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## Biosolids Land Application Program Celebrating 25 Years of Benefiting the Community

**David Smith**  
Biosolids Coordinator

For 25 years, the City of Lincoln biosolids program has been a phenomenal environmental, financial and agronomic success. Literally, everyone in the county has a part in the success of this program, and similarly, everyone receives many benefits from the outcomes of responsibly reusing this important resource.

2017 marks the 25th anniversary of this highly successful program within Lancaster County. Biosolids are the processed solid waste from Lincoln's wastewater system. The biosolids program was based on a strong partnership between the City of Lincoln, Nebraska Extension in Lancaster County and private farmers, with each partner playing an important role in the overall success of the program.

Each year over 30,000 tons of biosolids are reused in a responsible way to fertilize pasture and crops. Since 1992, more than 750,000 tons of biosolids have been recycled.

### City of Lincoln

The City of Lincoln is responsible for treating wastewater and producing biosolids. When septic systems of rural residents are cleaned out, the waste is hauled to the city treatment plant and added to the wastewater stream from the city, making this a county-wide project.

Multiple steps of processing and testing ensure the wastewater is treated properly and the resulting biosolids are consistent and safe for land application. Solids are separated from the sewage entering the treatment plant and microorganisms naturally break down the solids into safer compounds. The solids are then sent to 1 million gallon tanks called anaerobic digesters where heat and biological processes kill pathogens resulting in biosolids. The city contracts with a private company to haul biosolids from the treatment plant to the field.

Steve Crisler, superintendent of Wastewater Facilities for the City of Lincoln, says, "Twenty-five years ago, we were burying raw wastewater solids in the landfill. Since that time, 100 percent of the wastewater solids generated at the two water resource recovery facilities are biologically processed and stabilized for beneficial reuse. We are extremely proud of our many partnerships with program cooperators and Extension who have helped make this program successful and sustainable."

### Nebraska Extension in Lancaster County

The role of Extension in the partnership is to manage all aspects of the land application of biosolids in Lancaster County. Twenty-five years ago, the city recognized the value of having Extension as a partner within the farming community. The relationships and trust Extension has forged with farmers over many years served as a conduit in bringing the city and farmers together. Extension also provides research-based knowledge and expertise.

Extension takes soil samples and uses many criteria to determine the suitability of farmland for biosolids application. Geographic Information Systems (GIS) and GPS (Global Positioning System) are used to manage all aspects of biosolids land application, ensuring accurate and comprehensive record-keeping. Extension also educates farmers and the community about biosolids through publications, seminars and personal communication.

### Local Farmers

A critical piece in the success of land applying biosolids is having private farmers willing to accept biosolids and incorporate it into their farming operation as a source of fertilizer. These cooperators provide land for application, but also for storage during the summer growing season when biosolids are still being produced but cannot be spread due to crops in the fields.

Cooperators must follow regulations such as applying at an agronomic rate and not spreading too close to environmentally sensitive features. They are responsible for spreading the material, in most cases accomplished with traditional manure spreaders. Spreaders can be rented from the city, or they can hire contractors to spread the biosolids.

Farmers see huge benefits from using biosolids instead of commercial fertilizers. Organic matter, tilth and soil structure improve. Biosolids adds many nutrients vital for plant growth to the soil resulting in higher yields. There is also a cost savings when compared to commercial fertilizers.

Cooperator Randy Warner, who has been using biosolids for almost 20 years, says, "We know we are benefiting our soils by using biosolids, but we are also serving an important environmental purpose. We are the face of biosolids in the community, and it is important that we educate our neighbors and the public about the positive aspects of biosolids application."



City of Lincoln processes solid waste into biosolids

Photos: Vicki Jedlicka, Nebraska Extension in Lancaster County



Nebraska Extension in Lancaster County coordinates the biosolids land application program



Local farmers apply biosolids to farmland

### Benefit to Community

Everyone poops. So everyone benefits from the biosolids program since it provides an environmentally sustainable solution for not only disposing of poop, but reusing it.

Historically, sludge was dumped in landfills, eliminating any of the beneficial uses it has as a recycled fertilizer. This process also took up valuable landfill space that could have been used for

garbage which cannot be reused and recycled. Landfill space is extremely expensive and valuable. Diverting biosolids to land application has added an estimated 5 years to the life of the landfill.

Extending the life of the landfill alone is worth many millions of dollars to taxpayers in Lancaster County. The biosolids program also saves the city almost \$1.25 million each year in tipping fees that would be charged if biosolids were dumped in the landfill.

### CONNECT WITH US

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**NEBLINE**

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**Prevent Portion Distortion**

Alice Henneman, MS, RDN  
Extension Educator

Portion sizes have gotten bigger over the past 20 years, and so have we! Larger portions add up. Just 100 extra calories per day can lead to a weight gain of 10 pounds per year. Maintaining a healthy weight is a balancing act — balance calories in with calories out.

If you downsize your portion size and feel a smaller portion looks too small — serve it on a smaller plate so it looks larger. Note the difference in the appearance of one cup of cereal when a smaller bowl is used.



Using a smaller plate or bowl also can help you eat less according to research by professors Brian Wansink and Koert van Ittersum. Larger plates can make a serving of food appear smaller. For example, in a study conducted at a health and fitness camp, campers given larger bowls consumed 16 percent more cereal than those given smaller bowls. Their estimates of their cereal consumption, however, were 7 percent lower than the estimates of those eating from the smaller bowls.

References:

- *Keep an Eye on Portion Size Serving Size card*, Dept. of Health & Human Services, National Institutes of Health, and National Heart, Lung, and Blood Institute at <http://hp2010.nhlbihin.net/portion/servingcard7.pdf>
- *Portion Distortion Quiz*, Dept. of Health & Human Services, National Institutes of Health, and National Heart, Lung, and Blood Institute at <http://hp2010.nhlbihin.net/portion>
- Wansink, Brian and Koert van Ittersum (2006), "The Visual Illusions of Food: Why Plates, Bowls and Spoons Can Bias Consumption Volume," *FASEB Journal*, 20:4 (Mar 6) A618-A618, Part 1

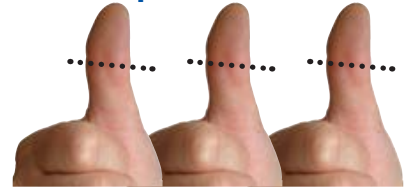
Here are some ways to "eyeball" food portion amounts:

1 cup =



1 teaspoon = tip of a thumb to the first joint

1 tablespoon = 3 thumb tips



1½ ounces of cheese = 4 stacked dice



3 ounces cooked meat, or poultry = a deck of cards



3 ounces grilled/baked fish = checkbook



**Portion Distortion**

20 YEARS AGO

TODAY

Renee Comert, National Cancer Institute



333 Calories

590 Calories

**257 MORE CALORIES**

Lifting weights for 1 HOUR AND 30 MINUTES burns approximately 257 calories\*  
\*Based on 130-pound person



500 Calories

850 Calories

**350 MORE CALORIES**

Playing golf (while walking and carrying your clubs) for 1 HOUR burns approximately 350 calories\*  
\*Based on 160-pound person



1 cup spaghetti with sauce and 3 small meatballs

2 cups spaghetti with sauce and 3 large meatballs

500 Calories

1,025 Calories

**525 MORE CALORIES**

Housecleaning for 2 HOURS AND 35 MINUTES burns approximately 525 calories\*  
\*Based on 130-pound person

20 YEARS AGO

TODAY



Coffee, 8 oz (with whole milk and sugar)

Mocha Coffee, 16 oz (with steamed whole milk and mocha syrup)

45 Calories

350 Calories

**305 MORE CALORIES**

Walking 1 HOUR AND 20 MINUTES burns approximately 305 calories\*  
\*Based on 130-pound person



1.5 oz

4 oz

210 Calories

500 Calories

**290 MORE CALORIES**

Vacuuming for 1 HOUR AND 30 MINUTES burns approximately 290 calories\*  
\*Based on 130-pound person



1.5 diameter

3.5 diameter

55 Calories

275 Calories

**220 MORE CALORIES**

Washing a car for 1 HOUR AND 15 MINUTES burns approximately 220 calories\*  
\*Based on 130-pound person

Adapted from "Portion Distortion" by the National Heart, Lung and Blood Institute at <http://hin.nhlbi.nih.gov/portion>

## 2017 Perennial Plant of the Year

### *Asclepias tuberosa* Butterfly Milkweed

**Hardiness** — USDA Zones 4 to 9

**Light** — Butterfly milkweed grows best in full sun.

**Soil** — Grows best in well-drained soils and it is drought tolerant.

**Uses** — Butterfly milkweed is a perfect selection for full-sun meadow or prairie gardens as well as formal to semi-formal urban gardens. Flower arrangers find the plants make long-lasting cut flowers.

**Unique Qualities** — *Asclepias tuberosa* are butterfly magnets. Flowers are a nectar source for many butterflies and leaves are a food source for the monarch butterfly caterpillars.

**Maintenance** — Butterfly milkweed is subject to no serious insect or disease problems. Deer usually avoid butterfly milkweed.

Commonly known as butterfly milkweed, this long-lived perennial is native to the continental United States. With vibrant orange/red/yellow flowers, butterfly milkweed is a great addition to a sunny garden with average to dry soils. As the common name suggests, these plants are butterfly magnets.

Butterfly milkweed is a member of Apocynaceae or milkweed family. Stems are hairy



Photo courtesy of Perennial Plant Association

and branched near the top with clusters of many showy flowers in late spring through mid-July.

Butterfly milkweed flowers are easy to recognize because of their 5 up and 5 down appearance. Each flower has 5 colorful petals that hang down and 5 upright curved petals called hoods, each possessing one horn.

Mature plants do not transplant well, so proper site selection is important. Butterfly milkweed is hardy to zones 4–9 and reaches 2–3 feet high. Do not cut back in late fall. Mulching young plants prevents frost heaving. Be patient since butterfly milkweed is slow to emerge in the spring.

Since *Asclepias tuberosa* is a native prairie plant, butterfly

milkweed is quite comfortable in meadow gardens, native plantings and wildlife sanctuaries but is finding its way into more formal to semi-formal urban gardens. Plant in large masses, for an unrivaled display of eye-popping orange flower color. Butterfly milkweed pairs well with summer blooming *Phlox*, *Liatris*, *Echinacea*, *Salvia* and most of June/July sun loving perennials.

Many bees, wasps, ants, butterflies and beetles visit butterfly milkweed. All members of the milkweed family serve as larval food for the Monarch butterfly.

Source: Perennial Plant Association

## Tips for Childcare Providers — Effective Family Engagement

Lynn DeVries, MS  
Extension Educator

Opening the doors to meaningful contacts and connections with parents is a fundamental piece in building relationships with families. Early childhood professionals who insure this is done well and in accordance with best practices are getting to know their families well. They understand the backgrounds and special talents and skills their family clientele bring with them and they work to incorporate these gifts into activities and learning in their child care homes and centers.

### Six Principles of Family Engagement Recognized by NAEYC

The National Association for the Education of Young Children (NAEYC) outlines six principles of and also gives insight into specific ways early childhood programs can meet this standard of excellence in their day-to-day practices.

#### 1. Families participate in decisions and goal setting

Invite families to participate in decision making and goal setting for their child. This can be done through initial intake questionnaires, regular parent teacher conferences and a consistent staff person to follow the family throughout the program.

#### 2. Teachers and Programs Engage Families in Two-Way Communication

Face-to face, written and on-line communication that is both school and family initiated and in the family's preferred language that invites a dialogue about the child's educational experiences as well as what is happening in the early childhood center.

#### 3. Reciprocal Relationships

Staff are connecting with families to learn about their lives, communities and cultures and work to intentionally integrate this into the curriculum and instruction. Programs also work to help families share some of their own special skills, talents and knowledge and invite them to take an active role in the school environment.

#### 4. Learning Activities at Home and the Community

Programs are educating families about child growth and development and connecting families to other services available in the community to support their child's education. Many times communities have free or low-cost events for families with young children.

#### 5. Families are involved in Program Decision Making

Family members are asked to serve on committees and boards that help make decisions to shape the policies of the program. Families have input on hiring of personnel, admission

policies and input on menus to name a few. They can also lead the way in raising funds for special projects.

#### 6. Programs implement a comprehensive program-level system for family engagement

Programs are intentional in reaching out to families in a variety of ways and teachers are given support and training in effective family engagement strategies including having a diverse staff that mirrors the community in which they serve, and ensuring the curriculum serves as the foundation for educational experiences and environments is anti-bias and inclusive for all participants.

Check out the full article from NAEYC Principles of Effective Practice [www.naeyc.org/familyengagement/principles](http://www.naeyc.org/familyengagement/principles)

### Creating Opportunities for Parent Partnerships

At a recent early childhood conference, the Buffet Early Childhood Institute gave the following advice on creating parent partnerships.

#### Listening Conferences

Prior to the start of school, invite parents to do the talking at a special parent-teacher conference. The idea is to engage the family before school starts to gain valuable new information about the child and family, which can be incorporated into the learning environment.

## GARDEN GUIDE

### THINGS TO DO THIS MONTH

Mary Jane Frogge, Extension Associate

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.

Have successive plantings of beans and sweet corn to extend the harvest season.

Harvest rhubarb by cutting or by grasping the stalk and pulling up and gently to one side.

Grass clippings can be used as a mulch in flower beds and vegetable gardens if allowed to dry well before use. Never use clippings from a lawn that has been treated with a herbicide.

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.

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

Cabbage loopers and imported cabbage worms are green worms. They eat large holes in the leaves of plants in the cabbage family. For control, caterpillars can be picked off by hand or sprayed with *Bacillus thuringiensis* (Bt), a natural, non-toxic preparation available by various trade names.

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

Plant gladioli bulbs in mid May.

Set out marigold, petunia, ageratum and fibrous begonia transplants. All are good border plants.

To grow annuals in containers on the patio, use a light weight 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.

#### Conference Artifact Activity

Another helpful strategy to learn about children at conferences is to invite the parents to share one artifact or special item that has a special meaning to their child. When parents share their story about the item, it gives them a voice in the meeting and provides the teacher with

important insight into who the child is.

The Buffett Institute is dedicated to research, practice, policy and outreach initiatives to improve the early life experiences of children from birth to age eight. Check out their website at <http://buffettinstitute.nebraska.edu>

### Upcoming Learning Child Trainings

Nebraska Extension teaches several early childhood development classes for childcare providers. Listed are upcoming classes held at the Lancaster Extension Education Center, 444 Cherrycreek Road (unless location otherwise noted). For additional information or to sign up, contact Jaci Foged at [jfoged2@unl.edu](mailto:jfoged2@unl.edu) or 402-441-7180. Some registration forms are at <http://lancaster.unl.edu/family>

**Science Early Learning Guidelines (ELG)** — Friday, April 28, 9 a.m.–3 p.m. Cost is \$25. Register by Tuesday, April 25.

**Go Nutrition and Physical Activity Self-Assessment for Child Care (Go NAP SACC) Trainings** — Monday, May 15 AND Monday, May 22, 12:30–3:30 p.m. Participants must attend both days. No cost.

**Engineering and Energy Workshop for Child-Care Providers & After-School Staff** — Tuesday, May 16, 10 a.m.–12 p.m. OR 6:30–8:30 p.m. (you choose which session time to attend). Cost is \$5. Register by Monday, May 8.

**Safe With You for Childcare Providers at Educare Lincoln** — Friday, June 2, 8 a.m.–12 p.m. Cost is \$20.

**Energizing Early Childhood Professionals in Shaping the Health of the Whole Child** — Saturday, June 17, 8:30 a.m.–3:45 p.m. at UNL East Campus Union. Target audience includes early childhood professionals, public health staff, nurses and dietitians. Cost is \$25. Registration deadline is May 26.

**Babysitter's Training for 5th–7th Graders** — Tuesday, June 27, 8:30 a.m.–4:30 p.m. Cost is \$35, bring a sack lunch.

# Cash Rent Survey

Tyler Williams  
Extension Educator

One of the most difficult tasks of renting ag land is determining a “fair” price for all parties involved, and the current economic challenges make that task even harder. The University of Nebraska – Lincoln Agricultural Economics Department conducts a yearly survey to help landowners know and understand the value and average rental rates of the land in their area.

## About the Survey

On March 15, 2017, the “2017 Trends in Nebraska Farmland Markets: Declining Agricultural Land Values and Rental Rates” report was released from Cornhusker Economics <http://agecon.unl.edu/cornhuskereconomics> and this article contains “preliminary” data from the 2017 Nebraska Farm Real Estate Market Survey. This survey was sent to professional farm and ranch managers, certified general appraisers and agricultural bankers earlier this winter asking about prices and values for the upcoming 2017 growing season.

This report is considered “preliminary” because it is publicized once enough surveys are returned in order to have statistical significance. This allows users to see most of the data as early as possible to assist with rental rate negotiations, with the understanding the numbers may be a little different in the final report to be released in June. This March report is

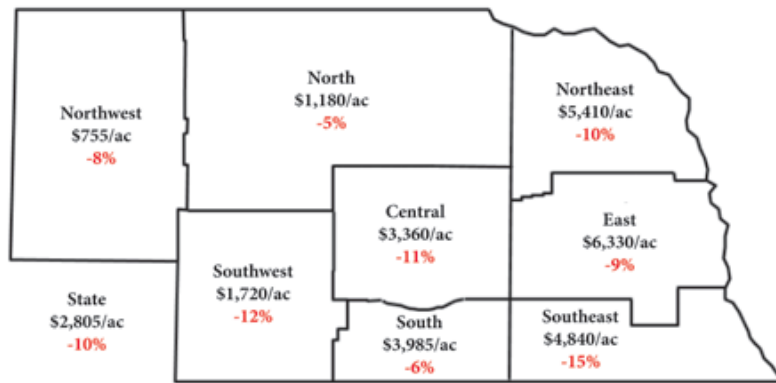


Table 1. Average Reported Value of Nebraska Farmland for Different Land Types by Agricultural Statistics District, Feb. 1, 2017<sup>a</sup>

TYPE OF LAND	AGRICULTURAL STATISTICS DISTRICT		
	EAST	SOUTHEAST	STATE <sup>c</sup>
Dryland Cropland (No Irrigation Potential)	\$5,775/acre -9% change	\$4,225/acre -13% change	\$3,130/acre -10% change
Dryland Cropland (Irrigation Potential)	\$6,340/acre -12% change	\$5,355/acre -17% change	\$4,180/acre -13% change
Grazing Land (Tillable)	\$3,585/acre -18% change	\$2,825/acre -12% change	\$1,320/acre -12% change
Grazing Land (Nontillable)	\$2,325/acre -17% change	\$2,110/acre -4% change	\$880/acre -10% change
Hayland	\$3,090/acre -3% change	\$2,680/acre -4% change	\$1,820/acre -7% change
Gravity Irrigated Cropland	\$7,800/acre -4% change	\$6,410/acre -13% change	\$6,120/acre -6% change
Center Pivot Irrigated Cropland <sup>b</sup>	\$8,555/acre -9% change	\$7,720/acre -16% change	\$6,290/acre -9% change
All Land Average <sup>c</sup>	\$6,330/acre -9% change	\$4,840/acre -15% change	\$2,805/acre -10% change

<sup>a</sup> Source: UNL Nebraska Farm Real Estate Market Surveys, 2016 and 2017.

<sup>b</sup> Value of pivot not included in per acre value.

<sup>c</sup> Weighted averages.

simply a “sneak-peak” to the final report and should be used as such.

## Report Findings

The report provides data based on the eight Agricultural Statistics Districts in Nebraska (shown above). Lancaster County is located in the East District; however, much of the agricultural land will have similarities to the Southeast District. There are two data sets provided: Average Value of Farmland and Reported Cash Rental Rates. The Farmland Values in **Table 1** is split into Dryland Cropland (with or without irrigation

potential), Grazing Land (tillable or non-tillable), Hayland, and Irrigated Cropland (with gravity or center pivot). The table also shows the percent change from 2016 and it is not surprising that all locations saw a decrease in land values. Overall, the All Land Average in the East and Southeast Districts decreased by 9 percent and 15 percent, respectively; however, grazing land decreased the most in the East and cropland decreased the most in the Southeast.

The most popular data from the survey is the Reported Cash Rental Rates found in **Table 2**. This table provides cash rent data

Table 2. Reported Cash Rental Rates for Various Types of Nebraska Farmland and Pasture: 2017 Averages, Percent Change from 2016 and Quality Ranges by Agricultural Statistics District<sup>a</sup>

TYPE OF LAND		AGRICULTURAL STATISTICS DISTRICT	
		EAST	SOUTHEAST
Dryland Cropland	Average	\$190/acre -5% change	\$155/acre -6% change
	High Third Quality	\$225/acre	\$200/acre
	Low Third Quality	\$155/acre	\$130/acre
Gravity Irrigated Cropland	Average	\$265/acre -7% change	\$235/acre -6% change
	High Third Quality	\$320/acre	\$275/acre
	Low Third Quality	\$235/acre	\$200/acre
Center Pivot Irrigated Cropland <sup>b</sup>	Average	\$290/acre -9% change	\$265/acre -9% change
	High Third Quality	\$335/acre	\$315/acre
	Low Third Quality	\$250/acre	\$225/acre
Pasture	Average	\$53/acre -14% change	\$49/acre -10% change
	High Third Quality	\$73/acre	\$68/acre
	Low Third Quality	\$38/acre	\$33/acre
Cow-Calf Pair Rates <sup>c</sup>	Average	\$51.2/pair -9% change	\$48.78/pair -6% change
	High Third Quality	\$70.45/pair	\$65.45/pair
	Low Third Quality	\$44.55/pair	\$41.45/pair

<sup>a</sup> Source: Reporters’ estimated cash rental rates (both averages and ranges) from the UNL Nebraska Farm Real Estate Market Survey, 2016 and 2017.

<sup>b</sup> Cash rents on center pivot land, assumes landowners own total irrigation system.

<sup>c</sup> 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.

on dryland cropland, gravity and center-pivot irrigated cropland, pasture and cow-calf pair rates. The overall cash rental rates have decreased as well, when compared to 2016 for all districts in all categories. This was the second year in a row for an “all-category” decrease in rental rates. The East and Southeast districts had the largest decrease in pasture rental rates after another year of significant decreases in livestock and feed prices. All categories in the East and Southeast districts had an average decrease of at least 5 percent.

When using this data, it is

very important to remember the report produces values for a region and doesn’t take into account the local “supply vs. demand” that may alter these values for your land. The report also provides a range based on the quality of the ground, which can be highly subjective. Communication with your tenant or landlord is critical for understanding the needs of both parties as this report does not include the multitude of factors that are unique to your farm. These numbers should simply serve as a starting point for the communication on rental rates.

## Composting Demonstrations



Learn how to be successful with composting by attending a free composting demonstration sponsored by Nebraska Extension in Lancaster County and the City of Lincoln Recycling Office. Demonstrations are presented by Extension Master Gardeners. You will see three types of composting bins and how to use them. At each composting program, two lucky participants will win either a composting thermometer or a composting bin.

Composting Demonstrations are presented at the Pioneers Park Nature Center’s backyard composting demonstration area across the street from the Nature Center (look for the extension banner). Demonstrations will be held at 10 a.m. on the following Saturdays: May 20, June 24, Sept. 9 and Oct. 21.

## Celebrate Your Drinking Water in May

Meghan Sittler  
Extension Educator

In Nebraska, almost 80 percent of people receive their drinking water from groundwater resources. This includes individual homeowners living in suburban and rural areas, as well as, the majority of towns and cities across the state — including Lincoln.

Nebraska is also fortunate to have many, many miles of streams and rivers, which are connected to groundwater stores. The relative wealth of water resources — particularly groundwater resources — across the state, can often cause us to overlook their critical importance for people and our state as a whole.

National Drinking Water Week is held May 7–13 this year to bring attention to important water quantity and quality issues, as well as, drinking water supplies. The attention to drinking water during that week provides an opportunity to learn more about water resources

in general and also serves as a reminder where your water comes from.

Here are some ideas to help you learn more about your drinking water and Nebraska’s groundwater resources:

- If you have your own well, use this as an opportunity to do a water quality test. The Nebraska Department of Health and Human Services website at [http://dhhs.ne.gov/publichealth/Pages/lab\\_index.aspx](http://dhhs.ne.gov/publichealth/Pages/lab_index.aspx) has information about testing kits (or call 402-471-2122) and a list of certified labs across the state.
- If you have your own well, take time to walk around your wellhead and make sure nothing on the wellhead is damaged or potential contaminant sources are too close to your wellhead.
- If you receive your water from a public supply, take time to look through their information on quality, quantity and other related programs. Lincoln Water System information is at <http://lincoln.ne.gov/city/pworks/water>.

- Check out your local Natural Resources District for information on their groundwater programs and studies. Find your NRD at [www.nrdnet.org](http://www.nrdnet.org).
- Visit the University of Nebraska–Lincoln School of Natural Resources’ Conservation and Survey Division website at <http://snr.unl.edu/csd> to find out more about surface water and groundwater.
- Spend some time familiarizing yourself with the wealth of information on the Nebraska Extension water website at <http://water.unl.edu>. Extension has numerous publications about drinking water with topics on understanding water wells, wellhead protection, testing, treatment and conservation.

Knowledge of your drinking water and the critical water resources across our state is essential to help protect your health and the quality and quantity of water available for people, agriculture, wildlife and the environment.

## Have Ash Trees? Learn More About Emerald Ash Borer at Seminar

In 2016, Emerald Ash Borer was confirmed in Omaha and Greenwood. All ash tree species will be at risk of attack by this insect as Emerald Ash Borer spreads. Nebraska Extension in Lancaster County and the Nebraska Forest Service are presenting a seminar to provide property owners with the information they need to make good decisions about their ash trees.

The Emerald Ash Borer seminar will be held on Saturday, May 6, 9–11 a.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. Registration is required at least three days prior to the seminar by calling 402-441-7180. Cost is \$15 per person/couple for one set of educational materials. Pay at the door, making checks payable to Nebraska Extension in Lancaster County.

Insecticide treatments against Emerald Ash Borer are available, but can cause cumulative damage to trees. Treatments are NOT recommended until EAB has been confirmed within 15 miles of your location. Northeast Lincoln is within 15 miles of Greenwood.

At this seminar, property owners will:

- Learn how to identify ash trees. If you are unsure if a tree in your landscape is an ash, bring small branch samples or pictures for identification.
- Learn how to determine which of your ash trees are the best candidates for treatment. Many owners will decide to let some trees die — particularly low-vigor trees, those in poor locations or with existing problems.
- Find out about the available treatment methods, their advantages and disadvantages, and when they should be applied.
- Learn about good replacement trees. Diversity is key!

Seminar presenters include Sarah Browning, Nebraska Extension Horticulture Educator; Jody Green, Nebraska Extension Entomology Educator and Laurie Stepanek, Nebraska Forest Service – Forest Health Specialist.

### FOR MORE INFORMATION

The Nebraska Forest Service has many Emerald Ash Borer resources at <http://nfs.unl.edu/nebraska-eab>



Emerald ash borer — fully developed adult before emergence (shown approximate size)

Eric R. Day, Virginia Polytechnic Institute and State University, Bugwood.org



Ash trees have compound leaves with 5–11 leaflets.

T. Davis Sydnor, The Ohio State University, Bugwood.org

## Garter Snakes are Harmless To You and Your Pets

**Soni Cochran**

Extension Associate

Last year, I received more calls than usual about garter snakes in lawns and around homes. Throughout late spring and early summer, panicked callers in our area wanted to know how to rid their yard of the snakes. Social media was a hub for complaints about garter snakes and ineffective home remedies went viral as people were trying to repel or kill these beneficial animals.

Even with accurate information in hand, it is difficult to convince someone with a fear of snakes to tolerate even one on their property. It's important to know garter snakes are beneficial and should not be killed. They are harmless to you and your pets. If left alone, the snakes will try to escape.

About garter snakes:

- In Nebraska, any snake with a line running down its body length mid-center and on each side is one of our four species of garter snakes.
- Garter snakes are harmless and nonvenomous. They eat prey with soft bodies like soft insects, earthworms, grubs and termites. If the snakes live near water, they will eat small fish and frogs. Predators of garter snakes include birds, raccoons, badgers, opossums, skunks and more. Dogs and cats also kill



Soni Cochran, Nebraska Extension in Lancaster County

many garter snakes.

- In early spring, you may see more snakes as they congregate to mate. In late summer, the females give birth to 12–20 live young. Life isn't easy for the young snakes — over 90 percent die before the next spring.
- Garter snakes can't dig holes or chew on wood. They can squeeze through openings as small as 1/4-inch. They can crawl up rough surfaces and home siding. It isn't unusual to see a garter snake sunning itself on the top branches of a shrub.
- If you've had snakes in your home, check common entry points like around doors and windows, utility lines, outdoor water faucets, sump pump drain lines and foundation cracks. Take the time to inspect your home and make repairs.
- The use of chemical repellents is not recommended. In some cases, studies found the snakes

got use to the chemical odors and associated the scent as "home range" drawing them closer to where repellents had been applied.

- There are no toxicants, fumigants or baits registered for garter snakes.
- You can trap garter snakes by using a funnel trap or homemade box trap. Remember: In Nebraska, you can only move wildlife no further than 100 yards from the original capture site.

Source: Nebraska Extension's electronic magazine, *Garter Snakes In and Around the Home* (Z1782).

### FOR MORE INFORMATION

Visit Nebraska Extension's new Wildlife Damage website at <http://wildlife.unl.edu> or visit Nebraska Extension in Lancaster County's website at <http://lancaster.unl.edu/pest>

## BugMasters Volunteer Program in Second Year

Now in its second year, the BugMasters volunteer program offered by Nebraska Extension and the UNL Department of Entomology is for adults who would like to learn more about insects and help teach others.

After attending a two-day training, participants help with outreach, activities or programs as part of one or more teams:

- Educating youth through outreach
- Protecting pollinators
- Emerald ash borer education
- Bed bug mythbusters

The training camp will be held on July 12–13 (9 a.m. to 5 p.m. both days) at UNL East Campus Union and various on-campus outdoor locations. The cost is \$35 and includes continental breakfast, lunch and afternoon refreshments. Topics will include insect basics, pollinators, pests and how to teach insect programs.

Pre-registration is required by June 19. Limited to 40 persons, so register soon! Mail name(s), address, phone number, email (required — all updates will be sent via email) and \$35 payable to the University of Nebraska to: Jeri Cunningham, University of Nebraska–Lincoln, Department of Entomology, Lincoln, NE 68583.

Daily parking permits can be purchased for \$6 (\$7 starting July 1) at <https://unlpts.t2hosted.com/Account/Portal>

For more information, contact Erin Bauer at 402-472-9548 or [ebauer2@unl.edu](mailto:ebauer2@unl.edu).



Jan Hygnstrom, UNL Department of Agronomy and Horticulture

## Got Termites? UNL is Looking for a House for 2017 Termite Academy

Nebraska Extension in Lancaster County will offer a two-day, in-depth Termite Academy on Sept. 12–13, 9 a.m.–5 p.m. for termite applicators, home inspectors and other interested persons. A portion of the training will be held in classroom-style setting at the Lancaster Extension Education Center and the hands-on portion will be on-site at an actual termite-infested house.

We are currently looking for a termite house in Lincoln/Lancaster County for the training — any termite-infested house will be considered. If your house is chosen, we will cover the cost of the termite treatment. If you are interested in working with us, contact Jody Green at [jgreen17@unl.edu](mailto:jgreen17@unl.edu) or 402-441-7180.

## “Sleep Tight, Don't Let the Bed Bugs Bite” Training for Preschool & Child-Care Providers

Extension Educators Jody Green and Nicole Stoner are presenting bed bug trainings to help preschool and child-care providers protect the families they serve.

**Tuesday, May 16, 6–8 p.m.**

**Gage County Extension Office  
1115 W. Scott St., Beatrice**

To register, call 402-223-1384 or email [nstoner2@unl.edu](mailto:nstoner2@unl.edu)  
Make checks payable to University of Nebraska–Lincoln

**Saturday, May 20, 9–11 a.m.**

**Lancaster Extension Education Center  
444 Cherrycreek Rd., Lincoln**

To register, call 402-441-7180 or email [jgreen17@unl.edu](mailto:jgreen17@unl.edu)  
Make checks payable to Nebraska Extension in Lancaster County

Please register at least three days prior to training. The cost is \$10, to be paid with cash or check on the day of the training. Attendees will receive two hours of child-care CEUs.

Bed bugs are a concern in facilities and communities with sensitive environments and clientele. The purpose of this training is to increase participant's knowledge of bed bugs in order to help them identify, inspect, manage and prevent the spread of these hitchhiking insects. This educational opportunity will help guide those interested in fulfilling the requirements of L.M.C. 8.14, which requires child-care facilities in Lincoln to have a written Integrated Pest Management plan on-site.



## HEART OF 4-H VOLUNTEER AWARD

### Chas Skillett

Lancaster County 4-H is proud to announce Chas Skillett as winner of May's "Heart of 4-H Award" in recognition of outstanding volunteer service.

Chas goes above and beyond as an operations manager and arena director at the Lancaster Event Center to help set up for 4-H events held at the facility. There are four full days of 4-H events at the Lancaster County Super Fair and 4-H events throughout the year, such as clinics and shows.

Extension Associate Cole Meador says, "Chas is always there to help with logistics and make the events run smoothly."

Chas says, "My favorite experience helping with 4-H is watching the kids receive their awards. It just shows them that hard work pays off and it is cool to see their emotions when they walk out of the ring. I have seen kids burst into tears when they get congratulatory hugs from their parents."

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



## HORSE BITS

For more information about the Lancaster County 4-H Horse program, contact Kate at [kpulec3@unl.edu](mailto:kpulec3@unl.edu) or 402-441-7180.

### Attention! Horse Dress Code Change

The Horse VIPS Committee has decided Lancaster County will overall follow what the state "4-H Horse Show and Judging Guide" (4-H 373) rule book states, which means darts/pleats will be permitted and no longer considered illegal. All other Lancaster County rules have not changed. The new dress code is online at <http://lancaster.unl.edu/4h/horse/HorseDressCode.pdf>

### 4-H District/State Entries Due May 12, District Show in Lincoln June 20

4-H'ers competing in 4-H district and state horse shows must be 10 years of age by Jan. 1. All Lancaster County 4-H'ers participating in district/state horse shows must submit entries, horse identifications and completed horsemanship levels to the Extension office by Friday, May 12. **No late entries will be accepted!** Entry forms, guidelines, procedures and the 2 & 3 year old western pleasure affidavits are available at the Extension office or online at <http://4h.unl.edu/horse>. Lancaster County will be hosting one of the district horse shows on June 20.

### 4-H Horse Identifications Due June 1

Every horse showing at the Lancaster County Super Fair must be identified on a form "4-H Horse Identification Certificate" and must be submitted to Lancaster County Extension office by June 1. This form is available at the Extension office as a carbon copy form. If you use the online form at <http://go.unl.edu/uwg4>, make a copy for yourself.

### 4-H Horse Judging Contest, June 2

The Lancaster County 4-H Horse Judging contest will be held on Friday, June 2 at the Lancaster Event Center - Pavilion 3. Registration is 5:30-6:30 p.m. Start time 6:30 p.m. This is a Super Fair premium event. The top ten 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.

### Pre-District Show, June 3

The Lancaster County 4-H Horse VIPS Committee and the Salt Creek Wranglers are sponsoring a 4-H Pre-District Show on Saturday, June 3, 9 a.m. at the Lancaster Event Center - Pavilion 3. Show flyer is at <http://lancaster.unl.edu/4h/horse/HorseVIPSPreDistrictsShow17.pdf>.

### 4-H Leader Spring Training, May 18

New leaders, experienced leaders, 4-H members and parents are invited to a free 4-H Leaders Training on Tuesday, May 18, 9 a.m. or 6:30 p.m. (you choose which time to attend) at the Lancaster Extension Education Center, 444 Cherrycreek Road. Meeting will focus on NEW 4-H curriculum, static exhibits, opportunities for 4-H members and more. **MUST** register by May 16 by calling 402-441-7180.

### Poultry Clinic, May 25

Lancaster County 4-H poultry volunteers will host a poultry clinic on Thursday, May 25, 6-8 p.m. at the Lancaster Event Center, Pavilion 1 (east end). Open to all youth. Free-will donations appreciated to support the 4-H poultry program. This will be an opportunity to learn the basics of washing, show preparation, showmanship, breeds etc. Plan to attend to sharpen your skills. If questions, contact Cole at 402-441-7180 or [cmeador2@unl.edu](mailto:cmeador2@unl.edu).

### Sheep & Meat Goat Weigh-In and Tag Day, May 16

4-H/FFA members planning to exhibit market sheep and meat goats need to have their lambs and goats officially tagged and weighed on Tuesday, May 16, 6-7 p.m. at the Lancaster Event Center - Pavilion 2. For more information, call Cole at 402-441-7180.

### 4-H Special Garden Project, Sunburst Summer Squash

4-H families are invited to participate in a special garden project, growing Sunburst Summer Squash. Seed packets are available on a first-come, first-served basis. The cost is \$.50 for one seed packet per family. Please stop by the Extension office front desk to register, pay for and pick up your seeds. Office hours are Monday-Friday, 8 a.m.-4:30 p.m. We are unable to take orders over the phone or reserve seeds in advance.

### 4-H Life Challenge Contests

4-H Life Challenge Judging Contests help youth learn more about issues related to family and consumer science and entrepreneurship. Contests are open to all 4-H'ers. For more information, contact Kristin at 402-441-7180.

- **County-level Junior (for ages 8-11) AND Senior Life Challenge (for ages 12 and up)** will be held on Saturday, June 3, 8:45 a.m. at the Lancaster Extension Education Center. Preregister by June 1 by calling 402-441-7180 (there is no entry form). Contact Kristin for a study packet.
- **Statewide Life Challenge (for ages 12 and up)** will be held June 26-27 on UNL East Campus. To participate, contact Kristin at 402-441-7180 by June 1. Information will be online at <http://4h.unl.edu/life-challenge>.

### Quality Assurance Training for Market Animals Due June 15

4-H/FFA members showing market beef, market sheep, market swine, meat and dairy goats, dairy cattle, poultry and rabbits at the Super Fair, State Fair or AKSARBEN must complete Quality Assurance Training by June 15. Livestock exhibitors showing only breeding animals and horse exhibitors do not have to complete it.

**Lancaster County 4-H will offer a free QA face-to-face training on Thursday, June 1, 6-7 p.m.** at the Lancaster Extension Education Center, 444 Cherrycreek Road. Pre-register by calling 402-441-7180 by May 30.

Nebraska 4-H's new Quality Assurance online curriculum "Youth for the Quality Care of Animals" (YQCA) at <http://yqca.learnrow.io> started on March 31. Use your family 4HOnline login and password information to access the courses. Only ACTIVE members will show in the drop down menu for access to the course. There is a new fee structure of \$12. All 4-H'ers need to use the 4-H tab and not the FFA tab even if they are members of both organizations. If you have forgotten your password, there is a place to reset it. All YQCA registration questions must go to [help@yqca.org](mailto:help@yqca.org).

4-H'ers who started their QA training in the Livestock Quality Assurance online course before March 31 will be able to complete their modules and print their completion certificates. Certificates must be turned into the Extension office.

## CLOVER COLLEGE REGISTRATION FORM

### SEE NEXT PAGE FOR CLOVER COLLEGE WORKSHOP INFORMATION

For current class availability, go to <http://lancaster.unl.edu/4h/programs/clovercollege>

Classes fill up quickly!

To register, complete the registration form (one person per form) and return with payment (make check payable to Lancaster County Extension). Registrations are handled on a "first come" basis and will only be accepted upon receipt of fees. **No telephone or online registration.** No refunds unless class is already filled or canceled. Photocopy completed form for your reference.

Confirmation letters and schedules will not be sent. Assume your registration is confirmed unless we contact you about filled classes.

<b>Registration opens May 3 at 8 a.m. for currently enrolled 4-H members.</b>		<b>Registration opens May 10 at 8 a.m. for non-4-H members.</b>	
Is youth currently enrolled in 4-H? <input type="checkbox"/> yes <input type="checkbox"/> no			
Name _____		Age _____	
Parents Name(s) _____			
Address _____			
City _____		State _____ Zip _____	
Daytime Phone _____		Email _____	
Special Needs (allergies, etc.) _____			
Workshop(s) # _____ Title _____ Fee _____			
# _____ Title _____ Fee _____			
# _____ Title _____ Fee _____			
# _____ Title _____ Fee _____			
# _____ Title _____ Fee _____			
Use additional sheet of paper if needed			Total _____
I give permission to use my child's image in photographs taken at Clover College in publications, news articles, advertisements or websites pertaining to 4-H. <input type="checkbox"/> yes <input type="checkbox"/> no			
I give permission for my child to complete workshop evaluations to assess educational impact and life skill development. All information is obtained and reported as aggregated data. <input type="checkbox"/> yes <input type="checkbox"/> no			
Parent/Guardian Signature: _____			Date: _____

Mail or bring registration form and payment to:  
Nebraska Extension in Lancaster County, 444 Cherrycreek Rd., Ste. A, Lincoln, NE 68528  
**EARLY REGISTRATION NOT ACCEPTED!**

# Clover College

Tue., June 20–Fri., June 23

Lancaster Extension Education Center, 444 Cherrycreek Road

Open to youth ages 6 & up. Four days of “hands-on” workshops full of fun and a sense of belonging. Learning session topics include STEAM concepts of science, technology, engineering, art and math which spark career interests. Youth may attend as many workshops as they wish. All supplies will be provided unless

otherwise noted. Youth attending workshops that 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, contact Kristin Geisert at 402-441-7180.



## WORKSHOP DESCRIPTIONS

### 4-Day Workshops

#### 1 Clover Kids Day Camp

Clover Kids will participate in hands-on activities while learning about animals, food fun, science, the outdoors and more. Refreshments provided for this workshop. TUE–FRI, JUNE 20–23; 8AM–12:15PM AGES 6 & 7 • FEE \$40

#### 2 Rocketry

Build your own rocket and launch it. Receive a rocket kit and one engine. Only for youth who have not taken this class previously. TUE–FRI, JUNE 20–23; 8–10AM AGES 8–12 • FEE \$20 Instructor: Ron Suing, 4-H Volunteer

#### 3 Kickstart Chess!

Want to become a grandmaster? Learn basic rules to game winning strategies. This progressive program is for beginners and those beyond. Lessons are supplemented by practice and play. TUE–FRI, JUNE 20–23; 10:15AM–12:15PM AGES 8 & up • FEE \$10 Instructor: James Walla, 4-H Volunteer

### 2-Day Workshop

#### 4 Monster Mania

Make a plush monster with light up eyes using circuits of conductive thread. THU, JUNE 22; 12:45–2:45PM FRI, JUNE 23; 12:45–2:45PM AGES 10 & up • FEE \$8 Instructors: F. John Hay, Extension Energy Educator & Intern Team

### 1-Day (4 Hour) Workshops

#### 5 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 taken this class previously. THU, JUN 22; 8AM–12:15PM AGES 9 and up • FEE \$5 Instructors: David Smith, Extension Biosolids Coordinator & Soni Cochran, Extension Associate

#### 6 Embellished Design

Create an original design using stitching, fabric and inkjet color pencils. Bring sewing machine, new 80/12 machine needles, sewing kit, fabric scraps for appliqué, 3–4 colors of thread including black and an article of clothing or fabric (each pre-washed) to decorate. WED, June 21; 12:45–5PM AGES Must be enrolled in 4-H Clothing STEAM 2 or 3 • FEE \$5 Instructor: Kath Conroy, 4-H Volunteer

### 1-Day (2 Hour) Workshops

#### 7 Babysitting Kit

Create a bag of tricks to care for a preschooler. TUES, JUNE 20; 8–10AM AGES 8 & up • FEE \$8 Instructor: Jaci Foged, Extension Educator

#### 8 Animal First Aid

Learn about your pet while making a fun and usable first aid kit. TUES, JUNE 20; 8–10AM AGES 8 & up • FEE \$10 Instructor: Kylee Plager, 4-H Volunteer

#### 9 Shopping in Style

Learn savvy shopping tips while exploring the 4-H Shopping in Style project. TUES, JUNE 20; 10:15AM–12:15PM AGES 8 & up • FEE \$5 Instructor: Sadie Hammond, Extension Intern

#### 10 Code Camp

Interested in coding? If you can read, you can code in this game environment! TUES, JUNE 20; 10:15AM–12:15PM AGES 8 & up • FEE \$5 Instructor: Gavin Nielson, Extension Intern

#### 11 Outdoor Cooking

Everything tastes better when cooked outside! Join us for cooking fun. Only for youth who have not taken this class previously. Must wear closed-toed shoes. TUES, JUNE 20; 10:15AM–12:15PM AGES 10 & up • FEE \$8 Instructors: Soni Cochran, Extension Associate

#### 12 Discover Kumihimo

Girls and boys — explore the Japanese art of cord braiding. TUES, JUNE 20; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Cathy Babcock, 4-H Volunteer

#### 13 Makey, Makey

Use everyday items to build a computer joystick or keyboard. TUES, JUNE 20; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Gavin Nielson, Extension Intern

#### 14 Cake Decorating

Learn decorating techniques and create your own designs. TUES, JUNE 20; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Lorene Bartos, Extension Educator Emeritus

#### 15 Playing in the Dirt

Dig into soil by learning about the composition, nutrients and layers in the soil. TUES, JUNE 20; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Molly Brandt, State 4-H Office Staff

#### 16 Paper Crafting

Learn the art of paste papers, hand stamping and book making. TUES, JUNE 20; 3–5PM AGES 8 & up • FEE \$5 Instructor: Jordan Geisert, UNL Senior Graphic Design Major

#### 17 Make a Difference

Participate in this community service project and be a difference maker for local people in need! TUE, JUNE 20; 3–5PM AGES: 8 & up • FEE \$5 Instructor: Jen Smith, 4-H Volunteer

#### 18 Canvas Painting

Create your own masterpiece of wall art while learning to paint scenery. TUE, JUNE 20; 3–5PM AGES 8 & up • FEE \$5 Instructor: Karen Wedding, Extension Staff

#### 19 Amazing Engineering 1

Design and build amazing engineering projects. Projects will differ from Amazing Engineering 2. TUE, JUNE 20; 3–5PM AGES 8 & up • FEE \$3 Instructors: UNL Engineering Dept.

#### 20 Real World GPS & GIS

Discover the amazing world of Global Positioning Systems and Geographical Information Systems! WED, JUNE 21; 8–10AM AGES 8 & up • FEE \$5 Instructors: Lancaster Co. Engineers

#### 21 CSI Discovery

Learn how evidence leads to answering tough questions and solving criminal cases. WED, JUNE 21; 8–10AM AGES 8 & up • FEE \$5 Instructor: Ivy Dearthmont, Extension Intern

	TUE, JUNE 20	WED, JUNE 21	THU, JUNE 22	FRI, JUNE 23
8:00–10:00	1 CLOVER KIDS 2 ROCKETRY 7 BABYSITTING KIT 8 ANIMAL FIRST AID	1 CLOVER KIDS 2 ROCKETRY 20 REAL WORLD GPS & GIS 21 CSI DISCOVERY 22 GAME ON!	1 CLOVER KIDS 2 ROCKETRY 5 GONE FISHING 35 HORSE COURSE A 36 BOTTLES, BOTTLES	1 CLOVER KIDS 2 ROCKETRY 48 STRING ART 49 SMART MONEY
10:15–12:15	1 CLOVER KIDS 3 KICKSTART CHESS 9 SHOPPING IN STYLE 10 CODE CAMP 11 OUTDOOR COOKING	1 CLOVER KIDS 3 KICKSTART CHESS 23 BRIDGES & ROADS 24 AMERICA'S ROSE 25 PICTURE THIS! 26 TABLE SETTING	1 CLOVER KIDS 3 KICKSTART CHESS 5 GONE FISHING 37 HORSE COURSE B 38 RABBITS, RABBITS 39 INSECT INVESTIGATORS	1 CLOVER KIDS 3 KICKSTART CHESS 50 GIDDY GOATS 51 SPARK FUN 52 SOLAR CARS
12:45–2:45	12 DISCOVER KUMIHIMO 13 MAKEY, MAKEY 14 CAKE DECORATING 15 PLAYING IN THE DIRT	6 EMBELLISHED DESIGN 27 BIG POWER MACHINES 28 UNL ANIMAL SCIENCE 29 WILD WEATHER 30 LET'S COOK 31 CONTROL THE FLOW	4 MONSTER MANIA 40 COOL & UPCYCLED 41 SEW FUN TABLE MAT 42 TOP MODELING 43 HAMMER! NAIL! BUILD!	4 MONSTER MANIA 53 CLUCK, QUACK! 54 MAGIC PILLOWCASE 55 GIFTS FROM KITCHEN
3:00–5:00	16 PAPER CRAFTING 17 MAKE A DIFFERENCE 18 CANVAS PAINTING 19 ENGINEERING 1	6 EMBELLISHED DESIGN 32 CREATIVE CRAFTS 33 DOUGH FUN 34 ENGINEERING 2	44 FANTASTIC FELTING 45 FLOWERS 46 FANCY FOOD & FITNESS 47 WIRED FOR WIND	NO CLASSES

#### 22 Game On!

Play modern board games like never before by using special reasoning and critical thinking. WED, JUNE 21; 8–10AM AGES 8 & up • FEE \$3 Instructor: Cathy Babcock, 4-H Volunteer

#### 23 Bridges & Roads

Create chocolate asphalt, fantastic bridges and more. WED, JUNE 21; 10:15AM–12:15PM AGES 8 & up • FEE \$5 Instructors: Lancaster Co. Engineers

#### 24 America's Rose

Learn how to plant, care, grow and show roses. WED, JUNE 21; 10:15AM–12:15PM AGES 10 & up • FEE \$5 Instructors: Lincoln Rose Society Members

#### 25 Picture This!

Use a pinhole camera, a darkroom and developer to produce a unique photographic print. WED, JUNE 21; 10:15AM–12:15PM AGES 8 & up • FEE \$5 Instructor: Pat Heather, 4-H Volunteer

#### 26 Terrific Table Setting

Create an awesome centerpiece and learn how to participate in the 4-H Table Setting Contest at the Super Fair. WED, JUNE 21; 10:15AM–12:15PM AGES 8 & up • FEE \$5 Instructor: Sadie Hammond, Extension Intern

#### 27 Big Power Machines

Get a behind the scenes tour of how mechanics create specialized equipment and make repairs. WED, JUNE 21; 12:45–2:45PM AGES 8 & up • FEE \$5 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 yummy stop at the UNL dairy store. WED, JUNE 21; 12:45–2:45PM AGES 8 & up • FEE \$3 Instructor: Cole Meador, Extension Associate

#### 29 Wild Weather

Explore the amazing side of weather and become a weather scientist. WED, JUNE 21; 12:45–2:45PM AGES 8 & up • FEE \$3 Instructor: Tyler Williams, Extension Educator

#### 30 Let's Cook

Cooking healthy food can be fun and tasty! WED, JUNE 21; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Madde Biester, Extension Nutrition Intern

#### 31 Control the Flow

Explore the 4-H “Magic of Electricity” project by creating a light switch you may enter in the Super Fair! WED, JUNE 21; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Jim Wies, Extension Technologist

#### 32 Creative Crafts

Show your creativity while making fun crafts. WED, JUNE 21; 3–5PM AGES 8 & up • FEE \$5 Instructor: Tammy Riedel, 4-H Volunteer

#### 33 Dough Fun

It's easier than it looks to mix and shape bread and rolls. Learn techniques and take samples home. WED, JUNE 21; 3–5PM AGES 10 & up • FEE \$5 Instructor: Lorene Bartos, Extension Educator Emeritus

#### 34 Amazing Engineering 2

Design and build amazing engineering projects. Projects will differ from Amazing Engineering 1. WED, JUNE 21; 3–5PM AGES 8 & up • FEE \$3 Instructors: UNL Engineering Dept.

#### 35 Horse Course – A

An introduction to grooming, tacking and safety around a horse. A horse will help teach. Must wear closed-toed shoes. THU, JUNE 22; 8–10AM AGES 8 & up • FEE \$4 Instructor: Kate Pulec, Extension Assistant

#### 36 Bottles, Bottles

Make decorated vases using a variety of techniques and embellishments. THU, JUNE 22; 8–10AM AGES 8 & up • FEE \$10 Instructor: Anna Sump, 4-H Volunteer

#### 37 Horse Course – B

Same class as Horse Course – A. An introduction to grooming, tacking and safety around a horse. A horse will help teach. Must wear closed-toed shoes. THU, JUNE 22; 10:15AM–12:15PM AGES 8 & up • FEE \$4 Instructor: Kate Pulec, Extension Assistant

#### 38 Rabbits, Rabbits!

Learn to care for rabbits and about 4-H rabbit showmanship with live rabbits. THU, JUNE 22; 10:15AM–12:15PM AGES 8 & up • FEE \$3 Instructors: Cindy & Alyssa Zimmer, 4-H Volunteers

#### 39 Insect Investigators

Make a cool, catch-and-release critter container and enjoy the thrill of a bug hunt. THU, JUNE 22; 10:15AM–12:15PM AGES: 8 & up • FEE \$5 Instructor: Jody Green, Extension Educator

#### 40 Cool & Upcycled

Create marshmallow blasters, cars, bird feeders, etc. by upcycling. THU, JUNE 22; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Tammy Sheldon, 4-H Volunteer

#### 41 Sew Fun Table Mat

Hand sew a fabric table mat while learning the blind slip stitch and button sewing skills. No previous sewing experience required. Supplies provided. THU, JUNE 22; 12:45–2:45PM AGES 10 & up • FEE \$5 Instructors: Abby & Ellie Babcock, 4-H Volunteers

#### 42 Top Modeling

Be a styling diva and learn the ins and outs of modeling. Perfect preparation for 4-H Fashion Show. THU, JUNE 22; 12:45–2:45PM AGES 8 & up • FEE \$2 Instructor: Shar Sieck, 4-H Volunteer

#### 43 Hammer! Nail! Build!

Build and decorate a hanging plant holder to display outside. THU, JUNE 22; 12:45–2:45PM AGES 8 & up • FEE \$10 Instructor: Karol Swotek, 4-H Volunteer

#### 44 Fantastic Felting

Use wool and the dry felting method to create fun shapes and designs. THU, JUNE 22; 3–5PM AGES 8 & up • \$10 Instructor: Cindy Zimmer, 4-H Volunteer

#### 45 Purple Ribbon Flowers

Learn what it takes to win top fair awards exhibiting flowers and veggies. THU, JUNE 22; 3–5PM AGES 8 & up • FEE \$5 Instructor: Sarah Browning, Extension Educator

#### 46 Fancy Food & Fitness Fun

Design a fun food art snack and enjoy exciting fitness activities. THU, JUNE 22; 3–5PM AGES 8 & up • FEE \$6 Instructor: Jenny DeBuhr, Extension Staff & Angela Mittan, 4-H Volunteer

#### 47 Wired for Wind

Discover engineering design through building small wind turbines. It will be “watts” of fun! THU, JUNE 22; 3–5PM AGES 8 & up • FEE \$7 Instructors: F. John Hay, Extension Energy Educator & Intern Team

#### 48 String Art

Create a work of art with nails and string. FRI, JUNE 23; 8–10AM AGES 8 & up • FEE \$7 Instructor: Ivy Dearthmont, Extension Intern

#### 49 Smart Money

Learn to be savvy about finances — from how to spend money to opening a checking account. FRI, JUNE 23; 8–10AM AGES 8 & up • FEE \$3 Instructor: Dena Noe, V.P. Marketing, UNL Federal Credit Union

#### 50 Giddy Goats

Goats will be present to help you find out all about them! FRI, JUNE 23; 10:15AM–12:15PM AGES 8 & up • FEE \$4 Instructor: Cole Meador, Extension Associate

#### 51 Spark Fun

Create different sounds and lights with an electronic circuit board. Fun! FRI, JUNE 23; 10:15AM–12:15PM AGES 8 & up • FEE \$3 Instructor: Jim Wies, Extension Technologist

#### 52 Solar Cars

Discover engineering design through building and testing solar powered cars. FRI, JUNE 23; 10:15AM–12:15PM AGES 8 & up • FEE \$10 Instructors: F. John Hay, Extension Energy Educator & Intern Team

#### 53 Cluck, Cluck, Quack!!

Enjoy the fun of backyard poultry as we learn about chickens, ducks, etc. FRI, JUNE 23; 12:45–2:45PM AGES: 8 & up • FEE: \$5 Instructors: Savannah Schafer, Extension Intern & Deloris Pittman, 4-H Volunteer

#### 54 Magic Pillowcase

Sew your own pillowcase. Bring 3/4 yd. of a fun cotton fabric along with 1/4 yd. each of two coordinating fabrics (no stripes or matching plaids), matching thread, basic sewing supplies and sewing machine. Must have basic sewing skills. An eligible 4-H fair exhibit. FRI, JUNE 23; 12:45–2:45PM AGES 8 & up • FEE \$3 Instructors: Abby & Ellie Babcock, 4-H Volunteers

#### 55 Gifts from the Kitchen

Using jars, create food mixes all tied up to be homemade gifts. FRI, JUNE 23; 12:45–2:45PM AGES 8 & up • FEE \$5 Instructor: Sadie Hammond, Extension Intern

For current class availability, go to <http://lancaster.unl.edu/4h/programs/clovercollege>

To register, use form on previous page.





# EXTENSION CALENDAR

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

## April

- 25 **4-H Horsemanship Level Testing**, Lancaster Event Center - Pav. 4, Amy Countryman Arena..... 5:30 p.m.
- 25 **Nutrition & Physical Activity Self-Assessment for Child Care ....** 6:15–8:15 p.m.
- 25–26 **Ag Literacy Festival (for 4th Grade)**, Lancaster Event Center
- 28 **Science Early Learning Guidelines**.....9 a.m.–3 p.m.
- 29–30 **Hunter's Pride 4-H Club Shaggy Horse Dressage Show**, Lancaster Event Center

## May

- 1 **Pesticide Applicator NDA Walk-in "Testing Only" Session .** 9 a.m.–2 p.m.
- 2 **4-H Council Meeting** ..... 6 p.m.
- 3 **Environmental Awareness Workshop for Child-Care Providers & After-School Staff** ..... 10 a.m.–12 p.m.
- 4 **Management Training Program for Childcare Directors ...** 9 a.m.–3:30 p.m.
- 6 **Emerald Ash Borer Seminar**..... 9–11 a.m.
- 8 **4-H Horsemanship Level Testing**, Lancaster Event Center - Pav. 4, Amy Countryman Arena..... 5:30 p.m.
- 11 **Co-Parenting for Successful Kids Class** .....9 a.m.–12:30 p.m.
- 12 **Extension Board Meeting**..... 8 a.m.
- 12 **Lancaster County 4-H Deadline for District/State Horse Show Entries, ID, Level Tests**
- 15 **Pesticide Applicator NDA Walk-in "Testing Only" Session .** 9 a.m.–2 p.m.
- 15 **Go Nutrition and Physical Activity Self-Assessment for Child Care Training** ..... 12:30–3:30 p.m.
- 16 **Engineering and Energy Workshop for Child-Care Providers & After-School Staff**..... 10 a.m.–12 noon OR 6:30–8:30 p.m.
- 16 **4-H/FFA Sheep/Goat Weigh-In & Tag Day**, Lancaster Event Center - Pav. 2 ..... 6–7 p.m.
- 18 **Management Training Program for Childcare Directors ...** 9 a.m.–3:30 p.m.
- 18 **4-H Leader Trainings**..... 9 a.m. & 6:30 p.m.
- 20 **Bed Bug Training for Preschool & Child-Care Providers** ..... 9–11 a.m.
- 22 **Go Nutrition and Physical Activity Self-Assessment for Child Care Training** ..... 12:30–3:30 p.m.
- 25 **4-H Poultry Clinic**, Lancaster Event Center - Pav. 1 ..... 6–8 p.m.

# EXTENSION NEWS

## New 4-H Assistant, Kate Pulec



Kate presented last year's 4-H Quality Assurance training, which included teaching different types of injections.

Kate Pulec joined Nebraska Extension in Lancaster County as a 4-H Extension Assistant in February. Some of her responsibilities include the horse, rabbit, cat and household pet programs, and Speech & Public Service Announcement Contests. She will also assist with the Embryology school enrichment program and provide 4-H programs to home-school and after-school groups.

Kate started working with the Animal Science Horse Extension state program in 2012 as an undergraduate, assisting with youth and adult programming. In 2015, she became an AmeriCorps member with the Nebraska Extension in Lancaster County and then served as a 4-H intern.

Kate grew up in Murray where she was involved with Cass County 4-H for most of her youth, exhibiting horses and static exhibits. Kate served in the Nebraska Army National Guard and graduated from the University of Nebraska with a bachelor's degree in Animal Science and a Masters of Applied Science focused in Agricultural Leadership Education & Communication as well as Educational Psychology.

"I am excited to be a part of helping grow true leaders!" says Kate.

## 5th Graders Learn About Environment at Earth Wellness Festival

Over 3,500 Lancaster County fifth graders from 50 schools attended the 23rd annual Earth Wellness Festival (EWF) on March 21 and 22 at Southeast Community College. Students rotated among 25-minute sessions and then attended a culminating activity with featured presenters, World Bird Sanctuary from St. Louis. Classrooms attending the festival received pre-festival learning kits in October.

The festival is organized by eight local agencies, including Nebraska Extension in Lancaster County. Students discover and explore the relationships and interdependency of land, water, air and living resources through hands-on activities.

More photos and an overview video are online at <http://lancaster.unl.edu/ewf>.



Students got a hands-on look at insects and insect food ingredients in "Insects as Food" presented by Extension Educator Jody Green.



A turkey vulture was one of the birds of prey students learned about during the culminating activity, "The Raptors," presented by World Bird Sanctuary of St. Louis.



Extension Associate Cole Meador presented a session about "Scat" in which 5th graders learned that what various wildlife eat affects their scat (feces). Students also recreated animal scat using Tootsie Rolls and other edible foods.

Lancaster County 4-H Council is part of



give To Lincoln Day

THURSDAY MAY 18TH 2017



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 on May 18 is increased by a proportional share of a \$350,000 challenge match fund!

- Here are a few ways your support will help youth:
- help a 4-H member pay for curriculum, workshop costs, etc.,
  - help provide hands-on learning opportunities to more youth through after-school 4-H programs,
  - help send a Lancaster County youth to a 4-H summer camp, or
  - make a big difference helping local youth grow into true leaders!

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