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Understanding How Climate Change Affects Nebraska and Agriculture

Tyler Williams
*Extension Educator,
Lancaster County*

Climate change is a challenging subject to understand, discuss openly and interpret how it will influence our daily lives.

Global Warming or Climate Change

The terms “global warming” and “climate change” are commonly used interchangeably, but people often have different responses to each term. Essentially, global warming is exactly what it says: the globe is warming. This does not mean every town or county in the world is warming, but, as a whole, the globe is warming.

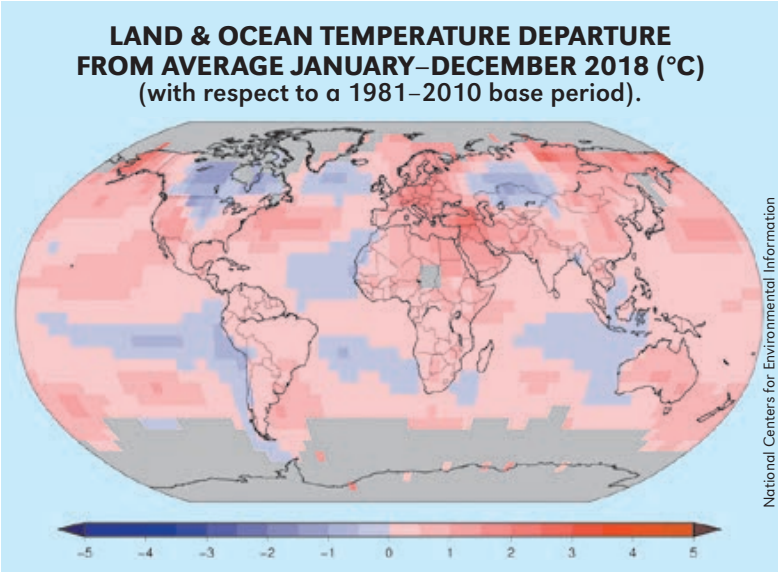
The average temperature of the globe in 2018 was 1.42°F above the last century average, making it the 42nd consecutive year the global average land and ocean temperature was above the 20th century average. The climate has changed many times in the past, but this rate of change is the main cause for concern, limiting our ability to adapt.

The term climate change is the term of choice used by many people when describing the impacts from a warming world. This does a better job of being able to describe the potential local impacts. For example, warming temperatures in one area may influence the upper level jet stream pattern, which may cause a cool and wet pattern to persist in another area. Using the term climate change can include more than “warming temperatures,” which is a more accurate way to describe how changes in climate may impact your area. The scientific community continues to learn more about these feedback mechanisms and how the earth will respond.

Why the Confusion on Climate Change?

The Yale Program on Climate Change Communication conducts surveys across the country to get a handle on

what people think about climate change and why. According to their 2018 poll, 64% of Nebraskans think global warming is happening (6% below national average), with a state high of 72% in Lancaster County, to a state low of 53% in Lincoln County. Only 51% of Nebraskans think it is caused mostly by human activities, with a state high of 66% in Lancaster and Douglas Counties and a state low of 44% in Lincoln County. This split on what is causing the changes — or even believing it to be true — often creates some anxiety or dismissiveness when discussing the issue.

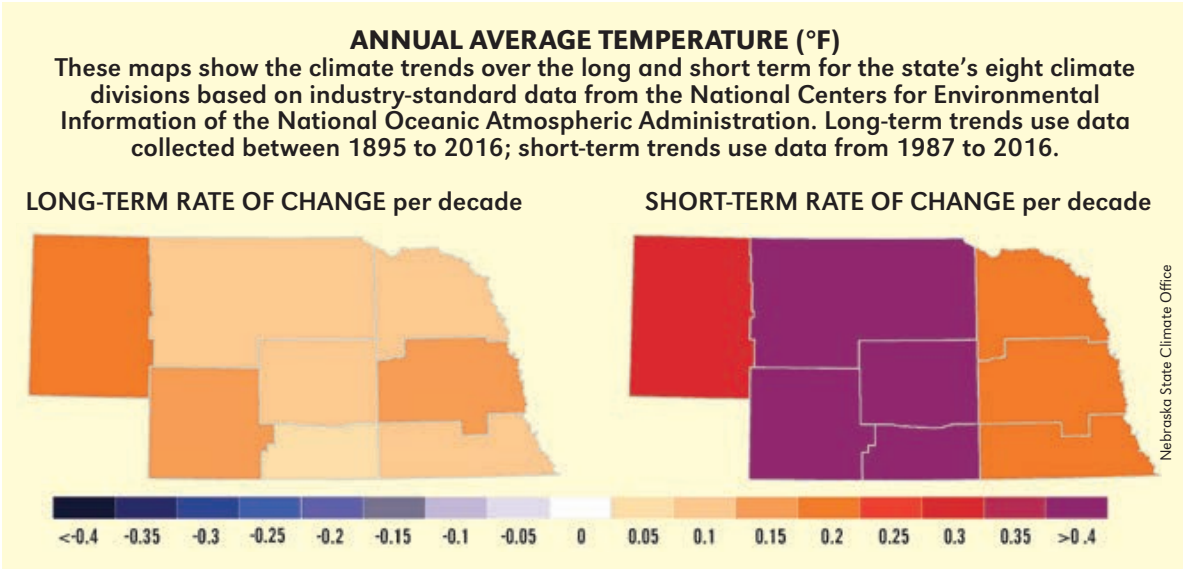


Getting accurate and non-biased climate change information can be a challenge. Many people have a news source of choice, which likely only provides one side of the climate change story and it probably aligns with the beliefs of its largest viewership. People also have a tendency to seek out the information they want to be true or information that aligns with their beliefs.

Finding reputable, non-biased sources is the key when trying to analyze climate change information and learn more about this topic.

Latest Climate Science

At the end of 2018, the U.S. Global Change Research Program released the 4th National Climate Assessment.



The hidden detail in the data is the consistent increase in minimum temperatures, which is outpacing the rise in maximum temperatures by a factor of two.

The precipitation trends in Nebraska are highly variable in time and location. On average, every 25 miles you go west in Nebraska, you lose one inch of annual precipitation, so when we say Nebraska is getting “wetter” (1.3-inch increase in 20th century), it means something completely different in Scottsbluff compared to Falls City. Seasonal differences are also quite important. Over the last 30 years, our spring precipitation has been increasing at a rate of 0.9 inches per decade and is a relatively consistent trend across the state.

Projections: Models are used to help project what the

future of our climate looks like. The projections in Nebraska for the next 75 years are similar to the trends we have seen over the last 30 years, with a few exceptions. It is projected to have longer growing seasons, warmer summers and more extreme hot days (current trend is decreasing). There is also an expectation to continue to see more precipitation; however, this is projected to come in less frequent, heavier events, so much of it may runoff causing other challenges and reducing infiltration into the soil. Even though there is this expected increase in precipitation, the increase in temperatures, especially during the growing season, would likely increase evaporation and put stress on water resources.

see CLIMATE on p. 3

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Are You Drinking or Eating Enough Dairy Foods for the Health Benefits?

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

Did you know June is National Dairy Month? It is a great time to learn more about dairy foods and how they fit into a healthy-eating pattern.

All age groups except for young children 1–3 years old are below the recommended intake for dairy foods according to the 2015–2020 Dietary Guidelines for Americans. Dairy provides many health benefits, so it is important to add more fat-free and low-fat dairy foods to your meals and snacks.

Dairy is Nutritious

Milk is the foundation for all dairy foods and only has three ingredients. It is a nutrient powerhouse by containing nine essential nutrients.

Milk is well-known for having calcium that helps build bones and teeth and maintains bone mass. Milk and yogurt provide potassium, which may help to maintain healthy blood pressure. Vitamin D is added to milk to help the body work with calcium and phosphorous to help build and maintain bones. Protein helps build and maintain healthy muscles and bones.

Dairy products are one of the most affordable sources of nutrition and has been linked to improved bone health.

How Much Dairy Foods Do I Need Daily?

The amount of dairy foods you need to eat daily depends on your age. Older children, teens and adults need 3 cups of dairy foods per day, while children 4–8 years old need 2-1/2 cups



for Americans does not count "milks" made from plants such as almond, coconut and rice as part of the dairy group because their overall nutrient content is not similar to dairy milk and fortified soymilk.

6 Ways to Add More Fat-free or Low-fat Dairy Foods

- Eat cereal with fat-free or low-fat milk.
- Mix fat-free or low-fat milk with your oatmeal.
- Top a baked potato with low-fat yogurt instead of sour cream.
- Make a yogurt parfait by layering fat-free or low-fat vanilla yogurt with fresh fruit and topped with a whole grain cereal.
- Drink a glass of fat-free or low-fat milk with a meal.
- If you cannot drink milk due to being lactose intolerant, try yogurt, lactose-free milk or fortified soymilk to help get your calcium.

Sources:

- 2015-2020 Dietary Guidelines for Americans. U.S. Department of Health and Human Services and U.S. Department of Agriculture; <https://health.gov/dietaryguidelines/2015/guidelines>
- Midwest Dairy. Dairy Nutrition; <https://bit.ly/22W0QwT>
- Choose MyPlate. Dairy Group. USDA Center for Nutrition Policy and Promotion; www.choosemyplate.gov

and children 2–3 years old need 2 cups.

Generally, 1 cup of milk, yogurt or soymilk, 1-1/2 ounces of natural cheese or 2 ounces of processed cheese counts as 1 cup from the Dairy Group. Cream cheese, cream and butter are not part of the dairy food group since they contain little or no calcium and are higher in saturated fat.

Comparing Cow's Milk with Milk Alternatives

Reading the Nutrition Facts label is important to compare food choices in order to select the healthier option. The table below shows how the calories, protein, fat and carbohydrates in cow's milk compares to milk alternatives.

Many people do not realize the nutrient profile varies between each type of milk and milk alternative. The 2015–2020 Dietary Guidelines

Nutrient comparison of cow's milk vs. milk alternatives

Calories and Nutrients	Cow's Milk (Low-Fat)	Soy	Almond	Coconut	Rice
Calories	110	110	60	80	120
Protein	8g	8g	1g	<1g	1g
Fat	2.5g	4.5g	2.5g	5g	2.5g
Carbohydrates	12g	9g	8g	7g	23g

Source: National Dairy Council. What's in your glass? <https://bit.ly/2vufaDW>



RECIPE OF THE MONTH

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

I'm highlighting this recipe by Cami Wells, Extension Educator in Hall County, because the recipe includes low-fat milk and yogurt, which is a great way to add more dairy foods into your day. Cami adapted the recipe from the USDA Mixing Bowl's Banana Split Oatmeal recipe.

FRUIT AND YOGURT OATMEAL

(Makes 2 servings)

- 1/3 cup oatmeal (dry, quick-cooking)**
- 3/4 cup low-fat milk or water**
- 1/2 cup strawberries, sliced bananas or other fruit, washed**
- 1/2 cup low-fat yogurt or frozen yogurt**

1. Wash hands with soap and water. In a micro-wave-safe cereal bowl, mix together the oatmeal and the milk or water.
2. Microwave on high power for 1 minute. Stir. Microwave an additional 30–60 seconds on high power until the cereal reaches the desired thickness. Stir again.
3. Top with fruit and yogurt.

Nutrition Facts Per Serving: Calories 153, Total Fat 1.2g, Sodium 220mg, Total Carbohydrate 28g, Sugars 18g, Protein 8g. Nutrition information will change if substitutions are used.



Cami Wells, Nebraska Extension in Hall County

Climate Change

continued from page 1

There are many other potential impacts, depending on the scale of the projected changes. The complexity of our earth and the many feedback mechanisms, combined with the unknown of future human activities and technological advances, limit the ability to say for certain what we could expect. As we all know, our highly variable, often unpredictable climate means we can still get extremes far from the general trend. Managing those extremes will be the key going forward.

Agriculture and Climate Interaction

Our climate can influence nearly every aspect of our lives, but when it comes to agriculture, the two are deeply connected. Our climate determines what types of crops we grow, types of cattle breeds to use, seasonal precipitation and temperature patterns, common pests to expect, among other influences. Seasonal variations (i.e. weather) often determine how successful we are in any given year. Managing these deviations and “extremes,” is the key to successful agricultural production in a challenging climate.

Climate Impacts On Agriculture: The projected changes mentioned earlier can influence agriculture, but during a 2017 and 2018 “Scenario Planning” project between South Dakota State University Extension and Nebraska Extension, faculty visited with cropping system and beef system stakeholders to determine which climate “scenarios” were most challenging. As you can imagine, this changed by location and individual operation, but there were some common themes. For cropping systems, the biggest challenges were wet and cold springs and falls. When talking with beef stakeholders, wet winters and dry summers were the most challenging.

Many of these challenging scenarios have actually played out over the past year, and the climate projections predict many of these will become more common in the future. It is important to take a look at how your operation “faired” during these conditions and take note of what worked and what didn’t in order to develop a plan based on certain scenarios. Scenario planning is used in many industries and it may be what is needed in agriculture moving forward. More information on the Scenario Planning project

and impacts/management strategies can be found at <https://weather-ready.unl.edu>.

Agriculture Impacts On Climate: It is easy to see how our climate impacts agriculture, but is not easy to know how agriculture impacts our climate. Many things impact our climate; such as building infrastructure, urbanization, vehicle emissions, energy use and many, many other ways. Agriculture is only a piece of the “pie” when it comes to impacting our climate. Greenhouse gases — such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone, water vapor and others — impact our climate by “trapping” heat near the earth’s surface. Without these gases, the earth would be about 59°F

cooler, however, there is a fine balance to maintain a constant temperature. There are many other human and natural factors that influence our climate, but much of the attention is placed on greenhouse gases.

In 2010, 24% of global emissions were from the agriculture, forestry and other land-use sector. This 24% includes the emitted greenhouse gases, but does not include the CO₂ that ecosystems remove from the atmosphere by sequestering carbon in biomass, dead organic matter and soils, which offset approximately 20% of emissions from this sector. In 2017, the agriculture sector contributed approximately 9% of all U.S. greenhouse gas emissions (does not include sequestered CO₂). The contribution to this ag sector comes from crop cultivation (49%), livestock (44%) and fuel combustion (7%).

Agriculture has its largest impact when looking at gases other than CO₂. CO₂ emissions are quite low and the overall balance is even smaller when taking into account the carbon dioxide sequestered by plants. CH₄ and N₂O are a different story. Agriculture contributes (as of 2016) 77% of the U.S. N₂O emissions and 35% of U.S. CH₄ emissions. These gases have a

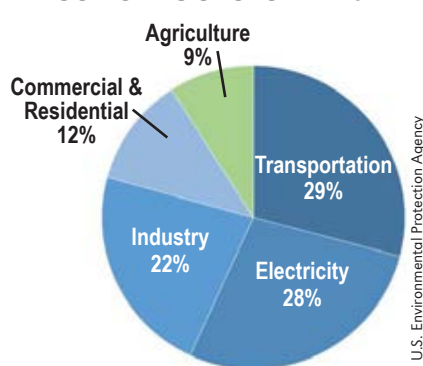
stronger “global warming potential” (based on a ratio compared to CO₂) than CO₂ because of the enhanced heat-trapping properties and extended life-span of N₂O (lasts an average of 114 years). Most of the N₂O comes from agricultural soil management and much of the CH₄ comes from enteric fermentation — aka cow burps — and from anaerobic fermentation.

There are many agricultural practices (i.e. no-till farming, irrigation scheduling, etc.) that can reduce economic losses caused by our weather and climate. Many of these losses are often the result of losses of soil or nutrients to the environment. Much attention has been placed on reducing these losses by ag businesses, farmers, universities and many others, with the goal of having an economically, socially and environmentally sustainable agricultural system.

Sources:

- National Centers for Environmental Information, www.ncdc.noaa.gov
- Nebraska’s Changing Climate — CropWatch, Dec. 2018, <https://cropwatch.unl.edu/2018/nebraska-changing-climate>
- NOAA Climate.gov, www.climate.gov
- U.S. Environmental Protection Agency — Greenhouse Gas Emissions, www.epa.gov/ghgemissions
- Yale Program on Climate Change Communication, <http://climatecommunication.yale.edu>

TOTAL U.S. GREENHOUSE GAS EMISSIONS BY ECONOMIC SECTOR in 2017



U.S. Environmental Protection Agency

Floods and Trees: Helping Trees Recover

Sarah Browning

*Extension Educator,
Lancaster County*

Floods cause damage to trees in two main ways — physical and physiological. The severity of damage is determined by many different factors, including the tree species, beginning health of the tree, time of year the flood occurs, length of flooding event, depth of the water and the amount of soil removed or deposited over the tree’s root system. Generally, broadleaved trees tolerate flooding better than conifers, such as pine, spruce and fir.

Fortunately, flooding is less damaging to trees when it occurs during the dormant season — as occurred this year. According to Dr. John Ball, South Dakota State University Extension Forestry Specialist, during winter and early spring before growth begins, most deciduous trees can tolerate several weeks of flooding if they don’t receive extensive physical damage.

Physical damage is easily seen, but physiological damage is often invisible and hard to measure. Now the growing season is in full swing and trees have leafed out, it’s easier to assess how trees have been affected.

Physical Damage

Strong flood waters, especially when accompanied by large slabs of ice, cause serious physical damage. Branches are broken and bark is gouged from the tree’s trunk. Water erodes soil around the roots, causing the tree’s root plate to become unstable. Trees can easily be



Sarah Browning, Nebraska Extension in Lancaster County

A maple tree with ice damage and sand sedimentation.

pushed over or pulled from the ground by racing flood waters.

To assess trees, look for broken branches hanging in the tree, leaning trees or significant bark damage. If broken branches can be reached safely from the ground, remove them, making a clean cut. Do not apply pruning paint or wound dressing to the cut.

Leaning trees are an imminent fall hazard and should be removed in most cases.

Trees can survive bark damage, depending on the severity. Assess how much of the trunk circumference is affected. If 10% or less of the tree’s circumference is affected, a previously healthy tree with little to no root damage has a good chance of recovery. If 50% or more of the tree’s circumference is affected, removal of the tree is the safest option as disease and decay are likely to create an unstable tree.

Soil erosion or removal by flood waters may leave tree roots exposed. If the tree is still standing and seems strongly rooted, add soil around the roots

Working in large or damaged trees can be extremely dangerous. Contact a certified arborist to have damaged trees assessed and removed. For more information, go to Nebraska Forest Service’s “Hiring an Arborist” online at <https://nfs.unl.edu/CommunityForestry/hirearborist.asp>.

to cover them and fill any gaps. But only add soil to the previous grade level, do not add extra soil over the tree’s roots. Do not bury the main roots flaring off the trunk. There should be a visible flare at the base of a well-planted tree trunk.

Physiological Damage

How does flooding cause physiological damage to trees? Two main avenues of injury are through oxygen starvation during the flood and soil deposits over the root system afterwards.

Oxygen Starvation. Tree roots are mostly inactive during winter dormancy, with minimal functions or growth, until soil temperatures reach a minimum of approximately 32–40°F. This is good news, because it means tree roots have a much lower need for soil oxygen while dormant and can more easily tolerate the lack of oxygen caused by early spring flood waters such as we experienced this year. In actively growing trees, the available oxygen in roots is used up within 1–3 hours following a flood.

A lack of oxygen causes roots to stop functioning or growing, and eventually results in root death. Heavy, woody roots are more likely to survive a flood than non-woody roots. Root death creates openings for pathogenic fungi to invade the tree. Loss of roots through direct

flood damage or disease make the tree prone to drought the following growing season and to windthrow during summer storms.

Flooding also suppresses the growth of mycorrhizal fungi, which need high levels of soil oxygen to grow well. Mycorrhizal fungi are beneficial organisms in the soil that form a relationship with tree roots and greatly expand a tree’s root network and nutrient uptake.

Sedimentation. Soil deposits over a tree’s root system following flood can range from zero inches to several feet of sand, silt or clay. These new deposits bury the original root system deeper in the soil, creating a long-term oxygen deficit. Some trees may be able to respond by sending out new roots into the upper layers of soil deposits, but other trees will simply decline and die. Even 3 inches of soil deposits can smother the roots of flood-intolerant tree species.

If flood waters have deposited soil beneath trees, remove this material down to the tree’s original soil grade in as large an area as possible. This must be done carefully and quickly. Once flood tolerant trees begin active growth in spring, they will grow roots into these new soil deposits. Damaging those new roots while removing the soil deposits is another injury to an already stressed tree.

Tree Tolerance to Intermittent Flooding During the Growing Season

- Tolerant — green ash, bald cypress, cottonwood, sycamore, willow
- Intermediate — arborvitae, river birch, boxelder maple, American elm, hackberry, honeylocust, silver maple, bur oak
- Intolerant — chinkapin oak, eastern red cedar, linden, white birch, buckeye, crabapple, Norway maple, pine, redbud, shagbark hickory, spruce, sugar maple, tulip poplar, walnut

Long-Term Recovery

It is common to see flood-damaged trees die 2–5 years following the event from the long-term effects of physical and/or physiological injury. It’s important for homeowners to understand it takes trees several years to fully recover. If the tree is to be saved, it’s important to protect it from additional insect or disease damage during this time. Inspect trees periodically throughout the growing season for signs of problems.

After the flood, trees have a reduced root system due to root and mycorrhizal fungi death, so keep them watered during dry summer periods for the next several years as they regrow new roots.

Apply a 2.5- to 3-inch layer of organic mulch in a flat layer around the base of the tree. The most commonly used organic mulches include wood or bark chips — cedar, cypress or hardwood — and shredded hardwood.

Pretty Things That Pollinate



Bumble bee



Sweat bee



Syrphid fly



Soldier beetle

Jody Green, PhD

Extension Educator, Lancaster County

Importance of Pollinators

Pollination is the process in which plants reproduce. It involves the moving of pollen grains from the male part of the plant to the female part of the plant of the same species, and is required for germination and fertilization.

Pollinating insects provide an ecological service essential to the health of the ecosystem, providing food for both humans, wildlife and livestock. An insect's intent is not to promote plant reproduction, rather it is the result of natural activities such as foraging for food and mating. During these activities, pollinating insects pick up pollen grains on their body, which accidentally rub off or drop from their bodies to blossoms during their multiple flower visits.

The Relationship Between Plants and Insects

Pollinating insects include bees, flies, beetles, moths and butterflies. What these insects have in common is their ability to fly from flower to flower, giving them the opportunity to transfer pollen. Pollinating insects come in many sizes, shapes and colors.

Each insect has varying abilities to move pollen, which may be limited by the type and location of hair on the body, specialized receptacles used for pollen-carrying or the mouthparts used to feed. Requirements for pollinators include a diverse, flower-rich foraging area, suitable host plants that bloom at different times of the year, nest sites for egg laying and a safe environment for foraging and overwintering.

Bees, flies, beetles, moths and butterflies are considered pollinators in the adult form. What all insects from these groups

have in common is that they undergo complete metamorphosis (egg, larvae, pupae, adult) to change from an immature to an adult. It is important to recognize that the larval form of many pollinators do not resemble adults, and may, in some cases, be considered pests. Immature insects differ from adults in terms of physical form (i.e. different mouthparts, lack of wings), function (i.e. predator, parasite), food source, habitat and host plant.

Because of this paradox, consideration must be taken to provide plants for pollinators, as well as host plants suitable for immature insects from these groups. It is also important to consider nesting habitats for pollinators throughout the winter, when we do not see them. Many rest or develop in protected underground burrows, wood piles, leaf litter, compost piles and other protected areas.

Bees (Not the Honey-Making Kind)

The most important pollinators are bees. There are over 4,000 species of native bees in North America, many recognized as superior pollinators to honey bees, and therefore, deserve attention. Native bees include a variety of bumble bees, sweat bees, leafcutter bees, carder bees, carpenter bees, mason bees and digger bees. Bees can be social or solitary, ground or cavity nesters, generalist or specialist feeders and some are parasites of other bees.

What they all have in common is they deliberately gather pollen and bring it back to the nest to either feed their offspring or provision nesting cells for future offspring. It is this contact with pollen that allows them to be great pollinators, many of them with specialized hairs or places where pollen can easily be collected and scraped off later. Bees also have flower constancy, which means they visit particular

plant species on their foraging trips which increases the transfer of pollen grains.

While wasps are nectar feeders as adults, they feed their larvae insects rather than pollen. They are also less hairy, so unable to transfer pollen as effectively as bees.

Flies Are Pollinators Too

After bees, flies are the second most valued commercial pollinators, known for their contribution to strawberry, onion and carrot crops. Flies are widely distributed, have great abundance and species richness.

The flies that are seen commonly and in large numbers visiting flowers are called syrphid flies. Syrphid flies are a rather large group, and are sometimes referred to as flower flies or hover flies because of their behavior. The main reason they are overlooked is because they mimic bees with their yellow and black coloration. Flies only have one pair of wings, while bees and wasps will have two pairs. Flies also have short, thick, downturned antennae and lack body hair. Syrphid fly larvae are predaceous and are natural enemies of plant-sucking insects such as aphids.

Other pollinating flies include blow flies, which feed on rotting flesh as maggots, and tachinid flies, which are parasitoids of other insects.

Pollinating Beetles

Beetles have chewing mouthparts as immatures and adults, and many are predaceous in both forms. Some beetles feed on pollen, nectar, sap or fruit and visit specific flowers.

The beetles that Nebraskans see frequently on flowers include soldier beetles. Soldier beetles are yellow and black in color, with soft, flexible wing covers and long antennae. Beetle larvae are not commonly seen, as they are predators that hunt through

leaf litter and debris and feed on other invertebrates. As adults, soldier beetles gather in droves to feed and mate on flowers such as sunflowers, coneflowers, tansy and goldenrod. Soldier beetles and other pollinating beetles get their protein sources from pollen. They do not damage the flowers or the plants and are harmless to people.

Beautiful Butterflies and Hungry Caterpillars

The most recognized and charming of pollinating insects are the butterflies. People often want to see more of them, so intentionally plant flowers to attract them to the landscape.

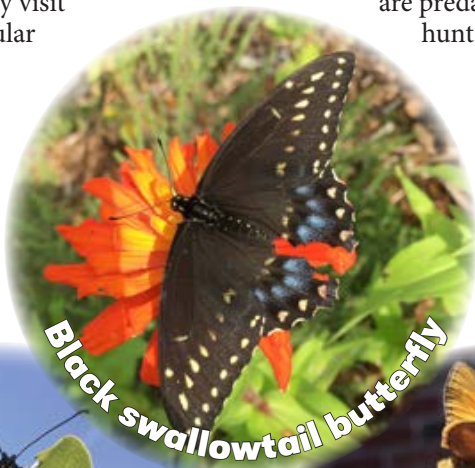
Butterflies and moths have siphoning mouthparts, which resemble a long, curled up straw for gathering nectar from flowers. Moths and butterflies belong to the same order, but moths are generally not as brightly colored and most fly by night, which is why moths are significant pollinators of night-blooming plants. Butterflies and moths do not actively gather pollen, but while they forage for nectar, the pollen grains become stuck to their body or tongue and get transferred to flowers.

The larvae of moths and butterflies are caterpillars, which have chewing mouthparts used to feed on the foliage of plants. Adults lay eggs on specific host plants so caterpillars can immediately start feeding after emergence.

So, while people may encourage the nectaring of adults in the garden, they fail to realize that caterpillar host plants are also necessary in the landscape. The use of pesticides to control for caterpillars will negatively affect butterfly populations. There are many field guides available to help identify caterpillars, butterflies and moths, as well as help determine which ones you want to see more of in your yard, and act as a guide to provide plants for all life stages.



Black swallowtail caterpillar



Black swallowtail butterfly



Painted lady butterfly



Monarch caterpillar



Monarch butterfly



Skippers



Hummingbird clearwing moth

Perennial Plants for Pollinators

Mary Jane Frogge
Extension Associate,
Lancaster County

Consider adding perennial plants to your landscape that

will benefit pollinators. It is important to have a variety of plants blooming the whole growing season, April through October. In the Cherry Creek Pollinator Habitat we have over 40 native perennials established.

These native plants have pollen and nectar sources for native pollinators. Many of our favorite garden perennials are great for pollinators. It is fine to include them too, even if they are not native.

NATIVE PERENNIALS	Common milkweed	<i>Asclepias syriaca</i>	food for monarch butterfly larva
	Dotted gayfeather	<i>Liatris punctate</i>	flowers for bees, bumble bees and butterflies
	Hoary vervain	<i>Verbena stricta</i>	flowers for bees, bumble bees and butterflies
	Large Beardtongue	<i>Penstemon grandifloras</i>	flowers for bees, bumble bees and butterflies
	Pasque flower	<i>Anemone patens</i>	flowers for bees, early bloomer
	Pitcher sage	<i>Salvia azurea</i>	flowers for bees, bumble bees and butterflies
	Prairie ragwort	<i>Senecio plattensis</i>	flowers for bees and butterflies
	Prairie aster	<i>Aster turbinellus</i>	flowers for bees, bumble bees and butterflies
	Purple coneflower	<i>Echinacea purpurea</i>	flowers for bees, bumble bees and butterflies
	Rough gayfeather	<i>Liatris aspera</i>	flowers for bees, bumble bees and butterflies
GARDEN PERENNIALS	Swamp milkweed	<i>Asclepias incarnate</i>	food for monarch butterfly larva
	Bee balm	<i>Monarda didyma</i>	flowers for bees, bumble bees and butterflies
	Black-eyed Susan	<i>Rudbeckia hirta</i>	flowers for bees and butterflies
	Blanket flower	<i>Gaillardia aristata</i>	flowers for bees and butterflies
	Blue False Indigo	<i>Baptisia australis</i>	flowers for bumble bees
	Butterfly milkweed	<i>Asclepias tuberosa</i>	food for monarch butterfly larva
	Coreopsis	<i>Coreopsis</i> spp.	flowers for bees and butterflies
	Hosta	<i>Hosta</i> ssp.	flowers for bumble bees
	New England Aster	<i>Aster novae-angliae</i>	flowers for bees, bumble bees and butterflies
	Speedwell, blue & pink	<i>Veronica spicata</i>	flowers for bees, bumble bees
	Tall Sedum	<i>Sedum spectabile</i>	flowers for bees and butterflies

Pollinator Week: June 17–23

Mary Jane Frogge
Extension Associate, Lancaster County

Pollinator Week is an international celebration of the valuable contribution provided by bees, birds, butterflies, bats and beetles. The week of June 17–23 will spotlight an opportunity to learn about some amazing animals, the pollinators. Pollinators are responsible for 1 out of every 3 bites of food we eat. In the United States, bees undertake the astounding task of pollinating over \$15 billion in added crop value, particularly for crops such as almonds, blueberries, apples, peaches, tomatoes and squash. Beginning in 2006, pollinators started to decline rapidly in numbers. Participating in Pollinator Week can help save these important animals.

What you can do to help pollinators:

- Plant a pollinator garden using native plants to Nebraska and the Midwest.
- Consider certifying your habitat. Learn more about The Nebraska Pollinator Habitat Certification program and view the application at <http://entomology.unl.edu/pollinator-habitat-certification>.
- Avoid pesticides in your home landscape.
- Provide nesting sites, like bee houses or insect hotels, for pollinators.
- Provide a water source such as a bird bath, small pond or water feature.
- Learn more about the Cherry Creek Pollinator Habitat located at the Lancaster Extension Education Center by reading the blog, The Buzz at Cherry Creek, at <https://buzzatcherrycreekunl.wordpress.com>.
- Go to the Pollinator Partnership website at <http://pollinator.org> to learn more about pollinators.



GARDEN GUIDE

THINGS TO DO THIS MONTH

Mary Jane Frogge, Extension Associate,
Lancaster County

Mid- to late-June is an excellent time to take softwood cuttings of shrubs to start new plants. Some shrubs which can be propagated in this way are spirea, lilac and viburnum.

Start a gardening notebook. Keep all your gardening records in this one location.

Spring flowering shrubs such as spirea, viburnum, lilac and forsythia should be pruned as soon as they are done blooming.

Remove foliage from spring bulbs after it turns yellow and begins to dry.

Use bark mulch around young trees to protect them from lawn mower damage.

When you buy nursery stock that is container grown, check the root ball and make sure it is not bound too tightly. A mass of circling roots will stay that way even after it is planted in the ground.

Remove old flower heads from annual bedding plants to keep them blooming.

Leftover vegetable and flower seeds may be stored in a cool, dry location to be saved for planting next year.

Keep a close eye on the quality of your spring crops. Hot weather causes lettuce to bolt and become bitter. Plant a warm-season crop as soon as the spring vegetables are harvested.

In most cases, blossom-end rot on tomatoes, peppers, squash and watermelons can be prevented. Do this by maintaining uniform soil moisture by mulching.

Identify garden pests before you attempt to control them. If you decide to use chemical control, read the label carefully.

Bats can be an effective way to control insects. One big brown bat can eat 3,000–7,000 insects each night. Attract bats by building and placing bat houses in your yard.

During the hot summer months, mulch can be especially useful for conserving water. For vegetable gardens, shredded leaves or grass clippings are good mulch material. For ornamentals, pine needles or wood bark do the best job.

Upcoming Early Childhood Trainings

Nebraska Extension teaches several early childhood development classes for child care 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 or 402-441-7180. Some registration forms are at <http://lancaster.unl.edu/family>

Nutrition and Physical Activity Self-Assessment for Child Care (Go NAP SACC) Training for Childcare Providers – Thursday, June 13, 9 a.m.–3:30 p.m. FREE. Lunch on your own. Register by June 6 at <https://go.unl.edu/napsacc>.

Nebraska Early Development Network

Jaci Foged
Extension Educator,
Lancaster County

Research shows us the first three years of a child's life are the most important time for learning. What happens early in life affects all aspects of a child's development. Providing early intervention at the first signs that a child may need some additional support offers the best chance for children to reach optimal life course outcomes.

What is the Early Development Network?

The Nebraska Early Development Network (EDN) brings together the Nebraska Department of Education, Health and Human Services, Educational Service Units and other organizations to provide assistance to families with children 0–3 years of age. Services



provided are unique to the needs of each child and family. Services coordination, early childhood special education, occupational therapy, transportation, nutrition services, speech and language therapy are just a few of the services provided by EDN. Participation in these intervention services are voluntary and free.

How Can I Find Out If My Child Qualifies for Services?

If you feel your child is not developing typically or if your child has been diagnosed with a condition that affects his/her

development you should contact the Office of Special Education, Nebraska ChildFind at 888-806-6287. If you request a referral, within 45 days, your child will be evaluated, your family will complete an assessment and (if it is determined your child qualifies for services) your first Individual Family Service Plan (IFSP) will be developed.

What Happens When My Child Turns 3?

Your child will continue to receive services from EDN until Aug. 31 after your child turns 3. At that time, your child will transition from their IFSP to an Individual Education Plan (IEP). Your child's team of service providers will help ensure the transition goes smoothly.





HEART OF 4-H VOLUNTEER AWARD

Glenda Willnerd

Lancaster County 4-H is proud to announce Glenda Willnerd of Unadilla as winner of the June “Heart of 4-H Award” in recognition of outstanding volunteer service.

Glenda has been co-superintendent of the 4-H Photography area at the Lancaster County Super Fair since 2014.

Previously, she was a parent volunteer with the Flying Hoofs 4-H horse club for about nine years and coached hippology for two years. Glenda has also volunteered with 4-H in Otoe and Thurston counties, and judged 4-H exhibits (including clothing, Style Revue and food) at several county fairs. In total, she has served as a 4-H volunteer for 43 years!

“I love being a 4-H volunteer because it gives me an opportunity to meet and learn from others,” Glenda says. “I enjoy interacting with the 4-H members and love to see the new ideas they come up with each year at the fair. My favorite experience as a 4-H volunteer is to observe 4-H member’s growth over the years in a project such as photography. One of our former 4-H members has become a judge in the area of photography and has served as a great role model for other members.”

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



4-H Sewing Help

For 4-H youth ages 8 and up. No pre-registration required or fees, just drop in.

Planning Basics for Beginners — Monday, June 3, 6:30-8 p.m., JoAnn Fabrics, 220 N. 66th St., Lincoln. Bring a notebook and pencil — no sewing. Avoid making costly and time-consuming mistakes and know what to expect! Taught by 4-H volunteer Kath Conroy.

Expert Sewing Help — Tuesday July 9–Friday, July 12, 12:30-4:30 p.m., Bernina Sewing Center, 5625 O St., Lincoln. Get sewing help for any 4-H sewing project; fitting, laying out to cut, putting in a zipper, etc. Taught by a group of knowledgeable volunteer seamstresses.

4-H’ers, Earn a New Sewing Machine!

This is the 11th year Kath Conroy, a 4-H Clothing Superintendent, and her husband, Mike, are graciously donating a new sewing machine to one Lancaster County 4-H youth! All interested youth should submit an essay describing the clothing projects they have completed in the past and their plans for future sewing projects. Also explain why they should be the youth to receive it. Mail or deliver essays by Monday, June 10 to Nebraska Extension in Lancaster County, 444 Cherrycreek Road, Ste. A, Lincoln, NE 68528. Contact Kristin at 441-7180 or kristin.geisert@unl.edu with questions.

4-H Clover Kids Animal Showmanship Change

Due to state 4-H policy, Lancaster County 4-H will no longer offer Peewee Showmanship. Most 4-H/FFA livestock shows will now offer 4-H Clover Kids Showmanship for 4-H members ages 5 through 7 (by January 1 of the current year). Participants must be enrolled in Lancaster County 4-H by June 15 as a Clover Kid — need not be signed up in an animal project. Listen to livestock show announcers for instructions on how 4-H Clover Kids may participate. The Nebraska 4-H policy is online at <https://4h.unl.edu/policy-handbook/section-16>.

4-H/FFA Livestock Booster Club Scholarships

Applications for the Lancaster County 4-H/FFA Livestock Booster Club \$500 college scholarship are due July 6. Open to all Lancaster County 4-H/FFA seniors, but preference to those who have exhibited production livestock in 4-H or FFA. The application is at the Extension office and online at <http://go.unl.edu/5bg>. For more information, contact Calvin DeVries at 402-441-7180. Two winners will be announced at the Youth Livestock Premium Auction.

JUNE 15 DEADLINE

4-H Member Online Enrollment

4-H members must enroll/re-enroll by June 15. The website to enroll is <https://ne.4honline.com>. The process is easy and only takes a few minutes per member or volunteer. Only parents/guardians may enroll 4-H members. Each 4-H household will need to set up a profile in which the 4-H youth and/or volunteers in the household will be added. There is no fee to enroll in 4-H in Lancaster County.

NOTE: Health information is optional. You DO NOT need to complete this portion of the online form.

More details and step-by-step instruction guides with pictures are at <http://lancaster.unl.edu/4h/club>. If you have questions about the process or need access to a computer, call Heather Odoski at 402-441-7180.

INDEPENDENT MEMBERS: 4-H’ers enrolling as independent need to select “Lancaster Independent” under “club.”

FFA MEMBERS: FFA members need to select TCA FFA, Crete FFA, Norris FFA, Raymond Central FFA or Waverly FFA under “club.”

4-H Projects Updated

To exhibit at the Super Fair, 4-H members must be enrolled in the respective project (unless otherwise stated in the Fair Book). Enrolled project examples: Home Environment Design Decisions, Food & Nutrition Cooking 101, Aerospace 2 and Rabbit. Note, this does not include the specific fair classes within each project area, such as: wall hanging, baked cookies, rocket display and rabbit breed class. Fair exhibit examples which do not have specific projects to enroll in: Special County Exhibits, Posters and Banners.

Select projects at <https://ne.4honline.com> by June 15. NOTE: only 4-H parents/guardians may update projects.

When signing up for individual projects, note the abbreviations for the project areas. The abbreviations are on the 4-H Project List at <http://lancaster.unl.edu/4h/club/ProjectList.pdf> to help you locate an individual project. For example, you will find ‘Sketchbook Crossroads’ under C&FS which stands for Consumer and Family Science instead of under ‘S’ or under ‘Art.’

Volunteer Online Enrollment

Club leaders must enroll/re-enroll at <https://ne.4honline.com>. If you and your other co-leaders have not already enrolled at “4-H Online,” please do so before June 15. If you would like to view your 4-H club’s roster online, contact Heather Odoski at 402-441-7180 for a password.

Youth for the Quality Care of Animals Requirements for ANY Livestock Exhibitor

4-H/FFA youth exhibiting at the Lancaster County Super Fair and/or Nebraska State Fair will need to complete Youth for the Quality Care of Animals training:

- Beef (bucket calf, feeder calf, breeding beef, market beef)
- Dairy cattle
- Goat (breeding meat goat, market meat goat, dairy goat)
- Poultry
- Rabbit
- Sheep (breeding sheep, market sheep)
- Swine (breeding swine, market swine)

Deadline to complete YQCA is JUNE 15.

Youth must be currently enrolled at <https://ne.4honline.com>. Only parents/guardians may enroll 4-H members. In Lancaster County, youth may choose one of three options to complete their YQCA requirements:

- Complete online training at <https://yqca.learnrow.io>. Cost is \$12. For directions and more information, visit <https://4h.unl.edu/yqca>. Once training is complete, send completed certificates to Calvin DeVries at calvin.devries@unl.edu or 444 Cherrycreek Rd., Ste. A Lincoln, NE 68528. If certificates are not submitted, we have no way of knowing if trainings have been completed.
- Attend a face-to-face training held on Thursday, May 30 or Thursday, June 6, 6–7:30 p.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road (NOTE: Time is an extra half hour than previously published). To sign up for face-to-face trainings, you must go to <https://learnrow.io> before the training. The training will cost \$3 payable by credit or debit card on the website. We cannot take payments in person, all families must register and pay online. You must sign in as proof of attendance — certificates will be available online.
- For a free test-out option, contact Calvin for further details.

If you have further questions, contact Calvin DeVries at 402-441-7180 or calvin.devries@unl.edu.

4-H/FFA Animal IDs

All 4-H/FFA sheep/goats/swine/beef/bucket calves/dairy cattle/llamas & alpacas/rabbits identifications are due by June 15. If questions, contact Calvin DeVries at calvin.devries@unl.edu or 402-441-7180.

See the following handout available at <http://lancaster.unl.edu/4h/fair> and at the Extension office: Lancaster County 4-H/FFA Livestock Checklist/ 4-H Animal Requirements for Super Fair and State Fair

4-H horse identifications are due June 1 (see next page). 4-H poultry, dogs, cats and household pets do not require identification.

4-H’ers Qualify for Regional Speech & Public Service Announcement Contest

The Lancaster County 4-H Speech and Public Service Announcement (PSA) contest was held March 17. More than 70 Lancaster County 4-H youth competed in this year’s communication events. Congratulations to all Lancaster County 4-H members who participated! The following top winners had the opportunity to represent Lancaster County at the Regional Speech & PSA contest on May 16 at University of Nebraska–Lincoln East Campus. You can listen to these PSAs at <https://lancaster.unl.edu/4h/contest/speech.shtml>.

SPEECH CONTEST:

Junior (8–10 years): Holly Bowen, Emmy Sheldon, Callia Thompson

Intermediate (11–12 years): Gabriel Livingston, Sarah Lange, Micah Pracheil

Senior (13–18 years): Samuel Livingston, Rhianna Metcalf

PUBLIC SERVICE ANNOUNCEMENT CONTEST:

Junior (8–10 years): Vanessa Peterson, Callia Thompson, Kamryn Wanser

Intermediate (11–12 years): Acacia Carlson, Clara Johnson, Melanie Wiggins

Senior (13–18 years): Ella Hendricksen, Addison Wanser



4-H Plant Science Contests, June 5

Three Plant Science Contests will be held Wednesday, June 5, 10 a.m.–1:30 p.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. Registration is required by Monday, June 3 by calling 402-441-7180. Open to 4-H'ers from all counties, ages 10–18. Enrollment in a horticulture project is not required to participate.

Youth choose which contests to participate in:

- Tree identification
- Weed and grass identification
- Horticulture contest

Participants will be able to use a list of plants while identifying samples.

Participating youth will be offered a free lunch after the contests, while the contest papers are being graded. Ribbons will be awarded and contest winners announced after the lunch.

Study materials are online at <http://lancaster.unl.edu/hort/youth/fair.shtml>.

Nebraska 4-H is offering an online Horticulture Judging Contest at <https://go.unl.edu/hortcontest>. The quiz will be available June 7–17.

4-H Bicycle Contest, June 8

The 4-H Bicycle Safety Contest will be held Saturday, June 8, 9 a.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road. The contest is open to all 4-H'ers ages 8 and up. Participants must provide their own bicycle and must wear a helmet. Register by Monday, June 3 by calling 402-441-7180 (there is no entry form).

There are two parts of the contest; riding skills and a written quiz. In the bicycle skills events, 4-H'ers maneuver through several designated courses to test their riding skills and safety. 4-H'ers also take a multiple choice quiz. A bicycle inspection reinforces the importance of bicycle maintenance and safety features.

Rabbit Clinic and Tattooing Opportunity, June 8

There will be a 4-H Rabbit Clinic and Tattooing Opportunity presented by the Rabbit VIPs Committee on Saturday, June 8, 9–11 a.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. Open to all youth ages 8 & up. Tattoos will cost \$1 per rabbit. Rabbits must have a legible permanent tattoo in left ear before coming to the Lancaster County Super Fair. No tattooing allowed on fairgrounds. The tattoo must be on the completed affidavit (due by June 15) and indicated during the online fair entry process (due by July 1). This clinic will also give youth the opportunity to learn more about rabbit care and showing rabbits, as well as ask questions. Come join us to get ready for showing rabbits at the Lancaster County Super Fair!

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 kristin.geisert@unl.edu or 402-441-7180.

- **County Life Challenge: Junior (ages 8–11) and Senior (ages 12 & up)** will be held on Saturday, June 1, 9 a.m. at the Lancaster Extension Education Center. Register by Wednesday, May 29 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 Monday, June 17 and Tuesday, June 18 on UNL East Campus. To participate, contact Kristin by Wednesday, May 29. Information is at <http://4h.unl.edu/life-challenge>.

4-H Alum T-shirts

Lancaster County 4-H seniors who graduated in spring 2019 are eligible for a free 4-H alum T-Shirt, courtesy of Lancaster County 4-H Council. If seniors have not already received their shirt, they may pick it up at the Extension office at 444 Cherrycreek Road, Lincoln. These alum T-Shirts are also available for sale to 4-H alumni for \$12. Available in unisex sizes S–XXL.

Babysitting Training, June 18

A Babysitter's Training for 5th–7th Graders, a class through the American Red Cross taught by Extension Educator Jaci Foged, will be held Tuesday, June 18, 8:30 a.m.–4:30 p.m. at the Lancaster Extension Education Center, 444 Cherrycreek Road. Register by Tuesday, June 10. Open to all youth ages 11–15 (do not need to be in 4-H). Cost is \$35. Bring a sack lunch. More information and a registration form is online at <https://lancaster.unl.edu/family/BabysittersTraining19.pdf>.

4-H Dog Training Day Camp at UNL

The University of Nebraska-Lincoln Animal Science Department is introducing a new dog camp, Fur Your Information! Through three sessions (June 3, 10, & 17, 8:30 a.m.–Noon at Animal Science Complex on UNL East Campus), this camp will offer 4-H kids ages 8–18 the opportunity to learn and practice showmanship, rally obedience and agility with their family dog. Cost is \$125 per person.

No previous training knowledge or experience? No problem, as long as your dog knows basic obedience and is good on-leash control.

Spots are limited, sign your child up today! For more information and the registration link, go to <https://animalscience.unl.edu/fur-your-information>.

SUPER FAIR 4-H/FFA ANIMAL ENTRIES MUST BE SUBMITTED ONLINE JUNE 18–JULY 1

All 4-H/FFA animal entries for the Lancaster County Super Fair must be entered online at <http://lancaster.fairmanager.com>. This includes stall requests and livestock/poultry exhibitor T-shirt sizes. No paper forms will be accepted! Youth must have been enrolled AND animal project(s) selected online at <https://ne.4honline.com> by June 15.

Animal entries **may be submitted online starting on June 18. Deadline is Monday, July 1, 11:59 p.m.** No late entries will be accepted!

More details and step-by-step instruction guides with pictures is at <http://lancaster.unl.edu/4h/fair>. If you have questions about the process or need access to a computer, call Heather Odoski at 402-441-7180.

Tips:

- For rabbits, notice there are 4 rabbit divisions. If you can't find the class you are looking for, try the other rabbit divisions. If you plan to enter 12 rabbits, you will need to submit 12 entries.
- For horses, notice there are 4 horse divisions. If you can't find the class you are looking for, try the other horse divisions. If you plan to enter 12 horse classes, you will need to submit 12 entries plus 1 for stalls and pens.

Exhibitors who enter the following species will be charged a bedding fee: beef, dairy cattle, bucket calf and llama/alpaca. \$10 per head for beef and dairy cattle. \$7 per head for bucket calves and llamas/alpacas. Please fill out the form at <https://lancaster.unl.edu/4h/fair/fwlivestock.htm>. Print and submit to the Extension office by Friday, July 6.

If you enter a Horse class that requires a Roping/Working Ranch animal fee, please fill out the form at <https://lancaster.unl.edu/4h/fair/fwhorse.htm>. Print and submit to the Extension office by Friday, July 6.



HORSE BITS Horse Stampede Results

The statewide 4-H Horse Stampede was held on March 10 at UNL East Campus. Nearly 139 youth competed in five events: horse bowl, public speaking, demonstration, art contest and photography contest. Congratulations to all Lancaster County 4-H members who participated! Complete results are at <https://4h.unl.edu/horse/stampede>. Below are the Lancaster County purple ribbon winners.

ART CONTEST

Elementary division: Catherine Polk, Isabella Grosskopf
Junior division: Michaela Bunz, Hannah Siwinski
Senior division: Cassie Meyer (champion), Sidney Schlesiger (reserve champion)

PHOTOGRAPHY CONTEST

Elementary division: Isabella Grosskopf (champion), Madison Blair (reserve champion), Savannah Hill
Junior division: Allison Riedman (champion), Morgan Roof
Senior division: Brett Cole, Emmi Dearthmont, Maddi Hall, Ella Guerra

SENIOR HORSE BOWL

Emmi Dearthmont, Kyra DeBuse, Kat Moyer, Sidney Schlesiger



Cassie Meyer's champion senior division artwork

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

4-H Horse IDs Due June 1

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

Pre-District Show, June 1

The Lancaster County 4-H Horse VIPs Committee, Boots N Hooves 4-H Club and Prairie Star 4-H Club are sponsoring a 4-H Pre-District Show on Saturday, June 1, 8:30 a.m. at the Lancaster Event Center – Pavilion 3. Pre-registration is not required. Event Center shavings must be used (\$7 a bag). Show flyer is at <https://lancaster.unl.edu/4h/horse/HorseVIPSPre-DistrictsShow2019.pdf>.

4-H Horsemanship Level Testings

A 4-H horsemanship level group testing will be held on Monday, June 4, 5:30 p.m. at the Lancaster Event Center. Anyone wishing to test must sign up by May 28 by contacting Kate at kpulec3@unl.edu or 402-441-7180. A final level testing will be held on Tuesday, June 25, 5:30 p.m. at the Lancaster Event Center. Anyone wishing to test must sign-up with Kate by June 18.

Reining Clinic, June 9

Horse VIPs Committee is presenting a 4-H Reining Clinic with clinician Kelsey Ebke of Horner Performance Horses on Sunday, June 9 at Middle Cross Stables, 500 W. Sprague Rd., Roca, Neb. There will be 2–3 sessions of 4–6 youth. Register by Wednesday, June 5. Show flyer is at <https://lancaster.unl.edu/4h/horse/ReiningClinic19.pdf>.

State Hippology & Horse Judging Entries

Hippology and Horse Judging entry forms for the State 4-H Horse Expo at Fonner Park are due to the Extension office by Friday, June 14. Lancaster County 4-H'ers entry fees will be paid by the Lancaster County 4-H Council. Contest entry forms and information can be found at <https://4h.unl.edu/horse/state-expo>.

4-H Horse Jumping Clinics/Show

Prairie Star 4-H Club, Hunter's Pride and Lancaster County Horse VIPs are offering jumping clinics and a small jumping show with clinician Carine Stava on Saturday, June 15 (clinic) and Saturday, July 27 (clinic and show) at Middle Cross Stables, 500 W. Sprague Rd., Roca. Register 1 week before each event. Show flyer is at <https://lancaster.unl.edu/4h/horse/JumpingClinic19.pdf>.



EXTENSION CALENDAR

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

May

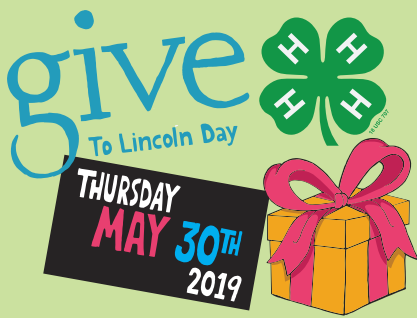
- 27 Extension Office Closed for Memorial Day Holiday
- 30 Pesticide Applicator NDA Walk-in “Testing Only” Session . . . 9 a.m.–2 p.m.
- 30 Youth for the Quality Care of Animals Face-to-Face Training for Livestock Animal Exhibitors 6–7:30 p.m.

June

- 1 Super Fair 4-H Horse ID’s Due to Extension
- 1 Pre-District Horse Show Presented by 4-H Horse VIPs, Lancaster Event Center - Pavilion 3
- 1 4-H County Life Challenge Contest 9 a.m.
- 3 4-H Sewing Help Session, JoAnn Fabrics, 220 N. 66th St., Lincoln . 6:30–8 p.m.
- 3 4-H Dog Camp, Animal Science Building, UNL East Campus . . 8:30 a.m.–Noon
- 4 4-H Horsemanship Level Testing, Lancaster Event Center 5:30 p.m.
- 4 4-H Council Meeting 6 p.m.
- 5 4-H Plant Science Contests: Horticulture/Tree ID/Grass-Weed ID 10 a.m.–1:30 p.m.
- 6 Youth for the Quality Care of Animals Face-to-Face Training for Livestock Animals. 6–7:30 p.m.
- 7 Extension Board Meeting 8 a.m.
- 8 4-H Rabbit Clinic and Tattooing Opportunity 9–11 a.m.
- 8 4-H Bicycle Safety Contest 9 a.m.
- 9 4-H Reining Clinic, Middle Cross Stables, 500 W. Sprague Rd., Roca
- 10 4-H Dog Camp, Animal Science Building, UNL East Campus . . 8:30 a.m.–Noon
- 10–14 4-H Horse District Shows, Bloomfield, Elkhorn, Ord, Ogallala, McCook
- 13 Nutrition and Physical Activity Self-Assessment for Child Care Training for (Go NAP SACC) Childcare Providers 9 a.m.–3:30 p.m.
- 13 Pesticide Applicator NDA Walk-in “Testing Only” Session . . . 9 a.m.–2 p.m.
- 15 Deadline to Enroll New 4-H Members/Volunteers and to Select Project Area(s) Planning to Enter at Super Fair — Must Use “4-H Online” at <https://ne.4honline.com>.
- 15 Deadline for 4-H & FFA Sheep/Goats/Swine/Beef/Bucket Calves/Dairy Cattle/Llamas & Alpacas/Rabbits Identification
- 15 Deadline for Livestock Animal Exhibitors to Complete Requirements for Youth for Quality Care of Animals
- 15 4-H Horse Jumping Clinic, Middle Cross Stables, 500 W. Sprague Road, Roca
- 17 4-H Dog Camp, Animal Science Building, UNL East Campus . . 8:30 a.m.–Noon
- 17–18 Premiere Animal Science Events (PASE)/State Life Challenge, UNL East Campus
- 18 Babysitting Training for 5th–7th Graders 8:30 a.m.–4:30 p.m.
- June 18–July 1 4-H Animal Entries for the Lancaster County Super Fair Must be Submitted Online at <https://lancaster.fairmanager.com> Between June 18 and July 1, 11:59 p.m.
- 22 Composting Demonstration, Pioneers Park Nature Center’s backyard composting demonstration area 10 a.m.
- 25 4-H Horsemanship Level Testing, Lancaster Event Center 5:30 p.m.
- 25–28 4-H Clover College

Support Local 4-H Youth During Give to Lincoln Day

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 30 is increased by a proportional share of a \$450,000 challenge match fund!



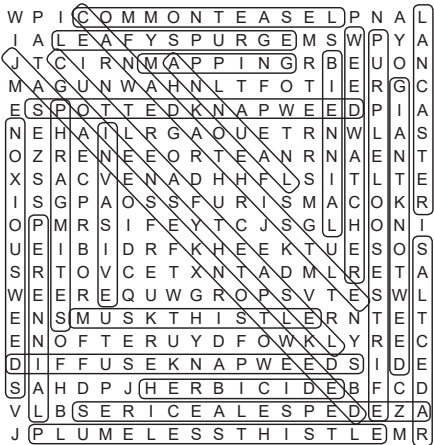
For more information or to make a tax-deductible donation, go to <http://go.unl.edu/giveto4hcouncil>

Clover College Still Has Some Workshops Open

4-H Clover College will be June 25–28 at the Lancaster Extension Education Center, 444 Cherrycreek Road, Lincoln. Youth must be currently at least 8 years old (as of June 25) to attend the remaining workshops. Need not be enrolled in 4-H. Many workshops are full, but several have openings! Check for current workshop availability and register at <https://lancaster.unl.edu/cc>. Registration is only available online this year!

Weed Awareness Hidden Word Find Solution

Here is the solution to the Hidden Word Find printed in the Weed Awareness special section (produced by the Lancaster County Weed Control office) in the April NEBLINE. Congratulations to Jackie Colton from Waverly whose name was drawn from submitted entries. She received a *Weeds of the Great Plains* book published by the Nebraska Department of Agriculture. The Weed Control office had entries from 19 different communities. We thank everyone for participating and hope you learned something about invasive plants.



4th Graders Learn About “Farm to Fork” at Ag Festival

More than 600 fourth graders from nine schools in the Lincoln area attended the Agricultural Literacy Festival held April 2–4 at the Lancaster Event Center. Students gained a greater understanding of agriculture and how it impacts their daily lives. They rotated between the following ten interactive stations: Beef, Dairy, Swine, Sheep, Horse, Poultry, Corn & Soybeans, Water, Farm Technology and By-Products.

The Ag Literacy Coalition, led by Nebraska Extension, organizes the festival with the help of Lancaster County Farm Bureau and agriculture businesses, commodity associations and food industry companies. This is the 19th year the festival has been held in Lincoln.

Extension Assistant Calvin DeVries helped organize the festival. He says, “The Agricultural Literacy Festival in Lincoln is vital in exposing youth of Lancaster County to both livestock and crop production, which they may not encounter in a more urban setting. All who attended were able to see how our food comes from the farm and onto our plate!”

More photos are online at <http://go.unl.edu/agliteracyfestival>.



Students got a close look at two 2-month-old piglets. Extension Assistant Calvin DeVries (pictured at left) helped organize the Agricultural Literacy Festival.



As part of farm technology, students got a close-up look at a tractor and a combine. 4-H support staff Heather Odoski helped present this topic.



Extension Assistant Kate Pulec taught 4th graders about horses, with two horses on hand from the University of Nebraska–Lincoln Animal Science Department.



4th graders weren’t “sheepish” about interacting with sheep in the session presented by 4-H volunteer and UNL graduate student Erica Peterson.