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GROUNDWATER PROTECTION It's Up to Everyone

Becky Schuerman

Extension Associate, Domestic Water/Wastewater Management

If you think about the water cycle, you begin to realize the water we use every day, is in essence, recycled. There's no new water, we are drinking some of the same water the dinosaurs drank!

Keeping our drinking water sources safe begins with each of us. There are many things everyone can do to assist with groundwater protection whether you live in an urban or rural area.



Photo by Rita Shelley

Nebraska is often called "The Groundwater State" and for good reason — we sit atop the largest portion of the High Plains Aquifer, also known as the Ogallala Aquifer than any of the other states that it lies below. With this comes a critical responsibility that everyone can help with: groundwater protection.

Chemical and Medication Use/Storage/Disposal

The first thing everyone can do is always use and store household and outdoor chemicals according to the manufacturer's directions. Over application or improper use of these chemicals can be potentially harmful to you, our groundwater and the environment.

If you need to dispose of them, do so properly and safely. Lincoln/Lancaster County

residents can drop off approved items for free at Lincoln's Hazardous Waste Center. For more information, go to <http://haztogo.com>. These chemicals include, but are not limited to: oil-based paints, solvents, cleaning products, petroleum products, fertilizers, pesticides and herbicides.

Proper disposal of unused/expired medications can also make a positive impact in groundwater protection. Many local pharmacies accept unused/expired medications. For further information, visit <http://nebraskameds.org>. Dumping chemicals or medications down the sink drain, storm drain or flushing down the toilet are not safe means of disposal.

Conservation

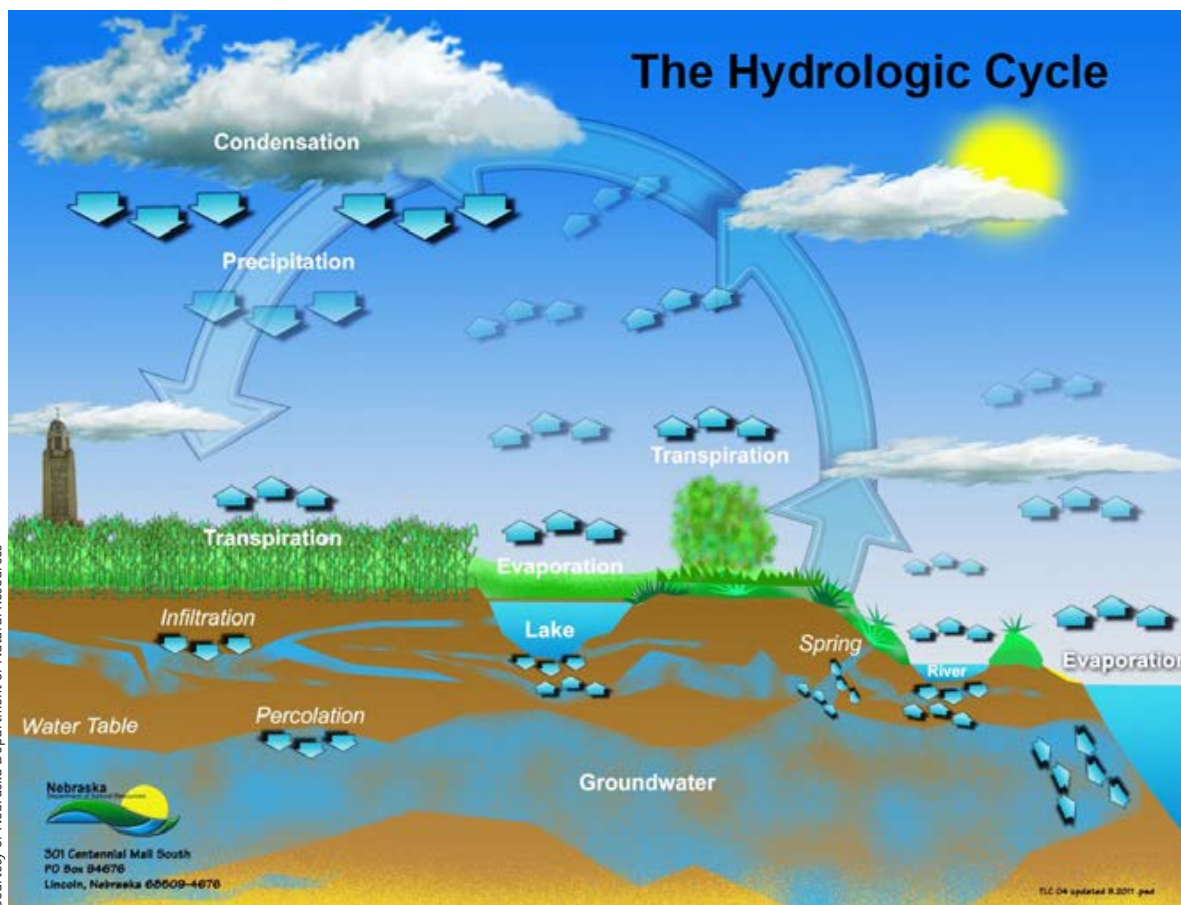
Everyone can help conserve our groundwater resources. Looking at how you and your family use water and implementing ways to conserve is not as hard as one might think. Easy steps in water conservation are:

- Check all faucets, taps and water using appliances both inside and outside your home.
- Fix any leaks or valves that won't shut off completely.
- Install water wise appliances such as low-flow shower heads, toilets, dishwashers, clothes washers and sprinkler heads.
- Mulch plants, water lawns/gardens in the early-mid morning hours, and only water when root zone moisture is needed.
- Choose landscape plants and lawn/turf options that are drought tolerant.

These tips not only help to conserve our groundwater resources, but can equate to a big impact in water usage. Thus, potentially helping to reduce your water bill if you are connected to a public water system or your power bill if you have a private well.

Private Well Ownership

Private well owners have additional responsibilities other than those previously discussed.



Whether you own a domestic, irrigation or livestock well, you need to make sure all possible sources of contamination are kept away from your wellhead. The ground around your well head needs to slope away from it to aid in shedding water and potential contaminants away from your well.

Private wells, unlike public water system wells, are not required to be tested on a regular basis. It is highly recommended that private well owners, particularly owners of domestic wells, have their water tested on an annual basis for bacteria, nitrates and any other known contaminants of local concern. Your local Natural Resource District (NRD), whether it be the Lower Platte South NRD or Nemaha NRD (for Lancaster County residents), is a good place to inquire about the water quality in your area.

If you would like to order a nitrate, Coliform bacteria and/or other known contaminant test kit(s), you can call the Nebraska Public Health Environmental Laboratory at 402-471-3935.

The Laboratory is located at 3701 South 14th St., Lincoln, NE 68502. There is a charge for each of these tests.

Abandoned Wells

If you own an abandoned well, you need to properly decommission it by hiring a Nebraska licensed Water Well Contractor. Abandoned wells are a potential liability and can be a direct conduit for contamination to the aquifer below. Many NRDs throughout Nebraska offer a cost-share program for decommissioning water wells. It is worthwhile to check with your NRD to find out more about their decommissioning cost-share program.

Protecting and conserving our groundwater resources is up to everyone. Small changes can add up to a big impact.

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The Nutritional Power of Pumpkins

Kayla Colgrove, MS, RDN, ACSM-CPT
*Extension Educator,
 Lancaster County*

Many people kick off fall by enjoying a pumpkin spice food item or beverage and many of those contain extra calories, fat and added sugar.

Pumpkin is a great way to add flavor and extra nutrition to recipes. It has many nutritional benefits and is naturally lower in calories and fat free. It is an excellent source of vitamin A which helps support healthy eyesight and immune system functions. Pumpkin is also a good source of vitamin C, which supports a healthy immune system, heals wounds, and keeps teeth, bones and gums healthy.

How to Use Fresh Pumpkin in Recipes

Did you know the variety of pumpkin makes a difference? Recipes turn out the best when you choose sweet, sugar or pie pumpkins instead of jack-o'-lanterns that have stringier pulp. Follow one of these methods when preparing your pumpkin for recipes (Source: Buy Fresh Buy Local — Pumpkins & Squash):

Baked Fresh Pumpkin:

Preheat oven to 350°F. Cut the pumpkin in half and clean out the seeds and strings. Cover a baking sheet with tin foil. Brush melted butter on the cut edges of the pumpkin and place the sides cut side down on the cookie sheet. Cook approximately 1 hour or until pumpkin is soft. Cool. Remove the pumpkin skin and cut into pieces and blend or put through a food processor until the mixture is smooth like canned pumpkin.

Boiled Fresh Pumpkin:

Remove the seeds and strings. Peel and cut the pumpkin into chunks and place them in a large pan. Bring to a light boil. Cook until tender. Cool. As with the baked method, blend or food process the pumpkin until smooth.

Microwaved Fresh

Pumpkin: Remove the seeds and strings. Cube with the rind on and place cubes in a microwave safe bowl and cover loosely with paper towels or plastic wrap. Cook on medium until soft. Check every 5 minutes as microwave times vary. Once cubes are cooled, peel off the rind. Blend or food process until smooth just as in the other methods. You can refrigerate your fresh pumpkin puree for up

to 3 days, or store it in the freezer up to 6 months, enabling you to enjoy "fresh" pumpkins for months to come.

Healthier Pumpkin Recipes

By adding pumpkin to recipes you make, you can control the ingredients, nutrition and know what you are eating. Choose recipes lower in calories, saturated fat and sodium, and higher in whole grains, dietary fiber and vitamins and minerals. You can add pumpkin puree or canned pumpkin to many recipes. Have you tried pumpkin in muffins, oatmeal, smoothies, pancake batter or even chili?

Try making Mini-Pumpkin Spice Oatmeal Muffins at home (see recipe below).

Sources:

- *Produce for Better Health Foundation. Pumpkin.* <https://fruitsandveggies.org/fruits-and-veggies/pumpkin>
- *Centers for Disease Control and Prevention. Micronutrient Facts.* <https://www.cdc.gov/nutrition/micronutrient-malnutrition/micronutrients>
- *Food Fun for Young Children Newsletter. Fall Pumpkin Fun!* <https://food.unl.edu/Family-Fun/Fall%20Pumpkin%20Fun%20with%20pancakes2.pdf>
- *Buy Fresh Buy Local. Pumpkins & Squash.* <https://food.unl.edu/documents/Albrecht%20Buy%20Fresh%20Buy%20Local%20Pumpkins%20&%20Squash.pdf>



RECIPE OF THE MONTH

Kayla Colgrove, MS, RDN, ACSM-CPT, Extension Educator, Lancaster Co.

I'm highlighting this recipe by Cami Wells, Extension Educator in Hall County, because it is a great way to enjoy the pumpkin flavor without extra calories. The recipe also includes quick oats, which is a whole grain. It is important to make half your grains whole grains since whole grains have extra nutrients such as zinc, magnesium, B vitamins and fiber.

MINI-PUMPKIN SPICE OATMEAL MUFFINS

(Makes approximately 36 mini-muffins)

1-1/2 cups all-purpose flour
1 cup quick oats
3/4 cup brown sugar
1 Tablespoon baking powder
1/2 teaspoon baking soda
1/2 teaspoon salt
1-1/2 teaspoons pumpkin pie spice
1 egg, slightly beaten
1 cup pumpkin puree
3/4 cup low-fat milk
1/3 cup oil

TOPPING:

1/4 cup quick oats
1 Tablespoon brown sugar
1 Tablespoon melted margarine or butter
1/8 teaspoon pumpkin pie spice



Cami Wells, Nebraska Extension in Hall County

1. Wash hands with soap and water. Spray mini-muffin tins with cooking spray or use mini-muffin liners.
2. In a medium bowl, combine flour, quick oats, brown sugar, baking powder, baking soda, salt and pumpkin pie spice.
3. Break egg into a small bowl. Wash hands with soap and water after cracking raw egg. Add pumpkin, milk and oil to egg. Mix well.
4. Add liquid ingredients to dry ingredients and stir until just moistened. Fill muffin cups two-thirds full.
5. Mix topping ingredients. Sprinkle topping evenly over muffins. Bake mini-muffins at 400°F for 8–12 minutes or until evenly browned. Bake regular-sized muffins for 15–18 minutes.

Each muffin contains: 69 calories, 2.4 g fat, .4 g saturated fat, 5.3 mg cholesterol, 96 mg sodium, 11 g total carbohydrate, 5 g sugars, .6 g fiber and 1.3 g protein.

Sulfur Deficiency in Corn

Tyler Williams

Extension Educator, Lancaster County

Sulfur deficiency in corn is increasingly becoming a problem for growers. Sulfur (S) availability to crops during the growing season is a combination of soil, crop and environmental interactions. Sulfur is a macro-nutrient along with nitrogen (N), phosphorus (P), potassium (K), magnesium (Mg) and calcium (Ca) and is an essential building block in chlorophyll development and protein synthesis.

Sulfur Availability and Use

Crops will remove S from the soil in both the residue and the grain. Corn grain contains about 0.5 lbs of S for every 10 bushels of grain, and soybeans contain about 1.7 lbs of S per 10 bushels. Thus, if you raise 200 bu/ac corn and 60 bu/ac of soybeans in a rotation, you remove approximately 10 lb/ac of S from the field each year. This removal increases with increasing yields over time.

If sulfur fertilizer is not applied, the S must come from the soil or the atmosphere. Historically, significant amounts of S have been deposited on the soil from the atmosphere, but due to reductions in S emissions from power plants, the amount of S deposited has dropped, especially in the Midwest region.

According to the National Atmospheric Deposition Program, Eastern Nebraska received a total atmospheric deposition of about 2 lbs of S per acre in 2017, with higher amounts (6–8 lb S/ac) along the Missouri River. In 2000,

amounts in Eastern Nebraska were closer to 6–8 lbs S/ac with locations near the power plants along the Missouri River close to 12–16+ lb S/ac.

This combination of increased removal with higher crop yields and decreased atmospheric deposition, increases the overall depletion of soil S.

In-Season Availability

Approximately 90% or more of plant available S comes from mineralization of organic matter. Organic sulfur can be mineralized to sulfate (SO₄), which can be taken up by the crop. Every percent of organic matter in the top 6–8 inches of soil can produce about 100 lbs of S/ac, thus lower organic matter soil s produce less S. This mineralization process can be affected by soil temperature and moisture.

The spring of 2019 was cold and excessively wet, likely enhancing S deficiencies. Cold and excessively wet or dry conditions reduce the microbial activity required for mineralization, thus increasing S deficiency. Also, sulfate-S is a mobile nutrient, which behaves like nitrate, and can be lost through leaching from excess precipitation.

No-till, early planting and heavy residue may increase the occurrence of deficiencies. Corn and soybean residues are relatively low in S content, thus microbes breaking down the residue may use the inorganic S in the soil to aid in the process, temporarily making it unavailable to the crop, known as immobilization. This may cause S deficiencies to be more frequent early in the season with heavy residue. Sulfur availability can vary in the field and is likely lower in sandier soils,



Corn in Lancaster County showing sulfur deficiency.

deficiency, the application of more N may actually make the S deficiency worse. The best way to diagnose is by tissue sampling. Collect above-ground whole plants at V4 or the youngest leaf with fully formed collar after V5. If at tassel or later, collect ear leaf samples. Make sure to collect plants from suspected areas and plants from healthy-appearing areas to have a comparison.

Soil sampling may not adequately predict S deficiencies. Typical soil testing is done in the fall or spring, and SO₄ is soluble and can be leached below the root zone by the time the crop needs it. Also, soil tests are often only taken to depths of 6–8 inches and may actually underestimate what is available to the crop below those depths. Common soil tests may not measure the organic S, which can be a significant portion of crop S uptake after mineralization. Soil tests can still be useful in tracking changes in soil S over time.

Correcting for Sulfur Deficiency

Research sites in Iowa only showed yield response to S applications three times in the approximately 200 trials before 2005, indicating sufficient S amounts, but this began to change in the early 2000s. From 2006–2013, there has been approximately 110 S trials in Iowa, with corn yield response at 47% of sites.

Recommendations from UNL for sulfur are primarily for coarse-textured soils, which are not common in Eastern Nebraska. The recommendation from Iowa State for confirmed S deficiencies in corn, on fine-textured soils, is to apply *see SULFUR DEFICIENCY on back page*

low organic matter areas and spots in the field with higher elevation.

Testing for Sulfur

Visually, sulfur-deficient plants have an overall yellow appearance, similar to N deficiency; however, S is not as mobile in the plant as N and S deficiency symptoms will be seen on upper and lower portions of the plant. Corn leaves are pale yellow with the veins remaining green. The leaf striping may be caused by S deficiency and will appear similar to magnesium, manganese and zinc deficiency. Symptoms will appear inconsistent across the field, possibly due to variations in soil properties, but research has not fully documented the cause of variability or deficiency within fields.

If S deficiency is misdiagnosed as N

Planting Garlic in the Fall Vegetable Garden

Sarah Browning

Extension Educator, Lancaster County

Garlic produces well in Nebraska when planted in October or very-early spring, using individual bulb cloves or the small bulbils found on top-setting types. Fall or very-early spring planting is required because dormant cloves and young garlic plants must be exposed to cold temperatures of 32–50°F. for one to two months to induce bulb formation.

Kinds of Garlic

There are two main types of garlic — soft neck and hardneck. Don't buy garlic bulbs at the grocery store to plant in your garden. These are mainly softneck varieties, adapted to warmer climates, and usually have not been stored at temperatures conducive to good bulb formation if they are grown in the garden.

Hardneck garlic, *Allium sativum* subsp. *ophioscorodon*, produces a woody flower stalk and also is known as “top-setting” garlic because it produces clusters of bulbils after the mostly sterile flowers bloom. Many hardneck types tend to produce large underground bulbils made up of a few large cloves and yield best when planted in the fall.

Softneck garlic, *A. s. subsp. sativum*, does not form a woody stalk but has flexible leaves that can be braided.

Bulbs of softneck types usually have more individual cloves and yield higher than hardneck types. Softneck types also are generally better adapted to a wide range of climates. They can be spring-planted with more success than spring-planted hardneck cultivars. However, garlic connoisseurs say that softneck cultivars lack the subtle flavor differences found in hardneck cultivars.

Garlic Types and Cultivars

Deciding what kind of garlic to plant is a challenge since there are over 100 cultivars available from specialty suppliers!

Rocambole — hardneck. Bulbs off white with purple stripes. Clove skins brown and easy to peel. Stores about 4–5 months. Cultivars include Kilarney Red, German Red, Spanish Roja and Carpathian.

Porcelian — hardneck. Smooth white skins. Cloves more difficult to peel than Rocamboles. Stores about 5–7 months. Cultivars include German Extra Hardy, Georgian Crystal and Music.

Purple stripe — hardneck. Bulbs white with purple streaks. Clove skins brown and more difficult to peel than Rocamboles. Stores 5 to 7 months. Cultivars include Persian Star and Metechi.

Silverskins — softneck. White bulbs and clove skins. Best adapted to warm climates with mild winters. Stores for up to



one year. Cultivars include Silver White, Idaho Silverskin and California Select.

Artichoke — usually a softneck, but may flower following a cold winter. Bulbs white or purple blushed. Named for their layers of overlapping cloves. Difficult to peel. Stores 6–9 months. Cultivars include Inchelium Red, Kettle River Giant and Early Red Italian.

Garden Preparation

Garlic grows best in well-drained, friable loam soils that are fertile and high in organic matter. If your soil is high in clay, add organic matter to break up clay particles for better drainage. Organic matter also will help a sandy soil hold more water. Like onions, garlic needs a steady and fairly high level of nutrients in the soil while actively growing, but they have shallow, coarse roots that are not as efficient at nutrient uptake as other crops.

When preparing the soil for planting, apply 3–4 pounds of 10-10-10 fertilizer per 100 square feet (or follow soil test recommendations) and spread one to three inches of organic matter such as chopped leaves, dry grass clippings or compost over the

soil surface. Use a spading fork to mix in the organic matter. A rototiller also can be used to prepare the soil.

When incorporating organic matter that must be decayed, such as dry leaves and grass clippings, it is best to do it a few weeks before planting so soil microbes will have a chance to start breaking these materials down.

Planting

Just before planting, separate bulbs into individual cloves and sort by size. Do not divide the bulbs more than a few days before planting because early separation results in decreased yields. Reserve the largest cloves for planting and use the smaller cloves for cooking.

For best yields, garlic should be planted in early- to mid-October. Planting before mid-September is not recommended. Garlic cloves should begin growing and then go dormant when cold weather arrives.

For single-plant rows,

plant the cloves 3–5 inches apart in an upright position (pointed end up) to ensure good emergence and straight necks. Cover cloves to a depth of about 2–3 inches. Allow 12–24 inches between rows.

Garlic also lends itself well to wide-row planting. In this planting system, space cloves five inches apart in all directions in foot-wide rows or raised beds. This requires considerably less garden space for the same yield, but weeding must be done by hand.

Water thoroughly after planting to stimulate growth. The soil must be kept evenly moist during active growth. Garlic is quite drought-sensitive, so a weekly application of one inch of water will increase yields if rainfall is lacking. Dry soil will result in irregularly shaped bulbs.

A light application of mulch (1–2 inches) after the ground freezes will help prevent frost heaving throughout the winter.

Fall-planted garlic is ready to harvest from late June to mid-July.

Composting Demonstrations

For information on creating a compost pile, attend one of this month's composting programs presented by Nebraska Extension and the City of Lincoln Recycling office.

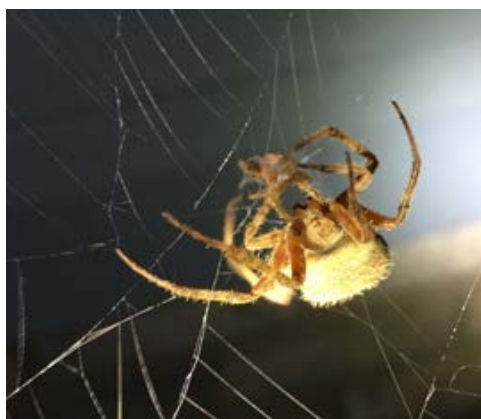
- Saturday, Oct. 12, 10–10:30 a.m., Sheridan Elementary School's outdoor classroom, 3100 Plymouth Ave.
- Saturday, Oct. 12, 10 a.m., at Pioneer's Park Nature Center backyard composting demonstration area across the street from the Nature Center (look for the Extension banner).

I Spy a Spider: Common Spiders Around the Home

Jody Green, PhD
Extension Educator

This article focuses on three spiders often seen this time of year. The spiders mentioned in this article are not aggressive or harmful to humans and pets. On occasion, spiders may be found indoors, but generally, they remain outdoors where prey is plentiful. Spiders are nocturnal predators that readily consume flies, crickets, ants, silverfish, moths and beetles. Because of their ability to remove a great number of pests, they are considered beneficial in the landscape.

Orb Weaver Spider



Photos by Jody Green

Spotted orb weaver with its prey.

Orb weavers (family: Araneidae) are named so because of their web-spinning behavior. They spin the classic, vertically flat, circular web that people commonly associate with spiders. Orb weavers may vary in size and shape. Their sizes range from 1/4-inch to over 1-inch long (total body length, not including the legs). They are known for having a large ball-shaped abdomen, small eyes and hanging out in the center of the orb web. They are slow-moving, passive hunters that wait for flying insects to get caught in their sticky webs.

Webs may be anchored to a building, tree branches, tall grass or other types of vegetation. Some orb weavers consume

their web each morning and then build a new one at night. Orb weavers get noticed during late summer and fall when they are at their largest size. Female orb weavers generally remain in a particular spot with the goal of leaving an egg sac filled with hundreds of eggs before dying at first frost.

Grass Spider/ Funnel Weaver



Grass spider on its sheet web in grass.

Grass spiders (family: Agelenidae) are also known as funnel weavers because the web they construct is a horizontal sheet with a small funnel-like tube off to the side or center. They are brown spiders with two thick, dark, longitudinal stripes through the cephalothorax and tapered abdomens with long, prominent spinnerets. Grass spiders can be 1/2–3/4-inch long. They are not considered large, but they are very quick.

The funnel is a protected place to hide. When an insect falls or lands on the non-sticky sheet web, the spider rushes out to take it back into the funnel. The webs, which become visible when covered in dew or debris, are constructed in bushes, grass, flowerbeds and wood piles around windows, light fixtures and corners around the house. A large number of grass spiders can live in a small area, but each web has only one female.

Wolf Spider



Tiger wolf spider with spiderlings on her back.

Wolf spiders (family: Lycosidae) are the largest spiders in Nebraska with their total body size ranging between 1/4-inch to 1-1/4-inches long. Rabid wolf spiders resemble grass spiders due to their smaller size, but others such as Carolina or tiger wolf spiders are large-bodied, robust spiders, with striped and spiny legs. All wolf spiders are solitary, active hunters with superb camouflage and excellent vision. Their eight eyes, which glow at night when a light shines on them, are arranged so they can see all around them.

Wolf spiders hunt on the ground and do build webs, though some may hide in burrows. They can be found under stones, landscape timbers, firewood, leaves and other debris. Although large and sometimes frightening, female wolf spiders are known to provide exceptional parental care since they can be observed carrying round, egg sacs on their spinnerets and

then after the spiderlings hatch, carrying them on the top of their abdomens for several weeks.

Control Methods

Management for spiders consist of minimizing food, eliminating shelter and harborage and excluding them from entering into buildings.

- Minimize prey by turning off exterior lights at night, reducing leaf litter, sanitation of landscaping, cleaning gutters and downspouts.
- Practice exclusion techniques by sealing cracks, and installing weather stripping under doors and around windows.
- Inspect items like plants, firewood and moving boxes brought into the home.
- Vacuum or sweep windows, corners of rooms, storage areas, basement and garages.
- Reduce harborage areas by reducing clutter, using air-tight storage containers, and keep boxes off the floor and away from wall.
- Remove unsightly webs from around the building and ornamental plants.
- Insecticides are not the most effective way to keep spiders out, as spiders can avoid residues if not sprayed directly. Sticky glue boards are a non-toxic way to remove spiders with proper placement (indoors adjacent to walls, close to possible entry points).
- Remove individual spiders using a jar and piece of thick paper.

Spider Bites Are Rare; for Defense

Spiders are not poisonous; they are venomous*. The purpose of spider venom is for the spider to subdue and feed on prey, which are usually insects and other small invertebrates. Though the thought or sight of a spider is enough to elicit fear and anxiety, spider bites are rare and occur when a spider is accidentally pressed against a person's body and/or defending itself from harm.

*The term venomous is applied to organisms that bite or sting to inject toxins (i.e. snakes, bees and wasps), whereas the term poisonous applies to the negative affect the toxins have when an organism is eaten, licked or touched (i.e. poison ivy or poison dart frogs).

Invasive Species: American Bullfrog

Soni Cochran

Extension Associate, Lancaster County

Statewide, there are 11 different types of frogs and toads in Nebraska. All of them are native species, except one: the American bullfrog (*Lithobates catesbeianus*). American bullfrogs are an invasive species and they are causing problems. These invasive frogs are no different than other invasive species (think Japanese beetles or zebra mussels). It is important to decrease their numbers, while increasing the number of frogs and toads native to Nebraska. The American bullfrog is currently the only frog species listed as invasive in Nebraska.

About Bullfrogs

The bullfrog was originally brought to far southeastern Nebraska in the 1800s by French fur traders as food stock. They became established statewide and throughout the western United States as a result of fish stocking and farms that raise frogs.

American bullfrogs are found in reservoirs, ponds of all sizes, cattle tanks, bogs, and areas where rivers and streams are sluggish. Although bullfrogs are the largest frogs in Nebraska (7–8 inches long), they have the smallest home range. If you have a pond, they will stay near it most of the time.



Konnie Robertson, Nebraska Extension in Lancaster County

The frogs breed late April to June. One female bullfrog can produce up to 20,000 eggs. The eggs float on the surface of the water in a cluster. Tadpoles are large and can be over 6-inches long. It is not uncommon for young bullfrogs to move to nearby ponds in order to escape cannibalistic adults. These frogs hibernate in winter by burying itself in the mud and emerging in spring.

Bullfrogs will eat anything they can put in their mouths. This includes birds, fish, crustaceans, bats, snakes, turtles, small mammals and other frogs. In areas where bullfrogs have been introduced, the frogs are blamed on the decline of native frogs, snakes and amphibians. Bullfrogs will also eat other bullfrogs. Bullfrogs have their own predators including birds like herons, egrets and belted kingfishers. Raccoons, mink, otter (yes, we have otters in Nebraska), snakes and large fish will eat

bullfrogs. Crawdads will eat bullfrog eggs and sometimes tadpoles. People also enjoy eating bullfrogs.

Bullfrogs as Food

To help keep down their populations, consider trying American bullfrogs as a food source. American bullfrogs are a game species in Nebraska and many people enjoy hunting them. The season for hunting bullfrogs runs from August 15 through October 31. You still have time to get out and try your hand at hunting bullfrogs. Bullfrog hunters must have a current, valid Nebraska fishing license in order to take or attempt to take them.

There are limits on the length for any bullfrog that is captured. There are also limits to how many legal-sized bullfrogs you can have in your possession. Capture of bullfrogs must be by hand, hand net, or hook and line. Giggling (using a multi-pronged spear), spearing or shooting with a firearm or bow is not allowed. If you hunt frogs, Nebraska law allows for the frogs to be transported alive or gutted, but the entire body of the frog must be left intact during transport. For more information on regulations to harvest American bullfrogs in Nebraska, contact Nebraska Game and Parks, 402-471-0641 or visit <http://outdoornebraska.gov>.

Although you can eat many parts of a bullfrog, most of the meat is on the legs and loins. Do frog legs taste like chicken?

Some people describe the meat as a cross between chicken and fish. Others say the legs taste like chicken with a texture similar to chicken wings. I had bullfrog legs this summer and they tasted more like fish than chicken to me. The meat was very lean and you have to be very careful not to overcook it.

Other Ways to Reduce Bullfrog Populations

If you don't want to eat bullfrogs and you have a backyard pond, reduce the number of fish in your pond or remove all fish. Fish do not like to eat bullfrog eggs or the tadpoles because they are distasteful. Fish will eat plenty of our native frog and toad tadpoles. Without fish in the pond, native frogs and toads have a better chance of making it to adulthood. You can also remove bullfrog egg clusters and adult frogs, but make sure you know how to identify bullfrogs since native frogs may look similar.

Sources:

- <http://wildlife.unl.edu>
- Nebraska Game and Parks Commission

FOR MORE INFORMATION

University of Nebraska–Lincoln's identification guide to snakes, turtles, frogs, lizards and salamanders is online at <https://herpneb.unl.edu>.

Plant Spring Bulbs for Pollinators

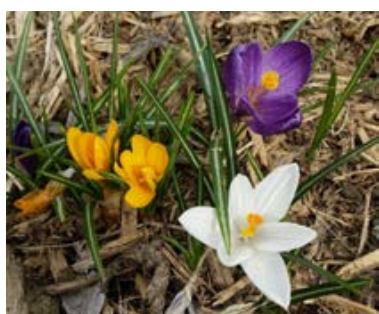
Mary Jane Frogge
Extension Associate,
Lancaster County

Spring blooming plants are very important to early pollinators. It can be hard to find and add these plants to a Nebraska pollinator habitat. Spring flowering bulbs can help fill this early season void. Plant bulbs this fall and next year you will have early spring flowers for bees and other pollinators.

The early spring period after the temperatures have started to warm, but before dandelions have started blooming, is a critical time for bees. Here are spring bulbs to consider adding to your pollinator habitat.

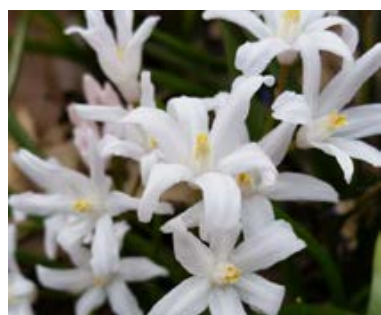


Snowdrops (*Galanthus* spp.) are white, nodding flowers that will multiply with time. They are the first to bloom, some as early as late January. On a sunny day, with temperatures above 40 degrees F, you can find honeybees visiting snowdrops. Plant in a sunny, south facing location for early blooms.



Crocus (*Crocus* spp.) are the next to bloom and bees love them. Plant crocuses in drifts to provide loads of pollen and

nectar. They generally prefer a sunny spot and are great naturalized in lawns.



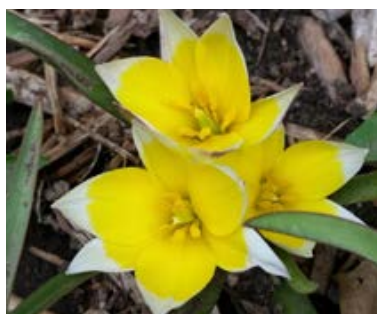
Glory-of-the-snow (*Chionodoxa* spp.) is a wonderful sun-loving bulb. Floriferous and very hardy, *Chionodoxas* have pink, blue and white flowers. They grow to eight inches.



Siberian squill (*Scilla siberica*) is a beautiful bulb for sunny areas, with deep-blue flowers and reaches 6-inches high. This exceptionally hardy plant multiples and creates an impressive naturalized area.



Striped squill (*Puschkinia scilloides*) has flowers that are white with blue stripes. In April of this year, a red admiral butterfly visited my small patch of flowers.



Species tulips (*Tulipa* spp.) are great for pollinators. Plus bulbs come back year after year. Plant in a sunny, very well-drained place.



Grape hyacinth (*Muscari* spp.) are scented and a favorite bulb for many gardeners. The purple and white flowers are also a favorite for bees. Plant bulbs in a sunny area.



Checkered lily (*Fritillaria meleagris*), also called Snake's head fritillary, have unusual checkerboard patterns on their purple blooms. Plant bulbs in part-shade areas that benefits from reliable moisture.

Many hybridized bulbs do not benefit pollinators, but heirloom or species varieties will be appreciated. Plant bulbs in October, up until the ground freezes in late November. Then look for amazing blooms and visiting pollinators next spring.

Photos by Mary Jane Frogge, Nebraska Extension in Lancaster County



GARDEN GUIDE

THINGS TO DO THIS MONTH

Mary Jane Frogge, Extension Associate,
Lancaster County

October is a good time to control broadleaf weeds in the lawn, such as white clover, dandelion and ground ivy.

Pick bagworms from evergreen shrubs. This will eliminate the spring hatch from over wintered eggs.

Fall is an excellent time for taking soil samples in your lawn and garden. Soil tests will measure the pH of the soil, organic matter content and the levels of some of the major elements required for plant growth, such as phosphorus and potassium.

Cure pumpkins, butternut and hubbard squash at temperatures between 70–80°F for two or three weeks immediately after harvest. After curing, store them in a dry place at 55–60°F.

Use dried herbs to make fragrant wreaths and dried flower arrangements.

Fall watering is important for trees and shrubs. Continue to water until the soil freezes.

Dig and bring in cannas, dahlias and gladiolus. Dry, clean and store in a cool location free from frost.

Remove leaves from lawn to reduce lawn problems. Compost or shred and use them for mulch.

Cut down stems and foliage of herbaceous perennials after two or three hard frosts and when leaves begin to brown.

After several hard frosts, add mulch to your perennial flower garden. A 1-inch layer of straw or chopped leaves will help conserve soil moisture and protect the root system.

When deciding on new trees or shrubs to plant around your home, remember to select varieties that will fit the location when they are at their mature height. This will greatly reduce pruning and other maintenance in the future.

Make a note of any particularly productive or unsatisfactory varieties of vegetables that you planted this year. Such information can be very useful when planning next year's garden.

Become a Master Gardener

Interested in gardening and like helping others? Consider becoming a Nebraska Extension in Lancaster County Master Gardener. The 2020 application and details about the program are located at <https://lancaster.unl.edu/hort/othrlink.shtml>



Master Gardeners presenting "Do the Rot Thing" session at Earth Wellness Festival

Chatting With Babies Helps Brain Development

Leanne Manning
Extension Educator, Saline County

Do you feel uneasy about talking with a baby because you fear they can't understand what you're saying? Fear not, as brain research shows us that talking with infants is important in helping their brains develop, and in learning about language and communication, all before they can really understand the meaning of the words being said.

The more adults speak with infants, the more neural connections, or synapses, are formed. These connections need to be strengthened by repeated exposure to listening to language or else the brain will prune away the unused connections. "Use it or lose it" is the phrase to remember. Here are some ideas for making the most of time spent chatting with an infant:

- Talk about the baby's actions as they move. "Oh, I see you are crawling right along. Soon you will reach me!"
- Verbalize feelings. Put their feelings into words to help them learn to label what



Alyssa Hanlovic, Nebraska Extension in Lancaster County

they are feeling and later when they begin to speak to use words to describe their emotions. "Something has made you angry because you are all red in the face and crying." "You look so happy with that big smile on your face. You really like your stuffed toy don't you?"

- Provide guidance to help babies achieve something. "I can see you want that toy by your blanket. You can reach out your arm and grab it."
- Build positive relationships with the baby. The best way to do this is to use

"serve-and-return interactions" with the child. When an infant cries, babbles or coos, you can respond with an action or words that let them know they have been heard. For example when a baby says, "Baa!" You can repeat that sound "Baa!" This simple serve-and-return interaction helps build the child's brain and puts in place a strong base for future learning.

Some other tips for building on serve-and-return interactions are to:

- Notice what the child is looking at.
- Notice facial expressions.
- Offer comfort and hugs when needed.
- Take turns talking, being sure to wait for the child to respond.
- Practice noticing when the child is ready to move on or end the activity.

When you take the time to converse with infants, speaking to them, then stopping to listen to them, and then speaking again, this is demonstrating how communication works. It also helps parents and providers build strong attachments with infants, something which is crucial for all infants to survive and thrive.

Infants who have at least one strong, secure attachment with a caring adult, will be more successful at building and learning skills that will help them throughout their lives such as self-regulation and academic achievement.

By taking small moments of time throughout the day to chat with your baby, you are building your child's brain and setting them up for a lifetime of learning and acquiring skills that will help them deal with life's trials and triumphs.

Sources:

- <http://extension.org>
- <http://developingchild.harvard.edu>

FOR MORE INFORMATION

Nebraska Extension has the following NebGuides at <http://extensionpubs.unl.edu>:

- Promoting Young Children's Early Language and Prereading Skills with Dialogic Reading (G2317)
- The Power of Family Literacy (G1985)
- Ages and Stages: Infant (0–12 Months) (G2103)
- Relationships: The Heart of Language and Literacy (G1987)



HEART OF 4-H VOLUNTEER AWARD

Kelsey Ebke

Lancaster County 4-H is proud to announce Kelsey Ebke of Lincoln as winner of the October "Heart of 4-H Award" in recognition of outstanding volunteer service.

Kelsey has volunteered with 4-H in Lancaster County for four years and before then, in Buffalo County for eight years. In Lancaster County, she started the Tails N' Trails 4-H horse club which gets together for riding meetings, horse shows, community service projects and fundraising. A certified 4-H Horse Judge, Kelsey conducts showmanship, reining and other clinics in Lancaster County and across the state.

"I like being a 4-H volunteer because it gives me a chance to share my passion of showing horses with youth," Kelsey says. "I want to show the kids that the skills they learn in 4-H and showing go way beyond the show pen. I enjoy seeing the friendships gained and the growth that my 4-H'ers make each year. My favorite experience was coaching a youth to the state championship in 4-H horse judging. It has been so rewarding working with young students and watching them grow up into leaders."

Lancaster County 4-H thanks Kelsey for donating her time and talents. People like her are indeed the heart of 4-H!



4-H Golf Tournament Fundraiser, Sept. 29

A 4-H Council Golf Tournament Fundraiser will be held Sunday, Sept. 29 at the Woodland Hills Golf Course, 6000 Woodland Hills Drive, Eagle with a 1 p.m. shotgun start. This tournament is a four-person scramble and costs \$75 per golfer or \$300 per team. It includes:

- 18 holes, cart and range balls
- Snacks and one meal
- Random flight prizes of \$150 each
- Beverage cart available
- Raffle prizes

To reserve your team of four, call Woodland Hills at 402-475-4653.

For hole, other sponsorships or prize donations, contact Mitch Sump at 402-432-1031 or mitchsump1996@gmail.com or Jerry Morris at 402-261-9861 or packmn69@yahoo.com. Tournament sponsor is The Duffers Golf League.

4-H Council Alumni Scholarship

Lancaster County 4-H Council sponsors a \$500 4-H alumni scholarship. Must be a Lancaster County 4-H alumni at least one year post-high school and has continued involvement in 4-H program as a leader or volunteer. Application form is available at <http://go.unl.edu/4has> and at the Extension office. Deadline is Sept. 30.

Horse Awards Night, Oct. 3

The annual Lancaster County 4-H Horse Awards Night will be Thursday, Oct. 3, 6:30 p.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. The Horse VIPs Committee will provide snacks. Awards presentation includes Incentive Awards, Horsemanship Levels, All-Around Awards, Herdsmanship, Top Judging buckles and ribbons, as well as a few surprise awards! Come help celebrate the outstanding accomplishments of the 2019 Lancaster County 4-H equestrians!

4-H Leader Update, Oct. 24

All 4-H leaders and volunteers helping with clubs and independent members are encouraged to attend the Fall 4-H Leader Update on Thursday, Oct. 24 at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. Attend either the 9 a.m. or 6:30 p.m. session. Training will focus on 4-H club organization, static exhibits, leadership, opportunities for your 4-H members and more. This is a great opportunity to connect with other parents and leaders. You MUST preregister by Tuesday, Oct. 22 by calling 402-441-7180 or emailing kristin.geisert@unl.edu.

4-H Council Seeks New Members

Serving on Lancaster County 4-H Council is a great opportunity to support 4-H, help provide leadership and work with a great group of people! Lancaster County 4-H Council is composed of youth (9th grade or higher) and adults working together in the interest of promoting activities of Lancaster County 4-H. Meetings are held the first Tuesday of each month at 6 p.m. at the Lancaster Extension Education Center. Terms are three years for adults and two years for youth. Each may serve two terms. If interested, please complete the "Lancaster County 4-H Council Application for New Members" available online at <http://lancaster.unl.edu/4h/council.shtml> and at the Extension office.

4-H Achievement Application Replaces Career Portfolio

This year, the Nebraska 4-H Achievement Application replaces Nebraska 4-H Career Portfolios. The Achievement Application has two versions: junior for ages 8-14 (county only) and senior for ages 15-18 (county and state).

Nebraska 4-H utilizes the senior application to select delegates for National 4-H Conference (info at <https://4h.unl.edu/conference>) and 4-H Congress (info at <https://4h.unl.edu/congress>). The Nebraska 4-H Foundation utilizes the senior application for awarding scholarships (info at <http://ne4hfoundation.org/recognition>).

4-H members record their significant accomplishments in four areas; 4-H Experiences, Leadership Experiences, Community Involvement/Service Learning Experiences and Career Spark. For more information, go to <https://4h.unl.edu/annual-achievement-application>.

Lancaster County 4-H'ers who complete an Achievement Application and submit it to heather.odoski@unl.edu by Dec. 31, 2019 will be recognized at Lancaster County 4-H Achievement Celebration on Tuesday, Feb. 11, 2020. State-level applications must be emailed to 4HAchieves@unl.edu by Jan. 15.

Many 4-H Awards Due Dec. 31

Many Lancaster County 4-H award forms and college scholarship applications are due Dec. 31. Recipients will be announced at Lancaster County 4-H Achievement Celebration on Tuesday, Feb. 11, 2020. Forms are available at <http://go.unl.edu/4has> and the Extension office.

This year, families and club leaders are encouraged to submit photos related to award application accomplishments to kpulec3@unl.edu by Dec. 31. These photos may be used in the Year in Review video and multimedia presentation at Achievement Celebration.

4-H Specialty Clubs Invite New Members

Several Lancaster County specialty 4-H clubs are looking for new 4-H members. For more information about these clubs, call the Extension office at 402-441-7180 or go to <http://lancaster.unl.edu/4h>.

4-H TEEN COUNCIL

Youth in 7th-12th grade — want to have so much fun making new friends, doing community service projects and other activities that you won't realize you are learning important leadership skills? Meetings are held the second Sunday of each month, September through April, at 3 p.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln.

HORTICULTURE CLUB

A new Horticulture 4-H Club is starting this fall. Open to all youth ages 8-18. Meetings will be held at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln.

LINCOLN SHOOTING STARS

Come check out shooting sports with the Lincoln Shooting Stars 4-H Club. Club meetings are Wednesday evenings 6:30-8:30 p.m. at the Nebraska Game & Parks Outdoor Education Center, 4703 N. 44th St., Lincoln. Open to all youth ages 8-18. Clover Kids ages 5-7 are welcome, but can't shoot.

4 ON THE FLOOR DOG CLUB

The 4 On The Floor dog 4-H club for youth ages 9-18 will start its second year on Thursday, Jan. 9, 2020 at the Lancaster Event Center — 4-H office located by Pavilion 3. Meetings will begin at 6:30 p.m. and last about an hour, generally held every Thursday. Summer schedule (after May) to be determined. The club will focus on obedience through May. Through the summer months, obedience will

be reinforced and reviewed with the addition of showmanship. Youth should be able to maintain general control of their dog and their dog should not show aggressive behaviors before joining this club.

CAT CLUB

Nebraska 4-H's online Cat Club, open to all youth regardless of age or enrollment status, will be self-paced this year. Youth will now have access to monthly lessons and activities they can complete on their own time.

PET PALS

Want to learn more about your pet? Or get acquainted with new ones? Join the Pet Pals 4-H club for youth ages 8-18 and their small animals! Hamsters, gerbils, guinea pigs, mice, snakes, turtles, fish, reptiles, amphibians, caged birds and any animal small enough to put in your pocket is invited.

RABBITS R US & SOUTH PRAIRIE RABBIT CLUBS

Two Lancaster County 4-H clubs open to all youth ages 8-18 focus on rabbits, as well as a variety of other projects. Rabbits R Us 4-H club usually meets monthly. South Prairie 4-H club's meetings are to be arranged.

STAR CITY LLAMA & ALPACA

The Star City Llama and Alpaca 4-H club focuses on the care and maintenance of llamas and alpacas. In order to join this club, new members must supply their own animals. Open to all youth ages 5-18.

PICK-A-PIG

The Pick-A-Pig 4-H club is open to all city and rural youth ages 8-18. The club reorganizes in late winter with a strict deadline to join by March 15.



Paper Basket Workshop, Nov. 9

4-H youth ages 8 and up are invited to a "Design My Place" workshop to engineer and construct a woven paper basket using recycled newspapers and wire on Saturday, Nov. 9 from 9 a.m.-12 noon at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. No cost to attend.

Learn paper weaving techniques to make a home décor basket. Adults are encouraged to attend to help, especially if their child is 8 or 9 years old. Register by Oct. 27 by calling 402-441-7180. Bring a needle nose wire cutter for cutting wire. All other supplies will be provided.

Super Fair 4-H Cat Show Superintendent Needed!

The Lancaster County 4-H program is seeking a Superintendent for the 2020 Cat show! Responsibilities include managing show registration and check-in and assisting with ribbon and award distribution. Are you or someone you know passionate about cats and looking to get involved with the Super Fair? Consider co-superintending the cat show!

To learn more, please contact Morgan Battes at mbattes@unl.edu or 402-441-7180.

State Fair 4-H Top Results

Congratulations to the Lancaster County 4-H’ers who showcased their projects at the 2019 Nebraska State Fair! Here are the Lancaster County 4-H youth winners of purple ribbons, special awards and Rainbow Ribbon Recognition. Complete results are online at www.nebraska4hresults.com



Ellie Babcock	Fashion Show - Beyond The Needle - Wearable Technology Garment Quilt Quest - Barn Quilt Created Less than 4x4
Noah Babcock	Knitting - Level 2 Knitted Clothing
Samuel Babcock	Electricity - Electronic Project
Clare Bauman	Fashion Show - Constructed STEAM Clothing 2 Garment Heritage - Level II: Advanced - 4-H Member Scrapbook STEAM Clothing: Beyond The Needle - Embellished Garment w/Original Design STEAM Clothing 2 - Simply Sewing - Upcycled Clothing Accessory Crochet - Level 2 Crochet Home Environment Item Human Development - Language and Literacy Development Shopping in Style - Best Buy for Your Buck Ages 10-13
Emily Bauman	STEAM Clothing: Beyond The Needle - Embellished Garment w/Original Design
Jacob Bauman	STEAM Clothing: Beyond The Needle - Embellished Garment w/Original Design STEAM Clothing 2 - Simply Sewing – Top
Toby Becker	Cooking 201 - Healthy Baked Product
Sawyer Benne	STEAM Clothing 2 - Simply Sewing – Dress
Lilian Bogle	Photography Unit II - Action Display or Print
Samuel Bogle	Meat Goat: Breeding Meat Goat - Commercial Yearling Does...
Holly Bowen	Human Development - Creative Arts
Reagan Breuer	Forestry - Cross Section Forestry - Parts of a Tree Cooking 401 – Candy
Ashley Brown	Sheep: Breeding Sheep - Commercial Meat Breed Ewe Lambs
Auren Burkey	Fashion Show - Constructed STEAM Clothing 3 Garment
Kali Burnham	STEAM Clothing: Beyond The Needle - Embellished Garment w/Original Design Safety - First Aid Kit
Isabel Buss	STEAM Clothing: Beyond The Needle - Beginning Fashion Accessory STEAM Clothing 2 - Simply Sewing - Upcycled Garment
Elise Chadwick	Design Decision - Design Board for a room
Cole Cooper	Beef: Market Beef - Crossbred Steers Sheep: Market Sheep - Hampshire Market Lambs Sheep: Market Sheep - Crossbred Market Lambs Sheep: Market Sheep - Crossbred Market Lambs Dog: Dog Obedience - Beginning Novice Division A Dog: Dog Agility, Level 2 Dog: Dog Showmanship - Senior
Bella Croghan	Meat Goat: Breeding Meat Goat - Commercial Doe Kids...
Emmi Dearthmont	Meat Goat: Market Meat Goat - Market Goats Meat Goat: Market Meat Goat - Market Goats Meat Goat: General Classes - Senior Meat Goat Showmanship
Sarah Dilley	Cooking 401 - Double Crust Fruit Pie Geospatial - GPS Notebook
Andrew Dilley	Entomology - Reports or Journals Food Preservation - 1 Jar Jelled Exhibit - Unit 3 Leadership and Citizenship - Care Package Display
Sydney Docter	Rabbit: Breeding Rabbits - Mini Lop
Andrew Donlan	Rabbit: Breeding Rabbits - Mini Lop
John Donlan	Design Decision - Accessory - Original Floral Design
Josh Dowd	Floriculture - Any Other Perennial
Olivia Epp	Floriculture - Hydrangea
Andrew Frain	Horticulture - Any Other Herb Cooking 201 - Baking with Whole Grain Food Preservation - 1 Jar Tomato Exhibit - Unit 3 General Foods - Food Science Explorations Robotics - Robotics Video
Laurel Frogge	Food Preservation - 1 Jar Fruit Exhibit - Unit 3
Ethan Gabel	Design Decision - Furniture - Wood Clear Finish Beef: Angus Breeding Beef - Angus Yearling Heifers Calved March/April 2018 Beef: Simmental Breeding Beef - Simmental Yearling Heifers
Morgan Gabel	Design Decision - Accessory - Original Made from Wood
Nathaniel Gabel	Design Decision - Accessory - Recycled/Upcycled Item for the home
Kyson Gana	STEAM Clothing 2 - Simply Sewing - Lined or Unlined Jacket STEAM Clothing 2 - Simply Sewing - Romper or Jumpsuit Floriculture - Dianthus Floriculture - Marigold Horticulture - Parsley
Kylie Hansen	Design Decision - Accessory - Original Made from Glass
Parker Hansen	Horticulture - Snap Beans
Jaclyn Heinrich	Swine - Market Gilts Swine - Market Gilts
Brett Heinrich	Beef: Market Beef - Crossbred Steers
Ella Hendricksen	Heritage - Level I : Beginning - Book Review Photography Unit II - Theme Print - Beautiful Nebraska Conservation & Wildlife - Wildlife Essay Wildlife Habitat - Feeders and Waterers Cooking 401 – Candy Cooking 401 - Foam Cake Food Preservation - 1 Jar Tomato Exhibit - Unit 3 Food Preservation - 1 Jar Jelled Exhibit - Unit 3 Safety - Safety Experience State Speaking Contest - State PSA
Caroline Higgins	Dog: Dog Showmanship - Intermediate
Kyra Hinrichs	Dog: Dog Agility, Level 1 Dog: Dog Skillathon - Intermediate
Jayan Hraban	Cooking 201 - Baking With Whole Grain
Mary Kate Ingracia	Heritage - Level I : Beginning - Special Events Scrapbook
Emily Janak	Floriculture - Vinca Floriculture - Any Other Annual or Biennial
Noah Jelinek	Conservation & Wildlife - Wildlife Essay
Anna Johnson	Design Decision - Accessory-3D (string art, wreath, etc.) Conservation & Wildlife - Mammal Display
Clara Johnson	Fashion Show - Constructed STEAM Clothing 2 Garment STEAM Clothing 2- Simply Sewing - Alter Your Patterns Cooking 201 - Loaf Quick Bread Cooking 301 - Shortened Cake Cooking 401 - Double Crust Fruit Pie Food Preservation - Dried Fruits Cooking 301 - Dinner Rolls Food Preservation - Dried Fruits Cooking 301 - Whole Wheat or Mixed Grain Bread Cooking 301 - Dinner Rolls
Grant Johnson	Photography Unit II - Action Display or Print
Josie Johnson	Harvesting Equipment - Inventing Wildlife/Fish Harvesting Equipment
Regina Jordan	Cooking 201 - Coffee Cake Quilt Quest - Premiere Quilt - Long Arm Quilted – Computerized
Christian Kaiser	Entomology - Entomology Display - First Year Presentations - Illustrated - Special Topic Nebraska Agriculture - Food Preparation
Nicole Kenny	Sketchbook Crossroads - Original Pencil or Chalk Drawing
Carman Kinkaid	Sketchbook Crossroads - Nebraska Life Exhibit
Kolbee Kroemer	Field Crops - Corn
Abby Kruse	Photography Unit II - Lighting Display or Exhibit Print
Josie Lahm	Dog: Dog Agility, Level 1 Dog: Dog Showmanship - Intermediate
Renae Landon	Design Decision - Accessory - 3D (String Art, Wreath, etc.)
Kamiah Lanik	Sheep: Market Sheep - Southdown Market Lambs
Jonah Leader	Sheep: Breeding Sheep - Southdown Ewe Lambs
Gabriel Livingston	Design Decision - Furniture - Wood Opaque Finish
Michael Lockee III	Design Decision - Accessory - Outdoor Living
Meredith Marsh	Design Decision - Accessory - 2D Cooking 201 - Healthy Baked Product
Hayley Marshall	Dog: Dog Agility, Level 2
Betty Martin	Dog: Dog Showmanship - Intermediate
Claire Mathis	

SPECIAL AWARDS

FASHION SHOW

Ellie Babcock — One of the Top 4 Fashion Show Exhibits
Earning a \$50 Award from Nebraska 4-H Foundation

PRESENTATIONS

Abby Kruse — Top Illustrated Presentation Nebraska
Agriculture - Food Preparation
Micah Pracheil — Outstanding FilmFest Presenter
Addison Wanser — Top 4 Premier Presenters

BEEF

Cole Cooper — Champion Steer - Crossbred Division II

SWINE

Jaclyn Heinrich — Reserve Champion Market Gilt; Reserve
Champion Division I Gilt; Champion Division II Gilt

SHEEP

Cole Cooper — Champion Division II: Hampshire Market
Lambs; Champion Division VII: Crossbred Market
Lambs; Reserve Champion Market Lamb

RABBIT

Andrew Frain — Best Opposite

DOG

Emmi Dearthmont — Champion Senior Showmanship
Taylor Root — Champion Agility 2
Sidney Schlesiger — Champion Agility 5
Bella Croghan — Reserve Champion Obedience - Beginning
Novice A
Kyra Hinrichs — Skillathon Intermediate, 4th Place

HORTICULTURE CONTESTS

Ellie Babcock — Horticulture contest – Senior 9th Place

DESIGN GALLERY SPECIAL SELECTIONS

*Only 31 Sketchbook Crossroads, Portfolio Pathways or Design
Decisions exhibits and 4 Fashion Show exhibits were selected to
be displayed in the 4-H Design Gallery at State Fair.*

Nathan Gabel — Design Decisions (Pencil Holder)
Ellie Babcock — Beyond the Needle - Wearable Technology
Garment (Prom Gown with LED Lights)

PHOTOGRAPHY SPECIAL SELECTIONS

*Selected for display during the next year at the UNL Animal
Science Building or UNL College of Agricultural Sciences &
Natural Resources and Extension Dean's Office.*

Lilian Bogle — Animal Science
Riley Peterson — CASNR and Extension Dean’s Office
Riley Peterson — CASNR and Extension Dean’s Office
Claire Polk — CASNR and Extension Dean’s Office
Brody Sexton — CASNR and Extension Dean’s Office
Madison Sobotka — CASNR and Extension Dean’s Office
Madison Sobotka — CASNR and Extension Dean’s Office

RAINBOW RIBBON RECOGNITION

Clare Bauman — Human Development...
John Donlan — Heritage - Level I: Beginning...
Abbie Haszard — Crochet - Level 2 Crochet...
Ella Hendricksen — Fire Safety - Scrapbook
Carley Parrott — Heritage - Level I: Beginning...
Riley Peterson — Photography Unit III...
Vanessa Peterson — STEAM Clothing 2 - Two Piece Outfit
Micah Pracheil — Safety - Disaster Kit
Eliese Schwinck — Cooking Basics Recipe File
Madison Sobotka — Photography Unit III...



Olivia Mays	Photography Unit II - Lighting Display or Exhibit Print Cooking 201 - Creative Mixes
McKenna Morris	Design Decision - Furniture - Wood Opaque Finish
TJ Mueller	Beef: Market Beef - Market Heifers
Meradeth Pachunka	Floriculture - Any Other Perennial
Carley Parrott	Heritage - Level I: Beginning - 4-H History Poster Cooking 201 - Creative Mixes Photography Unit III - Photography Portfolio
Riley Peterson	Design Decision – Bedcover
Vanessa Peterson	STEAM Clothing 2- Simply Sewing - Upcycled Garment
Brianna Pittman	Meat Goat: Breeding Meat Goat - Commercial Doe Kids... Cooking 201 - Baking with Whole Grain Floriculture - Desert Garden
Zach Pittman	Cooking 201 - Loaf Quick Bread Food Preservation - Fruit Leather Floriculture - Any Other Annual or Biennial Floriculture - Rose Other Natural Resources - Design Your Own Exhibit in Natural Resources...
Kyler Plugge	Forestry - Leaf Display
Catherine Polk	Heritage - Level I: Beginning - Other Exhibits - Depicting heritage of member’s...
Claire Polk	Photography Unit II - Theme Print - Beautiful Nebraska Photography Unit II - Digitally Altered Display or Print Conservation & Wildlife - Mammal Display
Sophia Polk	Heritage - Level I: Beginning - Other Exhibits - Depicting heritage of member’s... Forestry - Design Your Own Exhibit
Micah Pracheil	Entomology - Macrophotography FilmFest (Digital Video) Contest Photography Unit II - Lighting Display or Exhibit Print Photography Unit II - Composition Display/Exhibit Print
Marylynn Rauert	General Foods - Foods and Nutrition Poster, Scrapbook or Photo Display
Taylor Root	Dog: Dog Agility, Level 2
Allison Schilf	Dog: Dog Agility, Level 2
Sidney Schlesiger	Dog: Dog Agility, Level 5 Dog: Dog Agility, Level 2
Eliese Schwinck	Heritage - Level II : Advanced - 4-H Member Scrapbook
Burke Settles	Sheep: Breeding Sheep - Commercial Meat Breed Ewe Lambs
Brody Sexton	Photography Unit II - Action Display or Print
Linsey Sheldon	Culinary Challenge - Culinary Challenge – Intermediate Cooking 301 - Specialty Bread ESI: EntrepreneurShip Investigation - Social Entrepreneurship Presentation
Emmy Sheldon	Culinary Challenge - Culinary Challenge – Intermediate
Madison Sobotka	Photography Unit III - Digitally Altered Print
Audrey Srb	STEAM Clothing: Beyond The Needle - Beginning Fashion Accessory
Julia Srb	STEAM Clothing: Beyond The Needle - Beginning Fashion Accessory
Kate Stratman	Dog: Dog Agility, Level 1
Anna Sump	Heritage - Level II: Advanced - 4-H Member Scrapbook Photography Unit II - Composition Display/Exhibit Print Design Decision - Accessory - Textile - 2D
John Sump	Woodworking - Woodworking Article - Finishing Up
Elena Thomson	Crochet - Level 2 Crocheted Clothing
Hannah Thomson	STEAM Clothing 2- Simply Sewing – Dress
Tyler Vander Woude	Sketchbook Crossroads - Original Pencil or Chalk Drawing Sketchbook Crossroads - Original Sculpted or Thrown Home Accessory Made...
Alison Walbrecht	Beef: Commercial Breeding Beef - Commercial Breeding Heifers Calved... Beef: Market Beef - Crossbred Steers
Addison Wanser	Presentations Contest - Premier Presenter Heritage - Level II : Advanced - Heritage Poster or Flat Exhibit
Kamryn Wanser	Design Decision - Furniture-Fabric Covered
Kaily Wesely	Horticulture – Grapes
Jenna White	Heritage - Level II : Advanced - Special Events Scrapbook Fire Safety - Fire Prevention Poster
Melanie Wiggins	Leadership and Citizenship - Public Adventure Poster
Tyson Wiggins	Leadership and Citizenship - Public Adventure Poster
Sierra Wilson	Dog: Dog Agility, Level 1



EXTENSION CALENDAR

All events will be held at the Lancaster Extension Education Center,
444 Cherrycreek Road, Lincoln, unless otherwise noted.

September

- 29 4-H Golf Tournament Fundraiser, Woodland Hills Golf Course, Eagle. . . 1 p.m.
30 4-H Council's Alumni Scholarship Deadline

October

- 1 4-H Council Meeting. 6 p.m.
3 4-H Horse Awards Night 6:30 p.m.
6–12 National 4-H Week
8 4-H Information Night 6 p.m.
10 Co-Parenting for Successful Kids Class. 9 a.m.–12:30 p.m.
11 Extension Board Meeting 8 a.m.
12 Composting Demonstration, Pioneers Park Nature Center's backyard
composting demonstration area 10 a.m.
13 4-H Teen Council Meeting 3 p.m.
17 Pesticide Applicator NDA Walk-in "Testing Only" Session . . 9 a.m.–2 p.m.
21 Composting Demonstration, Sheridan Elementary School's outdoor classroom,
3100 Plymouth Ave. 10–10:30 a.m.
24 4-H Leader Trainings 9 a.m. & 6:30 p.m.

Lancaster County 4-H Quilt of Valor Presented to 4-H Veteran

Quilts of Valor (QOV) Foundation is a national organization whose mission is "to cover service members and veterans touched by war with comforting and healing Quilts of Valor." Nebraska 4-H was the first state 4-H program to partner with the QOV Foundation.

This year, Lancaster County 4-H received two quilting kits from Nebraska Peacemakers QOV. Both quilts were on display at the Nebraska State Fair and one was presented at a special ceremony featuring all 87 Quilts of Valor made by Nebraska 4-H youth.

One of the QOV was a group effort. 4-H volunteer Mary Burroughs taught a Quilt Block workshop at Clover College in June. Seven youth ages 9–13 sewed "flying geese" blocks. Mary then assembled the blocks and a volunteer with the Lincoln



(L–R) 4-H volunteer Mary Burroughs; veteran and 4-H summer intern Rachel Wells; and 4-H staff member Kristin Geisert.

QOV group stitched the quilt with a long-arm quilter. The plan was for the quilt to be presented to an unfamiliar veteran on Oct. 18 during a ceremony at the VA campus in Lincoln. This plan changed when Lancaster County 4-H summer intern, Rachel Wells, lost her father to a tragic

accident in the Aug. 7 storm by Grand Island. Dennis Wells was killed when a downed tree struck his truck. Due to her county connection and physical injuries sustained during her service, Rachel was personally selected to receive this red, white and blue quilt. She was awarded the quilt at the State Fair ceremony, and will be re-awarded on Oct. 18 at a local ceremony. Rachel completed two deployments in the navy from 2012–2017 and was stationed on the USS George H.W. Bush as an Aviation Ordnanceman.

The second Lancaster County QOV was an individual effort. 17-year-old 4-H member Ellie Babcock sewed blocks, assembled, stitched and finished a quilt by herself. It was donated to the Nebraska QOV Foundation and will be awarded to a veteran at a later date.

Ag Society Hall of Fame



(L–R) Pam Branson, Jay Wilkinson and Trudy Pedley

The Lancaster County Agricultural Society Hall of Fame Award formally recognizes individuals who have dedicated time and effort to the Lancaster County Agricultural Society beyond the normal volunteer and who have made significant contributions to the establishment, development, advancement or improvement of the Lancaster County Fair. Here are the 2019 recipients.

Pam Branson served at 45 county fairs as a Lancaster County employee supporting Lancaster County Extension from 1973–2017. Pam was the 4-H secretary for many years, helping with most 4-H activities at the Lancaster County Fair. When the fair moved to the Lancaster Event Center, she focused on assisting the livestock projects in Pavilion 1. Since her retirement, she continues to volunteer with the Super Fair.

Trudy Pedley served on the Lancaster County Agricultural Society Board of Directors from 2004–2016, including 11 years as Secretary on the Executive Board. As a board member at county fair, Trudy oversaw static exhibits, including 4-H and Open Class. She has also been Superintendent of Open Class Fine Arts and overall Open Class Shows Manager. In 2014 and 2015, Trudy served as overall Super Fair Coordinator. Since leaving the board, Trudy continues to serve as Open Static Co-Manager.

Jay Wilkinson has been Lancaster County Fair superintendent of the 4-H and Open Class sheep shows since the mid-1990s. Jay served on the Lancaster County Agricultural Society Board of Directors in 2004 and 2006–2017. For many years, his responsibility as a board member at county fair was overseeing all of the animal shows in Pavilion 1, including 4-H and Open Class. Since leaving the board, Jay continues as Livestock Pavilion Manager and Open Livestock Shows Manager.

UNL CASNR Visit Day, Oct. 12

University of Nebraska–Lincoln's College of Agricultural Sciences and Natural Resources (CASNR) is hosting its annual Experience the Power of Red Visit Day for students grades 8–12 on Saturday, Oct. 12, 9 a.m.–2 p.m. There is no charge. Learn how CASNR prepares students for careers in everything from animals to plants, soil to climate, golf to business, mechanization to leadership, and food to forensic science. Register at <http://casnr.unl.edu/visitday> by Oct. 4. For more information, call 402-472-0615.

Deadline For Extension Board Applications, Nov. 1

The Lancaster County Board of Commissioners seek community members to serve on the Lancaster County Extension Board. Vacancies will be filled with three year appointments beginning in January 2020.

Extension Board members advocate for and assist Extension staff in focus areas such as: 4-H youth development; beef systems; community environment; community vitality; cropping & water systems; food, nutrition & health; and the learning child. The board meets monthly (usually the second Friday of the month at 8 a.m.).

Registered Lancaster County voters interested in serving should complete an Extension Board application by Nov. 1. Additional information and an application can be obtained from: Nebraska Extension in Lancaster County, 444 Cherrycreek Road, Suite A, Lincoln, NE 68528 or by calling 402-441-7180. Applications are also online at <http://lancaster.unl.edu/lancaster-county-extension-board>

4-H Information Night Tues., Oct. 8 • 6pm

Lancaster Extension Education Center
444 Cherrycreek Rd., Lincoln

See animals
such as rabbits
and llamas

Part of
National
4-H Week
Oct. 6–12

Free
hot dogs!

Find Out How Youth
Ages 5–18 Can Join 4-H!

Adults – Help Youth
Grow By Volunteering!

SULFUR DEFICIENCY

continued from page 3
approximately 15 lb S/ac. Sulfur fertilizer should be applied as close to crop need as possible to reduce the chance of losses.

There is still a lot of uncertainty about S deficiencies and fertilizer recommendations, so reach out to UNL specialists or contact your dealer or agronomist for fertilizer options.

Resources used in this article:

- Sulfur Deficiency. Purdue University Department of Agronomy, www.agry.purdue.edu/ext/corn/news/timeless/sulfurdeficiency.pdf
- Sulfur Management for Iowa Crop Production. Iowa State University, <https://store.extension.iastate.edu/Product/CROP3072-pdf>
- Nutrient Management Suggestions for Corn. University of Nebraska–Lincoln, <http://extensionpublications.unl.edu/assets/pdf/ec117.pdf>
- National Atmospheric Deposition Program, <http://nadp.slh.wisc.edu/committees/tdep/tdepmaps>