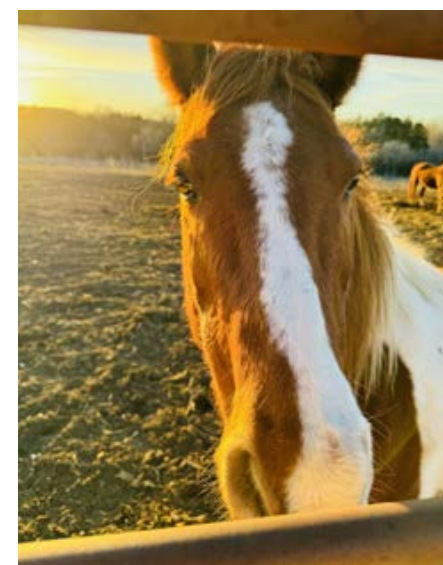
4-H Horse Stampede Top Results

The 4-H Stampede was held March 23 at the University of Nebraska–Lincoln East Campus. Seventy-six youth from across the state competed in contests, including photography, art, demonstration, public speaking and horse quiz bowl. Complete results are at <https://4h.unl.edu/horse/stampede>. Here are the Lancaster County top and purple ribbon winners:

- **Public Speaking Contest Junior Division:** Hannah Chevalier (reserve champion), Xavyer Bourek, Grace Chevalier
- **Public Speaking Contest Elementary Division:** Gracie Mittan-DeBuhr (champion)
- **Demonstration Contest Elementary/Junior Individual Division:** Hannah Chevalier (champion), Mary LaPlante (reserve champion)
- **Demonstration Contest Elementary Team Division:** Corrine Byrne and Gracen Byrne (champion, blue ribbon)
- **Art Contest 2D Senior Division:** Shea Frink (champion)
- **Art Contest 2D Junior Division:** Katy Weaver
- **Art Contest 2D Elementary Division:** Addisyn Lorenson (champion)
- **Art Contest 3D Junior Division:** Easton Byrne, Aleese Jurgens (champion), Katy Weaver
- **Art Contest 3D Elementary Division:** Corrine Byrne (champion) (2 entries), Khloe Jackson
- **Photography Contest Senior Division:** Katelyn Lightbody (champion), Shea Frink (reserve champion), Avery Stohs
- **Photography Contest Junior Division:** Easton Byrne, Reagan Dinger
- **Photography Contest Elementary Division:** Corrine Byrne (champion), Gracie Mittan-DeBuhr (reserve champion), Gracen Byrne
- **Horse Quiz Bowl Senior Division:** Lancaster/Saunders/Washington County Team — Amelia Proffitt, Max Roberts, Adriana Bordovsky, Colleen Savig (reserve champion)



Shea Frink earned champion in the Art Contest 2D Senior Division with her watercolor “Pickin’ Up In The Prairie.”



Gracie Mittan-DeBuhr earned reserve champion in the Photography Contest Elementary Division.

Big Red Summer Academic Camps

Big Red Summer Academic Camps are residential, career exploration camps held at the University of Nebraska–Lincoln open to all students going into grades 9–12 during the 2024–25 school year. This year’s dates are June 9–14. During the week-long camps, participants will work with university faculty to explore the topic of their particular camp, like STEM, teaching, clothing design, digital media, esports, veterinary science and the Unicameral Youth Legislature. Visit <https://4h.unl.edu/big-red-camps> for details.

Plant Science Online Contests Open to All Youth and Adults

All youth, as well as adults, may test their knowledge of plants through two upcoming plant science online contests. Study materials are online at <https://lancaster.unl.edu/hort-fair>.

- Lancaster County 4-H Online Tree ID and Grass & Weed ID Contests will be open from Friday, June 7, 9 a.m. through Friday, June 21, 9 a.m. For more information and links, go to <https://lancaster.unl.edu/hort/youth/fair/treegrassweedcontests>.
- Nebraska 4-H Online Horticulture Judging Contest will be available from Friday, June 7, 8 a.m. through Friday, June 21, 8 a.m. For more information and link, go to <https://4h.unl.edu/online-horticulture-judging-contest>.



4-H Announcements FOR 4-H'ERS AND VOLUNTEERS

The 4-H e-newsletter at <https://go.unl.edu/lan4hnews> has up-to-date information about upcoming 4-H opportunities.



4-H COUNCIL 4-H CAMP

SCHOLARSHIPS — A limited number of Lancaster County 4-H youth will receive \$200 scholarships to attend one or more of the following camps:

- Nebraska 4-H Summer Camp series
 - Nebraska 4-H Big Red Summer Academic Camps
 - University of Nebraska–Lincoln Winners Unlimited Livestock Judging Camp
- Preference given to applications submitted by May 1. Application is available at <https://go.unl.edu/campsch>.

SHEEP & MEAT GOAT WEIGH-IN,

MAY 6 — 4-H/FFA market sheep or market meat goat exhibitors planning to participate in the performance class based on rate of gain at the Lancaster County Super Fair must have their lambs and goats weighed on Monday, May 6, 6–7 p.m. at the Sandhills Global Event Center – Currency Pavilion (formerly Pavilion 1). For more information or to RSVP, contact Madelaine Polk at 402-441-7180 or mpolk2@unl.edu by Monday, April 29.

DOG VIRTUAL TRIVIA CONTEST,

MAY 8–15 — The Lancaster County 4-H Dog Virtual Trivia Contest will be available Wednesday, May 8, Noon–Wednesday, May 15, 11:59 p.m. Contest is open to 4-H'ers ages 8–18. This year's contest will focus on Sporting, Foundation Stock Service and Miscellaneous Class dog breeds (that start with letters R–W). A study guide is now online at <https://lancaster.unl.edu/4h/fair/virtualanimals>. Contest links for each division will be posted on this same website on May 8 at Noon.

HORSEMANSHIP LEVEL TESTINGS,

MAY 14, 28 & JUNE 25 — A 4-H horsemanship level group testing will be held on Tuesday, May 14, at the Sandhills Global Event Center. All of the written horsemanship level requirements must be completed and submitted to Kate Pulec before the riding portion of the levels can be conducted. Additional level testings will be held on Tuesday, May 28 and Tuesday, June 25 at the Sandhills Global Event Center. Anyone wishing to test must sign up by May 7 for May 14, by May 21 for May 28 and by June 18 for June 25 by emailing Kate at kpulec3@unl.edu. Held in the evening, time slots will be emailed. All other horsemanship level requirements and paperwork must be completed and handed in to Kate at the Extension office before the riding portion can be done.

HORSE IDENTIFICATION FORMS

DUE JUNE 1 — Each horse being shown in 4-H at the Lancaster County Super Fair or State Horse Expo must be identified on form “4-H Horse Identification Certificate” and submitted to the Nebraska Extension in Lancaster County office by Saturday, June 1. Forms are available at the office as a carbon copy form. If you use the online form at <https://go.unl.edu/horseID>, make a copy for yourself.

STATE HORSE EXPO ENTRIES, HIPPOLOGY AND JUDGING ENTRIES DUE JUNE 1

— The Fanner Park State Horse Expo will be held July 13–17 in Grand Island. Exhibitors must be ages 8–18 (by Jan. 1 of the current year) and have passed Horsemanship Advancement Levels I and II. State 4-H Horse Show, Hippology and Horse Judging entries, horse ID's and level requirements are due Saturday, June 1. The entry process must be completed online by the exhibitor or their family. For more information and entry link, go to <https://4h.unl.edu/horse-expo>. Horse identification certificates, 2- & 3-year old western pleasure affidavits and completed horsemanship levels must be submitted to the Extension office or lancaster4H@unl.edu or kpulec3@unl.edu. Hippology and Horse Judging contest entry fees of Lancaster County 4-H youth will be reimbursed by Lancaster County 4-H Council. Submit receipt invoice to lancaster4H@unl.edu or the Extension office. If you have questions, contact Kate Pulec at kpulec3@unl.edu.

HORSE JUDGING CONTEST, JUNE 1

— The Lancaster County Super Fair 4-H Horse Judging Contest will be held on Saturday, June 1 at the Sandhills Global Event Center – LivestockMarket Pavilion, 2 p.m. You may register in advance by emailing name(s) and age(s) of youth to Kate Pulec at kpulec3@unl.edu or at the event 1:30–2 p.m. Open to all 4-H'ers — need not be enrolled in a horse project. This is a Lancaster County Super Fair contest held before the fair and is a premium event. Ribbon placings will be awarded. The top 10 contestants in all three age groups will be recognized at Horse Awards Night. The champion in each age group must participate in both judging and oral reasons to receive a belt buckle.

LIFE CHALLENGE CONTEST,

MAY 30 — 4-H Life Challenge judging contest helps youth ages 8–18 learn more about issues related to a variety of family and consumer science topics. The contest will be held on Thursday, May 30, 8:30 a.m.–12:30 p.m. at the Nebraska Extension in Lancaster County conference rooms, 444 Cherrycreek Road, Suite A, Lincoln. A study packet is available at <https://lancaster.unl.edu/4h/lifechallenge>. Register by Thursday, May 20 by contacting Kristin Geisert at 402-441-7180 or emailing kristin.geisert@unl.edu (there is no entry form). There will be three sections of the contest: problem-solve a solution to present to a judge, stations of hands-on activities and a multiple-choice quiz. This is a Lancaster County Super Fair contest held before the fair and is a premium event.

PREMIER COMMUNICATION

EVENT — Nebraska 4-H's Premier Communication Event consists of several state-level contests: Prepared Speech, Radio Public Service Announcements, Illustrated Presentation, Impromptu Speech and Video Communication. The event will be held on Monday, June 17 and Tuesday, June 18 at the University of Nebraska–Lincoln East Campus. Most contests require qualifying at a county contest, except any 4-H youth ages 8–18 may participate in the Impromptu Speech and Video Communication contests. More information is at <https://4h.unl.edu/premier-communication-event>. If you are interested in participating in Impromptu Speech or Video Communication, contact the Extension office at 402-441-7180 or lancaster4H@unl.edu by Wednesday, May 22. Lancaster County 4-H Council will submit entries and pay contest entry fees for Lancaster County 4-H'ers.

PREMIER ANIMAL SCIENCE EVENT INCLUDES TWO NEW CONTESTS

— The Premier Animal Science Event (PASE) will be held June 20–21 at UNL East Campus. Open to all 4-H'ers ages 8–18 (by January 1 of the current year), contests include Livestock Judging, Poultry Judging, Livestock Skill-a-thon and NEW IN 2024 – Companion Animal Challenge and Animal Welfare Judging contests. For more information, visit <https://4h.unl.edu/pase>. Entries are due Wednesday, May 22. If you are interested in participating in PASE, contact the Extension office at 402-441-7180 or lancaster4h@unl.edu. Lunch is available both days for \$5 per contestant — Lancaster County 4-H'ers need to let the Extension office know if they want lunch reserved, and if they have any dietary restrictions. Lancaster County 4-H Council will pay any contest entry fees but not lunch for Lancaster County 4-H'ers. Bring \$5 per meal — cash or check (payable to Lancaster County 4-H Council) — to PASE and give to Madelaine Polk.

YOUTH FOR THE QUALITY CARE OF ANIMALS (YQCA) DUE JUNE 15

— 4-H/FFA members participating in any of the following animal projects need to complete Youth for the Quality Care of Animals (YQCA) training: beef, dairy cattle, goat, poultry, rabbit, sheep and swine. The deadline to complete YQCA and submit certificates of completion is Saturday, June 15. In Lancaster County, youth may choose one of two options to complete their YQCA requirements:

- Complete online training at <https://yqcaprogram.org>. Cost is \$12. For directions and more information, visit <https://4h.unl.edu/yqca>.
- Attend an in-person training held Thursday, May 23 or Thursday, June 6, 6–7 p.m. at the Nebraska Extension in Lancaster County conference rooms, 444 Cherrycreek Road, Suite A, Lincoln. To sign up for in-person trainings, you must go to <https://yqcaprogram.org> before the training. The training will cost \$3 payable by credit or debit card on the website. We cannot take payments in person, all families must register and pay online. You will need to take a 5-question pre-test at <https://yqcaprogram.org> before attending. You must sign in at the training as proof of attendance — certificates will be available online.

Send completed certificates to lancaster4H@unl.edu or Nebraska Extension in Lancaster County, 444 Cherrycreek Road, Suite A, Lincoln, NE 68528.

4-H/FFA ANIMAL REQUIREMENTS FOR SUPER FAIR & STATE FAIR

The 2024 Lancaster County 4-H/FFA Animal Requirements for Super Fair and State Fair is now online at <https://lancaster.unl.edu/4h/fair/2024/4H-FFA-Animal-Requirements-Super-Fair-24.pdf>. This handout lists deadlines, events and identification requirements for showing at the Lancaster County Super Fair and State Fair. For State Fair, each livestock project must have a DNA envelope submitted and a \$7 nomination paid on Show Stock Manager by Saturday, June 15. This includes feeder calves, and all market and breeding livestock for ALL SPECIES (excluding rabbits and poultry). Livestock animals automatically will be eligible for both breeding and market. New 2024 DNA envelopes required — please discard old envelopes.

4-H'ERS AGES 8 & UP MAY PARTICIPATE IN ALL IN-PERSON EVENTS AT STATE FAIR

— Nebraska 4-H has lowered the age eligibility requirements for State Fair for all in-person events (livestock, contests, Fashion Show) to be 8 years of age (by January 1 of the current year).

Clover College

June 11–14, 2024

Nebraska Extension in Lancaster County conference rooms,
444 Cherrycreek Road, Suite A, Lincoln

Lancaster County 4-H Clover College is four days of in-person, “hands-on” workshops full of fun and a sense of belonging. Learning topics include STEAM concepts of science, technology, engineering, art and math, which can spark career interests. Youth must be at least 8 years old (as of June 11) to attend most workshops — some workshops have older age requirements. The Clover Kids Day Camp is open to ages 6 & 7 (as of June 11 — must have completed kindergarten). Youth may attend as many workshops as they wish. All supplies will be provided unless otherwise noted. Youth attending workshops which overlap the lunch period should bring a sack lunch. Food will not be available (unless otherwise stated in the workshop description). If you have questions, call the Extension office at 402-441-7180 or email lancaster4H@unl.edu.

	TUE, JUNE 11	WED, JUNE 12	THU, JUNE 13	FRI, JUNE 14
8:00–10:00	1 CLOVER KIDS 2 ROCKETRY 6 ON THE BIKE PATH 7 HORSE COURSE – A 8 BUILD A BUDDY	1 CLOVER KIDS 2 ROCKETRY 3 DERBY CARS 4 GONE FISHING 21 TREASURE MAP 22 WOVEN WALL HANGINGS	1 CLOVER KIDS 2 ROCKETRY 5 PAINTSTIK T-SHIRTS 36 BUSY BUGS	1 CLOVER KIDS 2 ROCKETRY 3 DERBY CARS 46 MARBLE RUN CHALLENGE 47 UDDER-LY DELICIOUS
10:15–12:15	1 CLOVER KIDS 9 MOSAIC SEED ART 10 HORSE COURSE – B 11 SNACK ATTACK 12 EAT LIKE A COW	1 CLOVER KIDS 4 GONE FISHING 23 MONSTER MACHINES 24 LOOM WEAVING 25 AMAZING ANIMALS 26 PLANT, GROW, EAT	1 CLOVER KIDS 5 PAINTSTIK T-SHIRTS 37 HANG-IT-ALL RACKS 38 HYDRO-DIP PAINTING	1 CLOVER KIDS 48 LET'S BE ARTSY 49 FUN THYME W/HERBS 50 RABBITS, RABBITS 51 ESCAPE ROOM
12:45–2:45	13 PET PALS PICS 14 OUTDOOR ADVENTURES 15 CAKE DECORATING 16 TERRIFIC TABLE SETTING	27 DESIGN IT. BUILD IT. 28 UNL EXPERIENCE 29 SUMMER CRAFTS 30 KITCHEN CHEFS 31 BUZZING BEES	39 TABLE RUNNER SEWING 40 WIND: A SUPER POWER 41 MEMO BOARDS 42 GREEN THUMB SCIENCE	52 AIR BEE-N-BEE 53 SUN CATCHERS 54 THE SWEET SCOOP 55 WHAT'S POPPIN'?
3:00–5:00	17 STRING ART TREES 18 ROBOT CHALLENGE 19 GIFTS FROM THE KITCHEN 20 GORGEOUS GLASS	32 DISCOVER KUMIHIMO 33 H ₂ O ADVENTURE 34 BABYSITTING KIT 35 WILDLIFE WONDERS	43 GAME ON 44 PIZZA PALOOZA 45 MANDALA DOT PAINTING	NO CLASSES

WORKSHOP DESCRIPTIONS

 Indicates youth will create a project which may be entered as a 4-H static exhibit at the Lancaster County Super Fair.

4-Day Workshops

1 Clover Kids Day Camp

Clover Kids will participate in hands-on activities while learning about animals, science and art. Mid-morning refreshments provided each day.
TUE–FRI, JUNE 11–14; 8AM–12:15PM
AGES 6 & 7 (must have completed kindergarten)
• FEE \$50
Instructors: Various Extension Staff and 4-H Volunteers

2 Rocketry

Build your own rocket and launch it. Receive a rocket kit and one engine. **Only for youth who have not previously taken this class.**
TUE–FRI, JUNE 11–14; 8–10AM
AGES 8–12 • FEE \$20
Instructor: Ron Suing, 4-H Volunteer

2-Day Workshop

3 Derby Cars

Design, paint and race your own derby car. **Wear clothes appropriate for painting.**
WED, JUNE 12; 8–10AM
FRI, JUNE 14; 8–10AM
AGES 8 & up • FEE \$15
Instructor: Karen Wedding, Extension Staff

1-Day (4-Hour) Workshops

4 Gone Fishing!

Bring your fishing pole, line, hook and bobber for fishing fun at a nearby lake. Extra tackle is optional. Bait provided. **Wear closed-toe shoes and sun protection. Only for youth who have not previously taken this class.**
WED, JUN 12; 8AM–12:15PM
AGES 9 & up • FEE \$5
Instructor: Dave Smith, 4-H Volunteer

5 Paintstik T-Shirts

Use colorful Paintstiks to design a unique T-shirt with color washes, textured surfaces and stencils. T-shirts provided. **Wear clothes appropriate for painting.**
THU, JUN 13; 8AM–12:15PM
AGES 10 & up • FEE \$10
Instructor: Kath Conroy, 4-H Volunteer

1-Day (2-Hour) Workshops

6 On the Bike Path

Learn bicycle safety, riding tips and more! **Bring your bike and helmet. Wear closed-toe shoes — no flip flops.**
TUE, JUNE 11; 8–10AM
AGES 8 & up • FEE \$5
Instructors: Ann Ringlein and the Great Plains Trail Network Volunteers

7 Horse Course – A

An introduction to grooming, tacking and safety around a horse. A horse will help teach. **Must wear closed-toe shoes.** Same as Horse Course – B.
TUE, JUNE 11; 8–10AM
AGES 8 & up • FEE \$6
Instructor: Kate Pulec, 4-H Extension Associate

8 Build a Buddy

Find your voice and make communicating fun while building a stuffed animal!
TUE, JUNE 11; 8–10AM
AGES 8 & up • FEE \$5
Instructors: Paula Peterson and Erica Siemek, 4-H Volunteers

9 Mosaic Seed Art

Manipulate air-dry clay, add seeds to create decorative art.
TUE, JUNE 11; 10:15AM–12:15PM
AGES 8 & up • FEE \$8
Instructor: Rachel Wells, 4-H Volunteer

10 Horse Course – B

An introduction to grooming, tacking and safety around a horse. A horse will help teach. **Must wear closed-toe shoes.** Same as Horse Course – A.

TUE, JUNE 11; 10:15AM–12:15PM
AGES 8 & up • FEE \$6
Instructor: Kate Pulec, 4-H Extension Associate

11 Snack Attack

Make and taste easy snacks that make up a healthy eating pattern. Please list any food allergies.
TUE, JUNE 11; 10:15AM–12:15PM
AGES 8 & up • FEE \$10
Instructors: Alyssa Havlovic, Extension Educator and Sam Isaacson, Extension Assistant

12 Eat Like a Cow

Create your own feed ration you can eat yourself!
TUE, JUNE 11; 10:15AM–12:15PM
AGES 8 & up • FEE \$8
Instructors: Erica Siemek and Paula Peterson, 4-H Volunteers

13 Pet Pals Pics

Create a pet photo book. **Bring 4"x 6" (max size) photos of your favorite pet(s).**
TUE, JUNE 11; 12:45–2:45PM
AGES 8 & up • FEE \$8
Instructor: Sheri Ramirez, 4-H Volunteer

14 Outdoor Adventures

Explore nature and make an outdoor first aid kit.
TUE, JUNE 11; 12:45–2:45PM
AGES 8 & up • FEE \$10
Instructor: Julia Plugge, Outdoor Specialist, Nebraska Game & Parks Commission

15 Cake Decorating

Learn decorating techniques and create your own designs.
TUE, JUNE 11; 12:45–2:45PM
AGES 10 & up • FEE \$10
Instructor: Lorene Bartos, Extension Educator Emeritus

16 Terrific Table Setting

Create an awesome centerpiece and learn how to participate in the 4-H Table Setting Contest at the Super Fair.
TUE, JUNE 11; 12:45–2:45PM
AGES 8 & up • FEE \$8
Instructor: Madelaine Polk, 4-H Extension Assistant

17 Twisted String Art Trees

Have fun making a string art tree to enter in the Super Fair.
TUE, JUNE 11; 3–5PM
AGES 12 & up • FEE \$8
Instructor: Sarah Browning, Extension Educator

18 Robot Challenge

See what they can do and how to make them move.
TUE, JUNE 11; 3–5PM
AGES 8 & up • FEE \$5
Instructors: Jason Babcock, 4-H Volunteer & N-Bots 4-H Club Members

19 Gifts from the Kitchen

Using jars, create food mixes all tied up to be homemade gifts.
TUE, JUNE 11; 3–5PM
AGES 8 & up • FEE \$6
Instructor: 4-H Extension Intern

20 Gorgeous Glass

Decorate glass vases and plates using a variety of techniques and embellishments.
TUE, JUNE 11; 3–5PM
AGES 8 & up • FEE \$10
Instructor: Nicole Miller, 4-H Volunteer

21 Treasure Map

Be a pirate and create your own map using GPS and GIS technology.
WED, JUNE 12; 8–10AM
AGES 8 & up • FEE \$6
Instructors: Lancaster County Engineers

22 Woven Wall Hangings
Learn about frame weaving while creating a unique, colorful wall hanging.

WED, JUNE 12; 8–10AM
AGES 8 & up • FEE \$6
Instructors: Rhonda Griess and the Lincoln Hand Weavers Guild

23 Monster Machines
Get a “behind the scenes” look at BIG equipment and build a simple hydraulic machine.

WED, JUNE 12; 10:15AM–12:15PM
AGES 8 & up • FEE \$6
Instructors: Lancaster County Engineers

24 Loom Weaving
Learn about loom weaving while creating a useful potholder.

WED, JUNE 12; 10:15AM–12:15PM
AGES 8 & up • FEE \$10
Instructors: Rhonda Griess and the Lincoln Hand Weavers Guild

25 Amazing Animals
Learn how animals thrive by exploring adaptations of species.

WED, JUNE 12; 10:15AM–12:15PM
AGES 8 & up • FEE \$10
Instructor: 4-H Extension Intern

26 Plant, Grow, Eat
Learn to cook with healthy herbs to make food taste yummy.

WED, JUNE 12; 10:15AM–12:15PM
AGES 8 & up • FEE \$10
Instructor: Pam Cuttlers, 4-H Volunteer

27 Design It. Build It.
Build fantastic bridges and more.

WED, JUNE 12; 12:45–2:45PM
AGES 8 & up • FEE \$6
Instructors: Lancaster Co. Engineers

28 UNL Animal Science Experience
Learn about nutrition, animal biology and all the cool things in animal science during this tour of the UNL Animal Science Building. Enjoy a tasty stop at the UNL Dairy Store.

WED, JUNE 12; 12:45–2:45PM
AGES 8 & up • FEE \$8
Instructor: Madelaine Polk, 4-H Extension Assistant

29 Summer Crafts
Get creative and make a project to enjoy at home and enter in the Super Fair.

WED, JUNE 12; 12:45–2:45PM
AGES 8 & up • FEE \$8
Instructor: 4-H Extension Intern

30 Kitchen Chefs
Put on your chef apron and have a blast in the kitchen with new recipes that can be remade for the Super Fair.

WED, JUNE 12; 12:45–2:45PM
AGES 8 & up • FEE \$10
Instructor: Kayla Colgrove, Extension Educator

31 Buzzing Bees
Construct & paint a solitary bee hotel and view live bees!

WED, JUNE 12; 12:45–2:45PM
AGES 10 & up • FEE \$8
Instructors: Dr. Judy Wu-Smart, UNL Entomologist/Professor & UNL Bee Lab Staff

32 Discover Kumihimo
Explore the Japanese art of cord braiding.

WED, JUNE 12; 3–5PM
AGES 8 & up • FEE \$6
Instructor: Cathy Babcock, 4-H Volunteer

33 H₂O Adventure
Build and eat an aquifer sundae, set irrigation tubes and see how water power is essential.

WED, JUNE 12; 3–5PM
AGES 8 & up • FEE \$8
Instructor: Crystal Powers, Water and Cropping Systems Extension Educator

34 Babysitting Kit
Create a babysitting kit to promote a preschooler’s development.

WED, JUNE 12; 3–5PM
AGES 8 & up • FEE \$8
Instructor: Hayley Jackson, Early Childhood Extension Educator

35 Wildlife Wonders
Learn about tracks, pelts, skulls and habitats of native Nebraska wildlife.

WED, JUNE 12; 3–5PM
AGES 8 & up • FEE \$6
Instructor: Elizabeth Thiltges, 4-H Extension Assistant

36 Busy Bugs
Learn why insects are so successful at their jobs out in nature through outdoor exploration. **Bring boots, water bottle, sunscreen and/or hat.**

THU, JUNE 13; 8–10AM
AGES 8 & up • FEE: \$10
Instructor: Kait Chapman, Extension Educator of Urban Entomology

37 Hang-it-all Racks
Build a useful wooden rack using kitchen utensils for the hooks.

THU, JUNE 13; 10:15AM–12:15PM
AGES 8 & up • FEE: \$10
Instructor: Becky Schuerman, Extension Educator

38 Hydro-Dip Painting
Learn how to spray paint into a bucket full of water and make two amazing water bottles to take home. **Wear clothes appropriate for painting.**

THU, JUNE 13; 10:15AM–12:15PM
AGES 8 & up • FEE \$10
Instructor: Karen Wedding, Extension Staff

39 Table Runner Sewing
Sew a fabric table runner for the fair. **MUST have some sewing experience. Bring your sewing machine and kit of supplies.** Fabric provided. Some office machines available upon request.

THU, JUNE 13; 12:45–2:45PM
AGES 9 & up • FEE: \$10
Instructor: 4-H Extension Intern

40 Wind: A Super Power
Build and race a sail car. Learn about wind power and renewable energy.

THU, JUNE 13; 12:45–2:45PM
AGES 8 & up • FEE \$10
Instructor: Elizabeth Thiltges, 4-H Extension Assistant

41 Colorful Memo Boards
Make an inspirational message memo board using recycled materials.

THU, JUNE 13; 12:45–2:45PM
AGES 8 & up • FEE \$8
Instructor: Tammy Sheldon, 4-H Volunteer

42 Green Thumb Science
Conduct amazing science experiments using succulents, miracle berry and flytraps.

THU, JUNE 13; 12:45–2:45PM
AGES 8 & up • FEE \$8
Instructor: Dr. Christian Stephenson, UNL Assistant Professor, Agronomy & Horticulture

43 Game On!
Play modern board games like never before by using special reasoning and critical thinking.

THU, JUNE 13; 3–5PM
AGES 8 & up • FEE \$6
Instructors: GameSchool Project Volunteers

44 Pizza Palooza
Create your own unique pizza and make homemade ice cream!

THU, JUNE 13; 3–5PM
AGES 8 & up • FEE \$8
Instructor: 4-H Extension Intern

45 Mandala Dot Painting
Create medallion designs on wooden blocks using small dots of paint.

THU, JUNE 13; 3–5PM
AGES 8 & up • FEE \$8
Instructor: 4-H Extension Intern

46 Marble Run Challenge
Build a marble run with various materials and win awards for fastest, tallest, longest, etc.

FRI, JUNE 14; 8–10AM
AGES 8 & up • FEE \$5
Instructor: Hayley Jackson, Extension Educator

47 Udder-ly Delicious Dairy
Taste various cheeses, make butter and learn about dairy production. Not for dairy-sensitive youth.

FRI, JUNE 14; 8–10AM
AGES 8 & up • FEE \$8
Instructor: 4-H Extension Intern

48 Let's Be Artsy
Learn a new art technique and take your creation to the Super Fair.

FRI, JUNE 14; 10:15AM–12:15PM
AGES 8 & up • FEE \$10
Instructor: Mary Jane Frogge, Horticulture Extension Associate

49 Fun Thyme With Herbs
Learn about herb plants, how to identify them and fun ways to use them.

FRI, JUNE 14; 10:15AM–12:15PM
AGES 10 & up • FEE \$10
Instructor: Elizabeth Thiltges, 4-H Extension Assistant

50 Rabbits, Rabbits
Learn with live rabbits; their care and showmanship.

FRI, JUNE 14; 10:15AM–12:15PM
AGES 8 & up • FEE \$5
Instructor: 4-H Extension Intern

51 Escape Room
Use strategy and clues to solve scenario puzzles in order to

escape the room.
FRI, JUNE 14; 10:15AM–12:15PM
AGES 8 & up • FEE \$5
Instructors: GameSchool Project Volunteers

52 Air Bee-n-Bee
Build a model of pollination and a hotel for bees.

FRI, JUNE 14; 12:45–2:45PM
AGES 8 & up • FEE \$5
Instructor: Elizabeth Thiltges, 4-H Extension Assistant

53 Brilliant Sun Catchers
Design colorful hangings to capture the sun and exhibit at the Super Fair.

FRI, JUNE 14; 12:45–2:45PM
AGES 8 & up • FEE \$6
Instructor: 4-H Extension Intern

54 The Sweet Scoop
Learn about the science of ice cream, make frozen desserts with different ingredients.

FRI, JUNE 14; 12:45–2:45PM
AGES 8 & up • FEE \$10
Instructors: UNL Food Science and Technology Department

55 What's Poppin'?
Nebraska loves its popcorn. Cook and taste many varieties.

FRI, JUNE 14; 12:45–2:45PM
AGES 8 & up • FEE \$8
Instructor: 4-H Extension Intern

Clover College ONLINE Registration

Registration will **ONLY** be available online!
Walk-in or mail-in registrations will **NOT** be accepted at the Extension office.

Classes fill up quickly!

Registration opens Wednesday, May 1 at noon for currently enrolled 4-H members.

In late April, currently enrolled 4-H families will be emailed a link and access code to register, which will activate on May 1 at noon.

Registration opens Wednesday, May 8 at noon for non-4-H youth.

Registration link will be posted at <http://lancaster.unl.edu/cc>



REGISTRATION TIPS:

- An email address and a debit or credit card will be required to complete registration. There are no additional online or credit card processing fees, only the cost of the chosen workshop(s).
- To speed up the process during registration, determine your workshop choices ahead of time and alternate choices in case your first choice workshops are full.
- Take note of the age requirements. Age is calculated as of the first day of Clover College.
- Please note any food allergies and check photo and evaluation permissions on each child's registration.
- To receive reimbursement for yellow 4-H Activity Certificates after registering online, bring certificates and your Clover College online confirmation to the Extension office.
- There are no refunds.

Nebraska Extension in Lancaster County
444 Cherrycreek Road, Suite A, Lincoln, NE 68528
402-441-7180 • lancaster.unl.edu

Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the United States Department of Agriculture.

Nebraska Extension educational programs abide with the nondiscrimination policies of the University of Nebraska–Lincoln and the United States Department of Agriculture.

NEBLINE

Subscriptions via mail are free to Lancaster County residents. There is an annual \$5 mailing and handling fee to addresses in zip codes other than 683—, 684—, 685—, 68003, 68017 and 68065.

Would You Prefer Digital?

E-newsletter and PDF versions are at lancaster.unl.edu/neblines

Subscribe to Digital or Print Versions

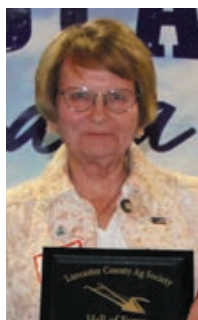
Subscribe/unsubscribe to the print and/or digital versions by going to lancaster.unl.edu/neblines or by calling 402-441-7180.

Copyright ©2024

Ag Society Hall of Fame

The Lancaster County Agricultural Society Hall of Fame Award formally recognizes individuals who have made significant contributions to the advancement or improvement of the Sandhills Global Event Center (SGEC) fairgrounds and/or the Lancaster County Super Fair. The following 2023 recipients were recognized at the SGEC's Blue Jean Gala last fall.

Roma Amundson was elected as a Lancaster County Commissioner in 2012. During her three terms, she has served as a board member and officer on the Lancaster County Fairgrounds Joint Public Agency. She was a driving force in the Board's long-time partnership with the Ag Society, which resulted in significant improvements and growth at the fairgrounds. Roma has volunteered at numerous Super



Fairs, including helping with the Watermelon Feed, Fun at the Farm Kid Zone and presenting Beekeeping Demonstrations.



Jerry and Marty Minchow have both served on the Lancaster County Extension Board. Jerry was a founding member and coach of the Lancaster County Shooting Sports 4-H club. He was also the shooting coach for the Rock Creek Ranchers 4-H club. Marty was a 4-H member and leader in Cuming County. She has judged in 4-H at county fairs, including Lancaster, for 50 years, and she has judged at the State Fair for decades. They are members of the Waverly FFA Alumni Association.



EXTENSION CALENDAR

All events held at the Nebraska Extension in Lancaster County conference rooms, 444 Cherrycreek Road, Suite A, Lincoln, unless otherwise noted.

April

- 27 **4-H Presentation Contest** 8:30 a.m.–12 p.m.
- 30 **4-H Horsemanship Advancement Level Testing, Sandhills Global Event Center**
- 30 **4-H Golf Lessons, Pine Lake Golf & Tennis** 4–5:15 p.m.

May

- 1 **Preference Given to Lancaster County 4-H Council Camp Scholarship Applications Submitted by May 1**
- 2 **Pesticide Applicator NDA "Walk-In" Testing Session** 9 a.m.–2 p.m.
- 6 **4-H/FFA Sheep/Goat Weigh-In Day, Sandhills Global Event Center – Currency Pavilion** 6–7 p.m.
- 7 **4-H Council Meeting** 6 p.m.
- 8 **GROBigRed Virtual Learning Series: Simple Landscape Design, Zoom Webinar** 12–1 p.m.
- 8–15 **4-H Dog Virtual Trivia Contest, Online**
- 9 **4-H Horse Volunteers in Program Service (VIPS) Meeting** 6 p.m.
- 9 **4-H Dog Workshop, Greater Lincoln Obedience Club, 5740 Johanna Rd., Bay 4** . 6–8 p.m.
- 10 **Extension Board Meeting** 8 a.m.
- 14 **4-H Horsemanship Advancement Level Testing, Sandhills Global Event Center**
- 16 **Pesticide Applicator NDA "Walk-In" Testing Session** 9 a.m.–2 p.m.
- 18 **4-H Cat Workshop** 9–11 a.m.
- 18 **Composting Demonstration, Pioneers Park, across from the Nature Center** 10 a.m.
- 20 **Deadline to Register for 4-H Life Challenge Contest**
- 23 **Youth for the Quality Care of Animals Face-to-Face Training for Livestock Animal Exhibitors** 6–7 p.m.
- 27 **Extension Office Closed for Memorial Day Holiday**
- 28 **4-H Horsemanship Advancement Level Testing, Sandhills Global Event Center**
- 30 **4-H Life Challenge Contest** 8:30 a.m.–12 p.m.

EXTENSION NEWS

New Support Staff

Nebraska Extension in Lancaster County recently hired three new staff members as Office Associates who help support Extension's local programs.

Haley Hogue began working in March. Haley assists with administrative duties and supports the Early Childhood and Food, Nutrition & Health programs. Haley graduated from the University of Nebraska–Lincoln with a Bachelor of Science in Agricultural Education with a Leadership emphasis and minor in Horticulture. She worked at the Nebraska State 4-H office during her time on campus and spent the last 3 years working in senior living at Legacy Retirement Communities.

Amber Reinkordt also began working in March. Amber assists at the front desk and with the Horticulture and Urban Agriculture programs. Amber holds a Bachelor of Science degree from the University of Nebraska–Lincoln in Environmental Studies with an emphasis in Natural Resources. She worked at UNL Landscape Services from 2009 until she transferred to this new role with Nebraska Extension.

Caroline White began working in January. She supports the 4-H youth development program and assists with front desk duties. Caroline graduated in December of 2023 from the University of Nebraska–Lincoln with a Bachelor of Arts in Studio Art and an English minor. Before taking this position, she managed a popular Lincoln-based paint-your-own-pottery studio for five years.



(L–R) Amber Reinkordt, Caroline White and Haley Hogue



2024

WEED AWARENESS

The Weed Control Authority is responsible for implementation of the Nebraska Noxious Weed Control Act throughout Lancaster County. The Authority has also provided the inspection and administration of the City of Lincoln's Weed Abatement Program since entering into an interlocal agreement with the city in 1996.

444 Cherrycreek Road, Bldg. B, Lincoln, NE 68528 • 402-441-7817 • lancaster.ne.gov/320/Weed-Control-Authority

UNL Team Using Drones to Detect & Spray Phragmites

Drones have been gaining traction in recent years for use in agriculture and natural resources. In many applications, powerful cameras are attached to drones and then take pictures of agricultural fields or other areas of interest. The operators can then use these images to visualize the health of a field, identify areas that need attention or detect unwanted weeds. These camera drones, which are small and light (usually fitting within a 1-foot cube and 5 pounds or less), are popular for field scouting and for other picture-taking applications.

A newer use of drones has emerged with the introduction of sprayer drones. These drones are typically much larger than their camera-drone counterparts, weigh anywhere from 50–250 pounds and can hold between 2–15 gallons of liquid. They can be used to spray agricultural fields, where they have found a particular popularity in fungicide application. They also are being used to effectively spray noxious weeds such as phragmites. These sprayer drones can be flown manually by a pilot, or autonomously fly a pre-planned flight route under the supervision of a pilot ready to take control if anything goes wrong.

Research Team

The University of Nebraska–Lincoln Agricultural Intelligence Research (AIR) Lab, led by Dr. Yeyin Shi, is using the technology from both camera and sprayer drones for the identification and treatment of *Phragmites australis*. Dr. Shi and her graduate student Kevin Steele work in the department of Biological Systems Engineering to use drones in innovative ways to perform novel research and benefit the environment. Working in collaboration with Brent Meyer from the Lancaster



Preliminary UNL drone prototype

County Weed Authority and Mike Reed from the Douglas County Weed Authority, the UNL team aims to use drones to identify patches of phragmites and spray these noxious weeds.

The control of phragmites has been a priority for local weed control authorities for years, but has not received the necessary attention and innovation from industry. With instances of phragmites drastically increasing in recent years, the UNL team hopes their project will help curb the spread of this invasive species through a combination of cutting-edge technology and clever engineering.

How it Works

The UNL team is building their own customized drone, equipped with sensors, fast computers and a precision spraying system, to be able to both take pictures of an area and spray in the same flight. By including both the sensing and spraying system on the same drone, they hope to streamline the identification and treatment of phragmites.

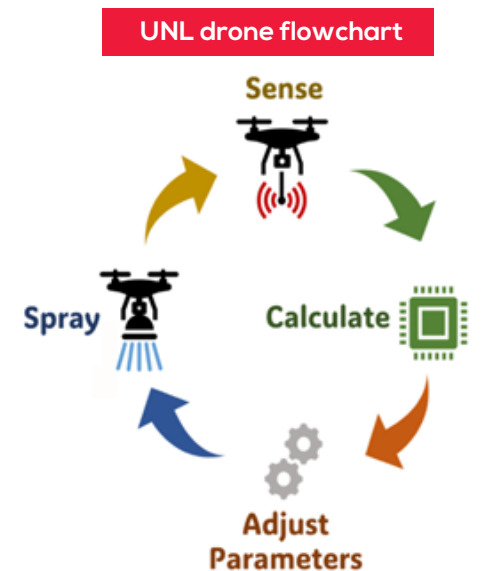
The project involves building a powerful artificial intelligence (AI) model to detect phragmites from pictures taken by a drone. The AI model runs on the mini-computer attached to the drone and will be able to determine if a picture contains a phragmites patch in less than 1 second. The process of building the AI model includes collecting pictures of known phragmites patches to help to train the model to predict if phragmites is present.

The AI technology used by the UNL team will be able to detect phragmites with a high degree of accuracy with relatively small amounts of data.

In addition to the AI phragmites detection, the UNL team is working to better understand how sprayer drones impact the environment. A pressing concern in this area is verifying that the spray from the drone is deposited on the target area. While these concerns have been studied for decades in ground-based and airplane-based spraying, drone-based spraying is new, and many questions linger regarding the best spraying practices. The UNL team includes engineers and weed scientists who perform lab experiments, do field testing and run computer simulations to improve the understanding of how sprayer drones interact with the environment.

Outlook

Upon the project's completion, the UNL team hopes to produce the hardware and software for a prototype drone system



that can detect and spray phragmites. The drone would “sense” by taking a picture of an area, then “calculate” with the AI model if there is a phragmites patch in the area. If there is a phragmites patch in the area, it would “adjust parameters” (change the flight path, speed, height, etc.) and then “spray” the phragmites. The drone would be able to continuously take pictures, determine if there is a phragmites patch, fly to the phragmites and spray it. The team hopes the developed functions can eventually be integrated into commercial drone systems to automate phragmites control as well as help track progress and management efficacy.

This project is still underway and a lot of work remains to be done. The UNL team is currently building the AI model and working with Nebraska Weed Control Authorities to collect data. Additionally, the UNL team looks forward to collaborative partnerships with industry. They hope to produce a prototype drone in the next several years to combat invasive species across Nebraska.

TAKE **2** | Two minutes to **read about two** invasive plants which are working to establish themselves in Lancaster County



Callery Pear (*Pyrus calleryana* Decne.)

Callery pear (which includes the cultivars Bradford, Aristocrat, Autumn Blaze, Chanticleer and Redspire) is an invasive tree species in Lancaster County. This species is native to China and Vietnam and was originally imported in the early 1900's to serve as clean rootstock for common pear (*Pyrus communis*) — which is highly susceptible to fire blight. Callery pear has commonly been used as an ornamental, but it is now on the Nebraska Invasive Plants Watch List and its spread is being monitored.

Description

Callery pear is a medium-sized ornamental deciduous tree in the rose family. The uniform rounded to oval upright form, early spring flowers, glossy green foliage and respectable fall color made it desirable as an ornamental species, leading to the development of multiple cultivars.

Habitat

Callery pear is tolerant of a wide range of growing conditions, including tough, disturbed urban sites, pollution, dry to heavy clay soils, and sun to part shade. This ability to thrive in many locations enhances its ability to spread.

Means of Spread and Distribution

Cultivars are self-incompatible; thus, production of seeds does not result in seedlings unless different cultivars are within approximately one block of



one another — the distance pollinating insects are able to fly. With the release of more cultivars of differing genotypes, and the continued use of Callery pear as rootstock for fruiting pears, viable seeds are produced. Despite the fact there is very little nutritional value, the fruits are relished by birds and small mammals, and rapidly distributed by them over large areas, allowing it to invade open spaces such as pastures, grassland and open woodlands. Callery pears can also spread vegetatively, with suckers or runners forming large thickets.

Impact

In unmanaged areas, it can rapidly spread to form dense thickets, shading out of native species, causing a rapid change in plant and wildlife communities. This tree is a significant threat to native grasslands and grassland wildlife, but also invades forested areas.

Callery pear is one of the few trees in the U.S. that costs more to maintain than it gives back in benefits (i.e. storm water management, carbon sequestration, property value, air quality).

Control

Zero tolerance for Callery pear is recommended. As it is a vigorous resprouter, it is even more difficult to control than the native eastern redcedar. Unless it is completely uprooted, herbicides will be needed. Mowing is not an effective control method due to resprouting. Newly established trees can be sprayed with a foliar herbicide such as triclopyr.



Tree-of-Heaven (*Ailanthus altissima*)

Tree-of-heaven is widespread in Nebraska and is on the Nebraska Invasive Plants Watch List as a species of concern. Also known as Chinese sumac, stinking sumac, stinktree and tree of hell, this tree is native to China. It was brought to Philadelphia in 1784 by an amateur gardener. By 1840, it was commonly available from nurseries.

Description

This rapidly growing tree (3–5 feet in a single growing season) can reach a height of 80 feet, with up to a 6-foot diameter trunk. Leaves are pinnately compound, meaning they have a central stem in which the leaflets are attached on each side. The leaf can range in length from 1–4 feet with 10–41 leaflets with smooth leaf margins, making it one of the largest leaves of all trees. When crushed, the leaves and other plant parts have a rancid smell like cat urine or burnt peanut butter.

Habitat

Tree-of-heaven is extremely tolerant of poor soil and will even grow through cracks in pavement. This tree is not shade tolerant. It will quickly colonize forest edges, fields and roadsides.

Means of Spread and Distribution

Tree-of-heaven spreads by hundreds of thousands of seed per tree and through



Photos: Leslie J. Mehrhoff, Bugwood.org

vegetative sprouting. A cut or injured tree may send up dozens of root suckers and resprouts, creating large clonal colonies.

Ecological Threat

This tree produces chemicals in its roots that prevent the establishment of other plant species nearby. Its fast growth limits habitat for other species. Its root system may be extensive and has been known to cause damage to sewer lines and building foundations.

Tree-of-heaven is also one of the preferred hosts of a newer invasive exotic pest, the spotted lanternfly (*Lycorma delicatula*). This is important because spotted lanternfly devastates agriculture crops such as grapes (wine), hops (beer) and many fruit trees such as apples, apricots and cherries.

Control

As with many invasive plant and insect species, elimination is difficult, expensive and time consuming due to its abundant seed, high germination rate and frequent root sprouts. Herbicide treatments are the most effective. Always read and follow the label directions when making any treatment. While young seedlings could be pulled or dug up, the chance of getting all root fragments is difficult and can lead to re-sprouts.

Look-Alikes

The native trees most likely to be confused with tree-of-heaven are the sumacs, black walnut and hickory. However, the flowers, smooth leaf edges, seeds and smell should give it away.

Lancaster County Weed Control 2023 Review

The Lancaster County Noxious Weed Control Authority serves the citizens of Lancaster County to protect effectively against designated noxious weeds which constitute a present threat to the continued economic and environmental value of lands in Lancaster County.

Our office implements the mandates of the State of Nebraska Noxious Weed Control Act by setting forth management objectives and plans, methods or practices which utilize a variety of techniques for the integrated management of noxious weeds. In establishing a coordinated program for the integrated management of noxious weeds, it is the County's intent to encourage and require all appropriate and available management methods, while promoting those methods which are the most environmentally benign, practical and economically feasible.

Noxious Weed Program

The Weed Control Authority utilizes a three-phase program to assist landowners in reducing the number of noxious-weed-infested acres in the county.

Phase 1: Prevent the development of new noxious and invasive weed infestations.

Phase 2: Provide education and public outreach on noxious and invasive weed control.

Phase 3: Provide ongoing management of State of Nebraska and Lancaster County designated noxious weeds, as well as the City of Lincoln Weed Abatement program.

Nebraska's Noxious Weed Control Act states: It is the duty of each person who owns or controls land to effectively

control noxious weeds on such land.

Noxious Weeds in County Roadsides

Landowners are encouraged to control noxious weeds along property they own. If not controlled by the adjacent owner, Lancaster County Weed Control will control the perennial noxious weeds such as phragmites, sericea lespedeza and leafy spurge in the county roadsides.

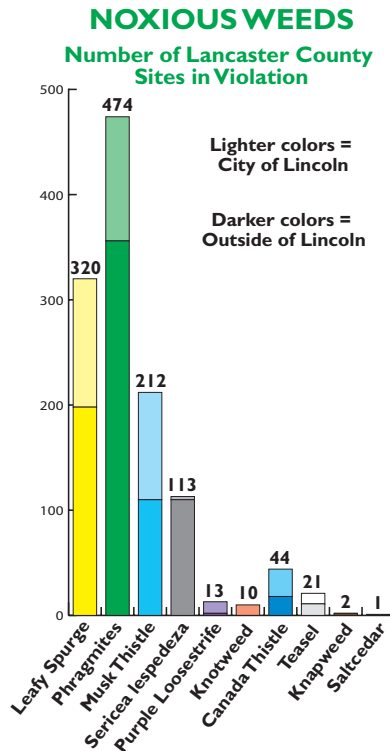
Lancaster County works closely with landowners with specialty crops and offers free-of-charge "NO SPRAY ZONE" signs when an agreement is signed. The agreement requires the landowner to control all the noxious weeds in their adjacent right of way.

City of Lincoln Weed Abatement Program

Lancaster County Weed Control Authority is responsible to carry out the administration of the City of Lincoln's Weed Abatement program since entering an interlocal agreement with the city in 1996.

The City of Lincoln's Weed Abatement Ordinance requires landowners within city limits to maintain the height of weeds and worthless vegetation below six inches. This includes all areas to the center of the street and/or alley that adjoins their property. Our inspector's complete inspections based on pre-selected properties due to their history, request from the public and by observing severe yards while conducting other inspections.

When a property is found to be in violation, the owner of record is notified with a legal notice. If the property remains uncontrolled at



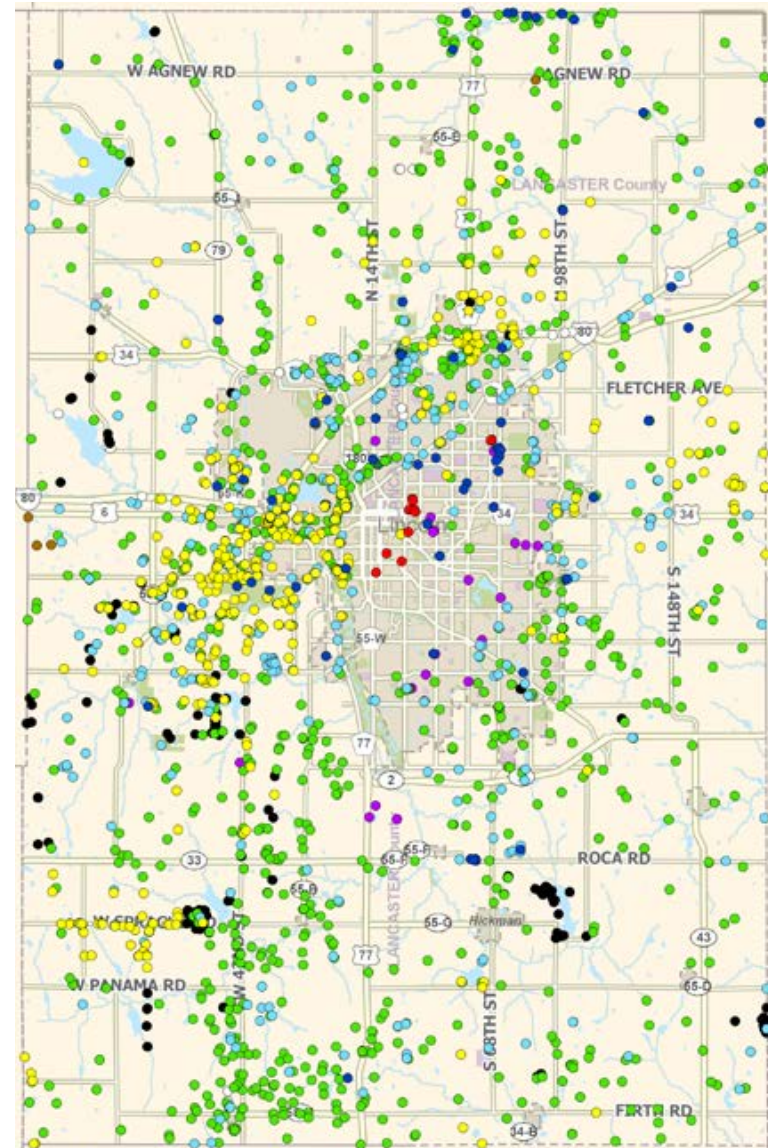
the expiration of the legal notice, the Weed Control Authority will hire a contractor to cut the property. Landowners are responsible to pay the cost of control plus an administrative fee. If the cost of control remains unpaid, a lien is placed against the property until paid.

City of Lincoln Landfills

The Weed Control Authority is responsible for managing noxious weeds at the 48th Street and the Bluff Road landfills. To track the spread of noxious weeds and the effectiveness of the control, the landfills are annually inspected, and GPS mapped prior to treatment.

Lancaster County Abandoned Cemeteries

Mowing and maintenance on seven abandoned cemeteries throughout the county falls under the supervision of the Weed



Control Authority. Cemeteries included are Asplund, the County Poor Farm, Dietz, Evangelical, Highland Precinct, Jordan and Uphoff.

Special recognition goes to the following volunteers:

- Lincoln Tree Service for tree trimming and removal.
- Dave Miller for mowing Jordan.

- Terry Briley for mowing Evangelical.
- Clark Liesveld and Boy Scouts of America Troop 64 for mowing Dietz.
- Troy Henning for mowing Highland Precinct & Uphoff
- Larry England for mowing the Poor Farm.
- David Almerly for mowing Asplund.

The County Commissioners serve as the Lancaster County Weed Control Authority. Currently Brent Meyer serves as the superintendent and supervises a seasonal staff of six weed inspectors with the assistance of Chief Inspector Pat Dugan and Account Clerk Danni McGown.

Nebraska's Noxious Weeds

It is the duty of each person who owns or controls land to effectively control noxious weeds on such land. Noxious weed is a legal term used to denote a destructive or harmful weed for the purpose of regulation.

The Director of Agriculture establishes which plants are noxious. These non-native plants compete aggressively with desirable plants and vegetation.

Failure to control noxious weeds in this state is a serious problem which is detrimental to the production of crops and livestock, and to the welfare of residents of this state. Noxious weeds may also devalue land and reduce tax revenue.



STOP INVASIVE SPECIES
IN YOUR TRACKS.

PlayCleanGo.org

Musk Thistle

Pink to purple flowers

Mature seedhead

Height 1.6–9.8 ft

Canada Thistle

Pink to purple flowers

Height 1–3.9 ft

Plumeless Thistle

Purple flowers

Height 1–4.9 ft

Phragmites

Young seedhead

Mature seedhead

Height 3.2–20 ft

Leafy Spurge

Large yellow leaves (bracts)

Stems/leaves have milky sap

Height .3–2.6 ft

Sericea Lespedeza

White or cream to yellowish-white flowers

Height 1.5–6.5 ft

Japanese & Giant Knotweed

Creamy-white to greenish-white flowers

Height 3–10 ft

Height 8–13 ft

Purple Loosestrife

Purple to magenta flowers

Height 1.3–8 ft

Saltcedar

Pink to white flowers

Height 3.3–20 ft

Spotted & Diffuse Knapweed

Lavender to purple flowers

White/purplish flowers

Height 1–3.9 ft

Lancaster County's Noxious Weeds

White flowers

Height 4–8 ft

Lavender to white flowers

Height 3–6 ft

Good neighbors control noxious weeds — If you have questions or concerns about noxious weeds, please contact your local county noxious weed control authority, Nebraska Weed Control Association (www.neweed.org) or Nebraska Department of Agriculture.