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Beneficial Insects in the Yard & Garden

Sarah Mack
UNL Student Intern

If discovering a few loopers on your tomato plant means you’re headed to the nearest garden center to find a spray, then you may want to know there are a number of control methods that should be used before applying any chemicals. Chemical control for insect pests is a popular type of treatment since it is convenient, fairly inexpensive and it typically shows fast results. However, using insecticides which control a broad range of insects can be problematic if they also become detrimental to beneficial insects. When the number of predators is reduced, pests surviving the chemical application may be able to reproduce with very few natural control agents. Furthermore, the uses of chemical control may threaten human health if residues are left on food crops. Chemicals applied to larger areas such as fields or lawns could also potentially contaminate our water sources.

Rather than using pesticides as the only line of defense, smart gardeners also use cultural, biological or physical methods to control pests. Learn to recognize beneficial insects in your garden and provide adequate habitats for them. Some beneficial insects forage on flowers during their adult stage, so it may be helpful to plant a variety of plants that together will provide nectar and pollen from spring to fall. Using hay or straw as mulch around your vegetables can also provide a good habitat for spiders, which are important predators of many pests. Listed below are a number of beneficial insects you might want to get to know.

Spiders (Aranae)

Spiders are not insects, but they are the most abundant group of predators present in the home landscape. They act as important biological controls for a wide variety of insects including, but not limited to, grasshoppers, crickets, moths and true bugs. The ability to create uniquely designed webs may be used to distinguish certain spiders including sheet web spiders, funnel web spiders and orb weavers. Although these creatures are usually associated with their webs, spiders such as the wolf spiders and the crab spiders actively hunt or use camouflage to hide from approaching prey. In this region of the country, there are only a couple species of spiders that have toxins in their venom. The negative impact of spiders is certainly minor compared to the benefits they provide.

Praying Mantis (Mantodea)

Mantis prey on a wide range of insects and are such avid predators that the female will eat the male during or after mating. This is possible because they have a long “neck” allowing them to move their heads 180 degrees. Many people make the mistake of destroying the mantis egg case because they do not know what it is. The egg cases are about the size of a quarter and look like many layers of cream-colored paper pressed together. They are typically found on branches or flat surfaces.

Assassin Bugs (Reduviidae)

All assassin bugs are carnivorous and use their powerful forelegs to quickly capture their prey. After capturing their prey, assassin bugs use their rostrum, or beak, to inject a poison causing paralysis and liquefies the contents inside. Then, the beak sucks up the liquefied contents of the prey. These beneficial insects are best left alone since they may bite, and although they are not poisonous, their bite can be very painful.

Damsel Bugs (Nabidae)

Damsel bugs have long slender bodies with enlarged forelegs for grasping and slender back legs allowing them to move quickly. These predators tend to prefer soybeans, alfalfa and grassy fields. However, they can be found in the garden, where they prefer low-growing grasses and ground covers.

Lacewings (Chrysopidae, Hemerobiidae)

Lacewings are effective predators in both the adult and larval stages. The larvae are so voracious feeders they can consume more than 200 insects each week. The two major families of lacewings are green lacewings (Chrysopidae) and brown lacewings (Hemerobiidae). Of the two, green lacewings are more commonly found in yards and gardens.

Ant Lions (Myrmeleontidae)

Ant lion larvae use the unique method of building a pit, to capture ants and other small insects. After digging a pit, the larva sits at the bottom with its jaws open, waiting for its prey to slide into the trap. These pits are constructed in dry sunny locations that have sandy soil and protection from rain and wind. They are most commonly found along buildings where they are protected by the eaves of the roof. Adult ant lions somewhat resemble damsel-flies and are only active during the night.

Ladybird Beetles, Ladybugs (Coccinellidae)

Many people believe all ladybugs are of the same species. However, there are approximately 350 species of ladybugs in North America alone. The name of this insect originated in England as “ladybird” after the Virgin Mary and later evolved into “ladybug” in the United States. The majority of ladybugs are predators both as adults and larvae, and their prey include a wide variety of small insects.

See BENEFICIAL INSECTS on page 12

Photos by Jim Kalisch, University of Nebraska–Lincoln Entomology
Hackberry nipple gall

Tomatoes may just be the most popular plant grown in Nebraska gardens and patios. To help growers, Backyard Farmer now offers a "How to Grow Tomatoes" DVD. The DVD includes video features from last season's Backyard Farmer series. It offers helpful, practical information on tomato cultivars, diseases, troubleshoting and more. Segments include: Getting Started, Planting, Staking, Diseasers, Pests, Special Problems, Harvesting and a Summary.

Also included is UNL Extension NebGuide G1650, "Tomatoes in the Home Garden." For more information or to order the DVD, visit the Backyard Farmer Web site at http://byl.unl.edu or call (800) 755-7765.

Maple bladder galls

When you look at leaves on your trees and shrubs, do not panic if bumps or distorted growth is noticed. These are usually leaf galls. Leaf galls are fairly common on trees and shrubs. A gall is actually plant tissue that has developed as the result of feeding or other activity by insect/mite. Plant hormones are involved when the pest interferes with leaf development before the spring. There are also galls caused by fungi, bacteria and other organisms.

Once the gall appears on the leaf, there is no way to control it. Since most leaf galls is extremely difficult.

Black Knot on Plums

Black knot is a widespread fungal disease that affects plum and cherry, and occasionally infects apricots, peaches and other plants. The Prunus genus, like choke-cherry, Black knot is common throughout Nebraska in wild plum thickets. The disease is characterized by small, rounded, hard, elongated, black swellings that persist on infected plants.

The knot fungus infects fruiting spurs, stems and branches of susceptible plants, and occasionally the main trunk is affected. Infection occurs through splashing or wind-blow by spores when new growth is about 1 inch long. Fungal spores are discharged in moderate to heavy amounts during the pink blossom stage of cherry or plum, and ends about the time elongation of the new growth stops.

On infected plant parts, abnormal growth of bark and wood tissues produce small, light-brown swellings that eventually rapture as they enlarge. In late spring, the rapidly growing young knots have a soft texture and become covered with a velvety, olive-green growth of the fungus. During summer, the young knots turn darker and elongate. By fall, they become hard, brittle, rough and black. The following growing season, the knot enlarges and gradually encircles the twig or branch. The cylindrical or spindle-shaped knots may vary from one-half inch to a foot or more in length and up to 2 inches in diameter. Small knots may emerge from larger knots forming extensive galls. After the second year, the black knot fungus usually dies and the gall is invaded by secondary fungi that give old knots a white or pinkish color.

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Raptorsblue eyes and dive-bombing tactics diverted my attention from my gardening. I looked up. Across the alley where all the commotion was coming from, I saw a small, gray, fluffy owlet clinging to the neighbor’s chain link fence. I walked to the fence and the birds flew to the trees, stopped dive-bombing, but continued to make noise. After carefully prying their talons from the fence, I tucked the baby owl into a large, plastic flower pot and covered him with my hand to keep him from escaping.

I knew this baby wouldn’t have the instinct to bite me, but he was scared and his talons dug into my hand. The owl seemed to be in excellent condition—no blood or broken bones. If I hadn’t been there, he would surely have been killed by the gang of neighborhood birds. He instinctively knew I was an enemy.

I took care of myself. Before they can really fly well enough to leave the nest, parents teach them how to hitch a ride on the back of an adult. Elaine was active in the recovery volunteer program, so I called her first. She had several raptors to keep us busy.

Later in the week, we had several adults that were under care. She explained there are several reasons why these birds have not been released into the wild. Some have been imprint by humans and do not have the ability to survive in the wild. Some of these birds have had broken bones and cannot fly well. One falcon in captivity caught West Nile Virus a few years ago, is partially blind and could not survive in the wild. These adult raptors are used for educational programs. To keep wild birds, you need a permit.

The next evening, I arrived at Elaine’s house. She had several adult raptors that are under care. She explained there are several reasons why these birds have not been released into the wild. Some have been imprint by humans and do not have the ability to survive in the wild. Some of these birds have had broken bones and cannot fly well. One falcon in captivity caught West Nile Virus a few years ago, is partially blind and could not survive in the wild. These adult raptors are used for educational programs. To keep wild birds, you need a permit.

I looked in the blue pages of the phone book to find the nearest trained rehabilitator. Raptors can die from ingesting: • Do not attempt to treat or feed the bird yourself. Many well-meaning efforts have resulted in further injury or the death of a bird.

Hazards for raptors. Elaine explained some of the problems raptors face in the wild. Raptors can die from ingesting: • rodenticides/poisons found in rodents and other animals. When raptors or scavenging birds eat animals that have been poisoned, it can kill them too. Screech owls also eat insects and can be poisoned by insecticides.

Local Raptor Recovery Numbers
• Elaine Bach 488-7706 (Lincoln)
• Carri Hone 483-4303 (Lincoln)
• Janet Stander 525-8682 (Lincoln)
• Betty Finch 602-994-2009 (Elmwood)
• Betsy Finch 602-994-2009 (Elmwood)

Elaine Bachel has been a Raptor Recovery volunteer for 21 years.

They do not pick their food apart, but eat the whole carcass, bones and all. The parts they cannot digest—like the bones and teeth—end up in their fecal pellet. You can tell what an owl has eaten by picking the pellet apart.

What will happen to the owlets? Unlike the babies of hawks which are on their own after weaning, baby owls need continued parental training to survive. After they leave the nest, parents teach them how to hide and home their hunting skills. It is visually important to return owlets to active parents. Elaine said adult owls readily accept young of their own species—all they have to do is make the right sounds. Elaine said once they can fly well, they would probably release two or three baby owls back in our neighborhood.

The screech owl is best located in the State of Nebraska and permitted by the state and federal government to rehabilitate orphaned or injured raptors. Betsy Finch is RRN’s executive director. Their all-volunteer organization works with the Nebraska Game and Parks Commission and animal control agencies to respond to reports of injured or orphaned raptors throughout the state. Once contacted by a resident or conservation officer in possession of an injured bird, RRN arranges for a volunteer rehabilitator to pick it up in Elmwood or to the nearest trained rehabilitator. Raptors needing medical attention are seen by a veterinarian or the Center Director, then rehabilitated so they can be released back into the wild. Before they are released, injured and orphaned raptors are banded. Some injured birds cannot be fully rehabilitated. Non-releasable birds are channeled into breeding programs, recruited as “foster parents” for young orphans, utilized in research and featured in the Center’s educational programs.

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For more information about RRN, go to www.raptorrecoverynebr.org

Books that you can read about birds and pets

The eastern screech owl looks like a miniature great horned owl. The only small owl with ear tufts, the eastern screech owl is about eight inches tall with a 11/2- 2 foot wingspan. The screech owl may be either gray or red, but in Nebraska, the gray phase is more common. The red phase being relatively rare. The range of the eastern screech owl is from the eastern United States to South America, from southern Canada to northwest Mexico.

While screech owls are found in woodlots and forests, they are also very common in suburban areas if there are adequate nesting and roosting sites. They survive well in these areas because there is not much competition from other predatory birds for food sources. They primarily feed on mice and insects, but will also eat pocket gophers, crayfish, frogs, fish and small birds.

The eastern screech owl nests in tree cavities, but will also nest in a man-made nest box, placed high above the ground in a mature tree. The male provides food for the female while she is incubating, but both parents feed the young. The adults are fiercely protective of the nest and dive at and strike intruders.

The screech owl is best located and identified by its sound, which is not actually a screech, but a series of mournful, quavering whistles descending in pitch. It is heard most often in the spring and fall. You can listen to this sound at www.owlpages.com/sounds.php

In 1976, the Raptor Recovery Center was organized as a project of the Nebraska Audubon Society of Lincoln, Nebraska. It is located in Elmwood.

Since its beginning, the Raptor Recovery Center has treated more than 6,000 birds of prey, and better than 50 percent of those have been released back to the wild. This makes percentage of birds released one of the highest in the nation.

In 2000, the center changed its name to Raptor Recovery Nebraska (RRN). RRN is an educational, non-profit organization and the only group in the State of Nebraska permitted by the state and federal government to rehabilitate orphaned or injured raptors. Betsy Finch is RRN’s executive director. Their all-volunteer organization works with the Nebraska Game and Parks Commission and animal control agencies to respond to reports of injured or orphaned raptors throughout the state.

Once contacted by a resident or conservation officer in possession of an injured bird, RRN arranges for a volunteer rehabilitator to pick it up in Elmwood or to the nearest trained rehabilitator. Raptors feeding the screech owl babies were housed in a large, walking cage along with “Ariel,” an adult screech owl. This adult will help the screech owlets from becoming imprinting.

What does she feed them? Elaine feeds the screech owlets sterile baby formula. She explained there are several ways to care. She explained there are several ways to care. She explained there are several ways to care. She explained there are several ways to care. She explained there are several ways to care.
Pine Wilt Disease

Pine trees are a staple in rural and urban landscapes due to their hardiness, beauty and diversity, but hundreds of thousands are dying each year in southeast Nebraska from pine wilt. The disease, which was first spotted in Nebraska in 1980, mostly kills Scots (also known as Scotch) pines, but Austrian pines and other species also are susceptible. The first noticeable symptoms of pine wilt are the change in needle color from green to grayish green then straw brown in color.

Cause
Pine wilt is caused by the pineewood nematode, Bursaphelenchus xylophilus, a microscopic (one mm long), worm-like animal, which is moved from infested to non-infested pine trees by the pine sawyer beetle (Monochamus spp.)

Symptoms
Pine wilt typically kills Scots pines within a few weeks to a few months after the pine sawyer introduces the nematode to the tree. The needles initially turn grayish green, then tan, then brown. Resin flow from the wood ceases as the tree declines and the wood may appear dry when it is cut. Needles remain on the dead tree for a year or more. Scattered branches of the crown may be affected initially, but the symptoms soon spread to the remaining branches. The entire tree may turn brown all at once. In the Midwest, over 90 percent of the trees killed by pine wilt have been Scots pine. Other pine species are occasionally killed by pine wilt and display a similar pattern of symptoms. The disease appears occasionally in Austrian (Pinus nigra), jack (P. banksiana) and mugo (P. mugho) pines and rarely in white pine (P. strobus). Ponderosa pine (P. ponderosa) is usually not susceptible to pine wilt.

As pines age, susceptibility to pine wilt increases. Almost all cases of the disease have appeared in trees over 10 years old. Pine wilt has not had a major impact on Christmas tree plantations of Scots pine, since most of these trees are harvested before they reach a susceptible age.

Management
Sanitation is the most important management practice to prevent or slow the spread of pine wilt. To limit the spread of pine wilt to nearby healthy trees, diseased trees must be removed and destroyed before the beetles emerge from the wood. From May 1 to Oct. 1, dead and dying pines should be cut down promptly and burned, buried or chipped. Do not hold the wood for firewood. Pine sawyers are inactive in the winter, so if you find dead trees after Oct. 1, they do not need immediate removal, but they must be removed and destroyed by May 1.

High value trees can be protected from pine wilt with a trunk injection of abamectin. Contact a certified arborist for more information.

How to Sample for Pinewood Nematode
When a pine dies suddenly, especially a Scots pine, pine wilt is a leading suspect. It is important to check suspected pines for the pinewood nematode because the nematode is easily spread to healthy trees by pine sawyer beetles, and entire windbreaks or plantings may be lost to pine wilt within a few years.

To confirm the presence of pinewood nematode in a dying or dead pine, it is necessary to extract the nematode from the wood. A wedge-shaped sample of wood should be taken from the lower trunk or the base of large lower limbs. Alternatively, a disk of wood, one-inch thick can be taken from a branch three-inches or greater in diameter near the trunk.

Samples should be placed in a plastic bag, kept cool, and quickly shipped or delivered to the University of Nebraska—Lincoln Plant and Pest Diagnostic Clinic for diagnosis. Each sample should include the appropriate fee (check or money order) made out to UNL P&FDC. The charge for a pine wilt assay is $10. Send to: University of Nebraska—Lincoln, Plant and Pest Diagnostic Clinic, 448 Plant Science Hall, P.O. Box 830722, Lincoln, NE 68583. For more information about the Plant and Pest Diagnostic Clinic, go to http://plantpath.unl.edu/ppf/diagnostic, hm or call 472-2559.

Pine Sawyer Beetle Larva, also pictured. 
(Above) Highly magnified view of a pinewood nematode. (Left) Cross-section of trachea (breathing tube) in the thorax of a pine sawyer beetle. The spaghetti-like strands are pinewood nematodes.

Pine Species to Avoid Planting
Scots pine should not be planted in parts of Nebraska where pine wilt is a major threat. This includes Lancaster County, Austrian pine also can be killed by pine wilt and is extremely susceptible to two fungal diseases: Sphaerotheca tip blight (formerly known as Diplodia tip blight) and Dothiorella needle blight. Spruces, firs, red cedars, junipers, white and ponderosa pines face little threat from pine wilt.

Cross section of pine tree showing tunnel bored by pine sawyer beetle larva, also pictured. Adult pine sawyer beetle emerges from a dead pine and prepares to fly to a healthy pine.

Pesticide Container Recycling Program
For 14 years, University of Nebraska–Lincoln Extension has been coordinating a recycling program for plastic agricultural pesticide containers. All containers must be inspected to make sure that they have been properly rinsed, with the caps and labels removed before they can be placed in our trailer. (Paper labels one layer thick may remain on the containers.) We will accept all sizes of agricultural pesticide containers, including 30 gallon plastic drums.

Containers may be brought to the UNL Extension in Lancaster County office, 444 Cherry Creek Road, Lincoln, during business hours 8 a.m. to 4:30 p.m. Monday-Friday, EXCEPT for the weeks of July 2, July 16 and July 23. Please call ahead at 441-7180 to ensure someone will be available to inspect and accept the containers before you come.

Collecting has been arranged in cooperation with Farmers Cooperative Company. Our semi-trailer will be manned on Friday, June 29, 9 a.m.-9 p.m. and Saturday, July 7, 8 a.m.-9 p.m. at the Co-op headquarters.

The material is currently being recycled into plastic posts, industrial pallets, field drain tiles, speed bumps, railroad ties and parking lot tire stops.
Mosquitoes

Tom Dorn
UNL Extension Educator

The drought has finally broken in all parts of Nebraska east of the Panhandle. As this is being written in late May, Lincoln is running about 3.5 inches ahead of normal precipitation since the first of January. Nebraskans welcome rainfall wherever we can get it, but we don’t welcome the hordes of mosquitoes which can accompany our frequent rains.

Historically, mosquitoes are one of the most important insects encountered by man because they are vectors of human diseases such as malaria (plasmodia), dengue fever, yellow fever, and encephalitis viruses, including the West Nile virus. It has been estimated half of all human deaths prior to 1950 resulted from mosquito transmitted diseases.

Heartworms, a filarial worm or nematode, are transmitted to dogs and occasionally to cats, by mosquitoes. Adult female worms, which may reach a length of 12 inches, live in the dog heart, produce microfilaria which are picked up by feeding mosquitoes. Infective stages develop within the insect and are eventually transmitted to other healthy dogs. Once inside, they develop into adult worms which lodge in the heart. Laptop computers and other electronics should first be tested by a veterinarian.

Animals which have already contracted the worms must be treated under close veterinary supervision. Non-infested dogs should be enrolled in a control program. All pharmaceutical remedies must be obtained from a licensed vet after examination and testing of the pet.

Disease transmission by mosquitoes is termed “biological transmission” because the disease organisms multiply and completely some or all of their life cycle within the mosquito.

Mosquito Control

Mosquito reproduction is rapid and a generation can be completed in as few as five to seven days during the summer months. Homeowners should eliminate all mosquito breeding areas on their property. Look for anything that might catch and hold rain such as: leaf-clogged gutters, rain pools, bird baths, old tires, cans, bottles, children’s wading pools and construction debris. Drain water from these containers. Rinse the bird bath out weekly. Try to spot potential breeding places near your home. Point out possible problems to your neighbors and suggest corrective action.

During heavy mosquito outbreaks, municipalities may resort to chemical treatment to reduce the number of adult mosquitoes either by truck-mounted fogging mechanisms or aerial spraying. Another method being used is chemical treatment of stagnant water bodies using chemicals to kill the larvae.

Bug-Free Barbecuing—Treat flower borders, smaller trees and shrubs around the patio with permethrin (often the main ingredient in flying insect killer products) about three hours before the event indoors. Check the labels to verify uses on plants to avoid possible plant sensitivity.

Burn citronella candles or oil in lanterns during the barbecue. Remember that the barbecue smoke itself will repel mosquitoes. If you don’t want to spray, consider issuing your guests some repellent or holding your event indoors.

Calculating Water Volume

By Tom Dorn
UNL Extension Educator

I get calls periodically from people who need help calculating an answer that involves simple math but requires access to conversion constants which may not be readily available to them. Let’s look at a couple of example questions dealing with water volume calculations.

Question 1. How long will it take to apply 3/4-inch of irrigation water to my half-acre lawn with an underground sprinkler system that puts out 16 gallons per minute?

First, find the number of cubic feet in a half acre area that is 3/4-inch deep.

Area = 43,560 square feet per acre x 0.5 acres = 21,780 square feet.

Depth = 3/4 inch = 0.75 inches divided by 12 inches per foot = 0.0625 foot.

Volume = 21,780 square feet x 0.0625 foot = 1,361.25 cubic feet.

Next, convert the cubic feet to gallons (Gallons = cubic feet x 7.48).

1,361.25 cubic feet x 7.48 gallons per cubic foot = 10,182 gallons.

Finally, find the number of hours required to apply 3/4-inches of irrigation.

10,182 gallons divided by 16 gallons per minute = 636.4 minutes.

636.4 minutes divided by 60 minutes per hour = 10.6 hours.

Question 2. How many gallons are required to fill a circular, above-ground backyard swimming pool that is 20-feet in diameter and 4 feet deep?

First, find the surface area of the pool. (Area of a circle = \( \pi \) x Radius squared)

Area = \( \pi \) x 10 x 10 = 314 square feet.

Next, find the volume of the pool in cubic feet. (Volume = Area x Depth)

Volume = 314 square feet x 4 feet = 1,256 cubic feet.

Finally, convert volume from cubic feet to gallons. (Gallons = cubic feet x 7.48)

1,256 cubic feet x 7.48 gallons per cubic foot = 9,395 gallons.
Tomato, Cucumber and Red Onion Salad with Mint
Preparation Time: 10 minutes • Number of Servings: 6
Cups of Fruits and Vegetables Per Person: 1

2 large cucumbers, halved lengthwise, seeded and sliced 1/3 cup red wine vinegar 1 tablespoon white sugar 3 large tomatoes, seeded, peeled, and chopped 2/3 cup coarsely chopped red onion 1 tablespoon sliced fresh mint leaves

In a large bowl, toss together the cucumbers, vinegar, sugar and salt. Let stand at room temperature for an hour, stirring occasionally. Add tomatoes, onion, mint and oil to cucumbers and toss to blend.

Nutrition Facts: Amount Per Serving: calories 70, saturated fat 0g, cholesterol 0mg, sodium 4g, total carbohydrate 15g, dietary fiber 2g, sugars 7g, protein 2g.

Cook’s note: If you prefer, leave out the mint in this recipe.

Source: Centers for Disease Control and Prevention at http://lancaster.unl.edu

Food & Fun at the Farmers’ Market
Amy Peterson and Alice Henneman
UNL Extension Educators

It’s the season for Farmers’ Markets! Farmers’ Markets offer a variety of fresh, locally-produced fruits, vegetables, meats and meats products in a festive atmosphere. Enjoy a trip to the Farmers’ Market as a family with you! Here are some tips to help you enjoy your purchases.

Go Directly Home
Go directly home from the market! Avoid side trips. Foods will decline in quality and perishability for leave meat and eggs can pose food safety problems if left sitting in your car.

Proper Storage
Different fruits and vegetables require different temperature and humidity levels for proper storage.

Some foods that taste best stored at room temperature include: bananas, melons, onions, potatoes, sweet potatoes, tomatoes and winter squashes. Store them in a clean, dry, well-ventilated place, away from direct sunlight and away from areas where meat is prepared.

Other produce can be ripened on the counter and then stored in the refrigerator. Examples include: avocados, kiwifruit, nectarines, peaches, pears and plums. Avoid placing produce in a sealed plastic bag on your countertop. This slows ripening and may increase off-odors and decay from the accumulation of carbon dioxide and decrease of oxygen inside the bag.

Most other fresh fruits and vegetables keep best stored in a clean refrigerator at a temperature of 40 degrees F or below. Use your refrigerator crisper drawer for vegetables. Fruits give off ethylene gas which can shorten the storage life of vegetables.

Some vegetables give off odors that can be absorbed by fruits and affect their quality. Refrigerate fruits and vegetables in perforated plastic bags to help maintain moisture yet provide air flow. Unperfor- ated plastic bags can lead to the growth of mold or bacteria. If you don’t have access to commercial, food-grade, perforated bags, use a sharp object to make several small holes in a food-grade plastic bag (about 20 holes per medium-size bag). If fruits and vegetables are placed on refrigerator shelves, store meats on pans or plates below the produce to prevent meat juices—which may contain harmful bacteria—from dripping on them.

Selecting Amounts
Aim to buy foods you’ll eat when you are in the store. Select an amount you can use within a short time, especially, if you won’t need it right away.

FOR MORE INFORMATION
To view an online slide show about food safety and selection for farmer’s markets, go to http://lancaster.unl.edu/food/farmers-market.shtml.

Wash Hands
Wash produce before working with produce, NOT when you bring it home! Wash produce has a natural protective coating that helps keep in moisture and freshness. Washing produce before storage causes it to spoil faster. Remove and discard outer leaves. Rinse under clean, running water just before preparing or eating. Don’t use soap or detergent as it can get into produce and make you sick. Rub briskly—scrubbing with a clean brush or hands— to clean the surface. Dry with a clean cloth or paper towel.

Cut away bruised and damaged areas. Bacteria on the outside of produce can be transferred to the inside when they are cut or peeled. Brush a produce even when the peel is removed—such as for melons and citrus fruits! Once you have cut through the protective skin of fruits and vegetables, bacteria can get through.

Fruits and vegetables can be cut or peeled and refrigerated or frozen and vegetables within two hours!

$ave Time & Money by Planning Meals

Are you tired of looking through your cupboards and freezer trying to answer the question, “What’s for dinner?”

A simple meal planning system may be the answer. Often people will say they do not have time to plan meals, but in reality, taking a few minutes to plan the seven main family meals your family usually eats each week is to plan the seven main family meals your family usually eats. This can help you save time and money. A meal planning system will allow you to spend less time and money at the grocery store, make fewer trips to the store and think about meal planning one day a week instead of daily.

You can have a very complex system or a very simple one that allows for more flexibility. A good way to get started is to plan the seven main meals your family usually eats together for a week. Have family members brainstorm and come up with all of their favorite main dishes. Keep the list and refer to it each week as you prepare your weekly menus.

The next step is to check your supplies to see what you have on-hand and what needs to be used. It is a good idea to look at the grocery ads to see what is on sale. After you have gathered this information, choose the seven main family meals for the week. Check the calendar so the menu fits with the family’s schedule. On evenings when the family is eating in shifts, sandwiches or a casserole that can be reheated for eating in shifts, sandwiches or a casserole that can be reheated might be good choices.

Use MyPyramid as a guide to the meal not only tastes good, but meets the nutritional guidelines as well. Offer a variety of fruits and vegetables in your meals, select low-fat meats and dairy products and select whole grain foods for added fiber.

Here are some additional meal planning tips:

• Add texture and color to your meals with fruits and vegetables.
• Be flexible to allow for changes in schedules.
• Have your family help with meal planning and preparation.
• Recycle your meal plans. You might have a different set of menus for each season.
• Keep ingredients on hand for very simple meals for those days when you are especially tired or busy.
• Use the money and your meals can be more nutritious if you plan your meals.
• You can surprise your family and they may enjoy how easy it can be!

Save Food & Fun at the Farmers’ Market

Are you looking for nutritious and safe foods while stretching your food dollars. You can have a very simple system that allows for more complex one that allows for more easy it can be!

Nutrition

Selecting

Other than watermelon, there are few fruits that can claim the same historical and scientific roots. After all, the first recorded usage of watermelon dates back to Africa and is part of the 487 BC. The fruit has shed new light on its potential health benefits. Watermelon contains high levels of carotenoids. An American favorite for meals and snacks. People can’t seem to get enough of the sweet taste, and nutritionists have long appreciated the health benefits watermelon provides. Recently, research has shed new light on its potential health benefits. Watermelon contains high concentrations of lycopene, an antioxidant that may help reduce the risks of cancer and other diseases.

Watermelon, the fruit that’s so good to eat, is a vegetable. Watermelon can be grown back to Africa and is part of the cucumber and squash family. It is perhaps the most refreshing, thirst quenching fruit of all. Watermelon consists of 92 percent water and 8 percent sugar, so it is aptly named. Americans eat over 17 pounds of watermelon each year. The largest one on record (Gann- ness Book of World Records) weighed 262 pounds. When to look for them in your grocery store. Watermelons are available all year. The natural sweetness of watermelon makes it a favorite anytime of the year. It is a perfect addition to a salad, salsa or cool drink. Top chunks of sweet watermelon with fruit flavored sherbets or sorbets.

An American favorite for meals and snacks. People can’t seem to get enough of the sweet taste, and nutritionists have long appreciated the health benefits watermelon provides. Recently, research has shed new light on its potential health benefits. Watermelon contains high concentrations of lycopene, an antioxidant that may help reduce the risks of cancer and other diseases.

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Save Energy and Money by Using Compact Fluorescent Light Bulbs

Energy savings of up to 75 percent realized by changing regular light bulbs to compact fluorescent light bulbs. By using less energy there is less pollution created. Since the wattage of a CFL bulb is lower than the incandescent a higher wattage CFL can be used which will give the same equivalent of light. Suggested equivalent:

<table>
<thead>
<tr>
<th>Standard Bulb</th>
<th>CFL Bulb</th>
</tr>
</thead>
<tbody>
<tr>
<td>60w</td>
<td>13-15w</td>
</tr>
<tr>
<td>75w</td>
<td>20w</td>
</tr>
<tr>
<td>100w</td>
<td>29w</td>
</tr>
<tr>
<td>150w</td>
<td>38-42w</td>
</tr>
</tbody>
</table>

When using a compact fluorescent bulb on a dimmer switch, use a bulb made for use with dimmers. Check the package for details.

4th of July Safety Tips

The National Council on Fireworks Safety recommends the following:

• Adults should supervise all fireworks activities.
• Never give fireworks to young children.
• Always purchase fireworks for reliable sources.
• Use legal fireworks.
• Follow label directions carefully.
• Never point or throw fireworks at another person.
• Use fireworks outdoors in a clear area away from buildings and vehicles.
• Never carry fireworks in your pocket or shoot them in metal or glass containers.
• Light them one at a time then move back quickly.
• Don’t experiment with homemade fireworks.
• Observe local laws and use common sense.
• Have a safe and happy 4th of July.

STRENGTHENING FAMILY TREASURES

Daughter/Mother Camp

A retreat designed for 6th grade girls and their mothers (grandmothers, guardians or other adult females)

A retreat designed for 6th grade girls and their mothers (grandmothers, guardians or other adult females)

Friday, Oct. 5, 5 p.m. to Saturday, Oct. 6, 5 p.m.

Give the greatest gift to your daughter — your time! This camp is 2 days and 1 night of fun, educational and confidence-building activities. As the teen years approach, this is an opportunity to:

• Cups—paper, plastic or water bottles
• Individually wrapped moist towelettes or a container of wet wipes
• Umbrella

PACK the following items when you go on vacation:

• Plastic bags—lidded sizes
• Flashlights—helpful in emergencies
• Small sewing kit—thread, needle, buttons, scissor, safety pins
• Individually wrapped moist towelettes or a container of wet wipes

Elizabeth Worley of dessArts and Where is Tasmania? by Don Jansen, extension educator. Send your $10 reservation to Clarice Steffens by July 5. FCE clubs are putting together baskets to be raffled off during the evening with the proceeds going toward the FCE Scholarship.

Pack the following items when you go on vacation:
• Plastic bags—lidded sizes
• Flashlights—helpful in emergencies
• Small sewing kit—thread, needle, buttons, scissor, safety pins
• Individually wrapped moist towelettes or a container of wet wipes
• Umbrella

President’s Notes — Alice’s Analysis

Alice Doane
FCE Council Chair

What a wet spring this has been. The United Methodist Women hosted its annual May Breakfast. This is the church’s 125th anniversary. The program was a fashion show from 1860 to the present. The clothes sizes from 1860 to 1960 ran much smaller than today’s styles. My great-grandmother’s dress from the Civil War needed washing and when it came out it looked like a wash and wear garment.

Grandmas’ dress from the era hung from the shoulder. When it came out it looked like a wash and wear garment. We saw sportswear, casual dress, a nurses white coat and many other garments.

For more information or a registration form, go to http://lancaster.unl.edu/extension or call Maureen Burson at 441-7180.
Jay Wilkinson
Lancaster County 4-H is proud to announce Jay Wilkinson as winner of July’s “Heart of 4-H Award” in recognition of outstanding volunteer service.

Jay has helped his kids with their 4-H projects for 14 years and volunteered with 4-H for nearly 12 years. He has helped in a variety of ways:
- Sheep project leader for Happy Go Lucky 4-H club
- Lancaster County Fair 4-H sheep superintendent and/or assistant superintendent
- Furnishing livestock for 4-H/FFA judging classes
- Helping extend office online at http://lancaster.unl.edu/4h or available at the Society Board of Directors (Fair Board). He lives in Walton.

4-H over the years. “watching my two daughters grow up and mature through team work — and that hard work and dedication truly pays off,” says Jay. “My favorite experience as a volunteer has been watching my two daughters grow through 4-H over the years.”

Jay is a former member of Lancaster County Extension Board and is currently on the Lancaster County Agricultural Society Board of Directors (Fair Board). He lives in Walton with his wife Brenda and works for Francke Farms.

Congratulations to Jay. Volunteers like him are indeed the heart of 4-H! Nominate your favorite 4-H volunteer by submitting the form online at http://lancaster.unl.edu/4h or available at the extension office. Nominations of co-volunteers welcome.

Free Seeing Help on Wednesdays

Lancaster County 4-H and Bernina Sewing Center are partnering to provide 4-H members free expert sewing help. Every Wednesday from 6-8 p.m. youth are welcome to bring their sewing machines and 4-H projects. 4-H members can sew and have their questions answered by experts. If your sewing machine does not make good buttonholes or will not sew through six layers of denim, then there are classroom machines available for rental. The Bernina Sewing Center is located inside Hancock Fabrics, 6800 P St., Lincoln.

District Speech & PSA Contest Results

11 Lancaster County 4-H’ers participated in the Southeast District Speech and Public Service Announcement (PSA) Contest held on May 31 at the University of Nebraska–Lincoln East Campus. The following youth earned purples in their division — the top five in each division received medals:

Senior Speech — Grace Farley
Intermediate Speech — Jessica Stephenson (medal)
Junior Speech — Anne Greff
Intermediate PSA — Jacob Pickrel, Jessica Stephenson
Junior PSA — Jaime Stephenson (medal), Jacob Pickrel

District contest winners in the senior division in Speech and PSA will advance to the State contest which will be held during the Nebraska State Fair. Congratulations to all the participants!

All 4-H Riding Skills Level Tests Must be Done in Group Testings

The dates and locations for the 2007 Advancement Level Testing are as follows:
- June 26, 6:30 p.m. at Lancaster Event Center
- July 2, 6:30 p.m. at Lancaster Event Center
- Sept. 29, 9 a.m. at Lincoln Equestrian Center

All 4-H horse exhibitors and/or owners shall exhibit a horse at the Fair Park State 4-H Horse Exposition that has been given any manner whatsoever, internally or externally, a narcotic, stimulant and depressant, analgesic, local anesthetic or drug of any kind or description within 24 hours before the first scheduled event in which the horse will participate.

No 4-H horse exhibitors and/or owners shall exhibit a horse at the Fair Park State 4-H Horse Exposition that has been given any manner whatsoever, internally or externally, a narcotic, stimulant and depressant, analgesic, local anesthetic or drug of any kind or description within 24 hours before the first scheduled event in which the horse will participate.

Horse Drugs

Shirts and blouses must be all white, including button, thread, etc., with convertible collars (one that is meant to be folded at the seam) and long sleeved. Tuxedo, turtleneck, or other stand-up collars are not permitted. No national, county or club emblems, medals, etc., permitted. Shear, see-through or form-fitting blouses are inappropriate and not permitted. The bottom line — the traditional “pearl snap” western shirt or a white cotton oxford-type shirt are permitted. Plain, dark-blue denim jeans must be worn. No fringe is allowed nor are jeans that button down the side. A Western hat or a safety helmet must be worn. Hats and helmets are optional in the speed events. A belt, tie, 4-H armband (left arm above the elbow) and riding boots must be worn. Boots with waffle-type tread greater than or equal to 1/8” will not be allowed in riding classes. The judging event requires a long-sleeved white shirt with 4-H armband and the short-sleeved white 4-H T-shirt, blue jeans, belt and boots. A tie must be worn with the long-sleeved shirt.

English Attire:
1. Helmet—ASTM approved helmet required in all jumping classes.
2. White or light colored shirt with stand up collar—can be long or short sleeves or sleeveless. If the weather is extremely hot, the judge may waive the jacket. If in case, the white or light colored shirt or a short sleeved polo shirt in any color is acceptable.
3. Armband—left arm above the elbow—must be worn with long or short sleeves or sleeveless.
4. Broach or pin for collar
5. Jacket
6. Breeches
7. Belt if breeches have loops
8. Long boots, half chaps over a paddock boot are acceptable.

State Expo Policy on Horse Drugs

The State 4-H Horse Show will be held July 16–19 at the Fonner Park in Grand Island. Information is online at www.animalscience.unl.edu/extension/quine/4h/districtstateshows.html.

No 4-H horse exhibitors and/or owners shall exhibit a horse at the Fair Park State 4-H Horse Exposition that has been given any manner whatsoever, internally or externally, a narcotic, stimulant and depressant, analgesic, local anesthetic or drug of any kind or description within 24 hours before the first scheduled event in which the horse will participate.

Horses on prescribed treatment of phenylbutazone and/or aspirin-like products must file a completed form in the 4-H Horse show office before the horse can be shown. This statement must describe the treatment reason and be signed by the horse’s veterinarian, or more class winners and one or more horses in the same class may be tested on Tuesday, Wednesday or Thursday by the Test Committee.

4-H & Youth

July 2007

http://lancaster.unl.edu

The NEBRASKA WEEKLY
Volunteers Needed

Adults and youth are needed to help during County Fair. Help is especially needed in the following areas:

- Static exhibit setup days — on Thursday, July 26 at 9:30 a.m. (pizza will be served) and Saturday, July 28 at 8 a.m. (doughnuts will be served) in the Lincoln Room.
- Livestock setup day — on Saturday, July 29 at 1 p.m. in Pavilion 1 (refreshments and Dairy Queen ice cream will be served).
- Horse setup days — Sunday, July 29 – Tuesday, July 31 in Pavilion 2.
- During judging of static exhibits on Tuesday, July 31 in Lincoln Room.
- Teen tour guides are needed for Fair Fun Day for child care groups on Friday, Aug. 3 at 9:30 a.m. and 1 p.m. If you can help, please contact the extension office at 441-7180.

Food Booth Training, July 26

The 4-H Corner Stop food booth at the county fair will be the Lancaster County 4-H Council’s primary fundraiser. Volunteers are needed to staff 3–4 hours shifts from Tuesday, July 31 through Sunday, Aug. 5. For more information, contact Jean Pedersen at 420-0573 (call after 6 p.m.) or e-mail jean.pedersen@mac.com. All food booth volunteers are encouraged to attend a training on Thursday, July 26, 6–7 p.m. at the Event Center. Learn about food safety, customer service and volunteer responsibilities.

Volunteer at the 2007 Nebraska State Fair!

Hundreds of volunteers provide their time and energy in support of the 4-H sector and the Nebraska State Fair. The Nebraska State Fair is incredibly successful. Along with the opportunity to participate in this great event, you are also able to give back in a meaningful way. Each volunteer who helps at the State Fair will receive a free parking pass and gate entrance pass to the State Fair for the day(s) they volunteer.

Get ready for fun at the 2007 Nebraska State Fair! Friday, Aug. 24 through Monday, Sept. 3! For a schedule of 4-H at the state fair and more, go to http://4h.unl.edu/programs/statefair.

Animal Entries Due Aug. 5

4-H & FFA animal exhibitors ages 10–18 are eligible to participate at the Nebraska State Fair regardless of county fair placing. State Fair 4-H & FFA animal entry forms are due to Lancaster County 4-H staff no later than Sunday, Aug. 5 at the county fair. Forms will be available online or at the livestock office at fair. Registration fees must be included with entries.

Static Exhibits

At the county fair, 4-H static exhibits will be selected for the Nebraska State Fair by the judges. Five static exhibits will be placed on all exhibits selected for state fair. 4-H members with qualifying static exhibits will receive information in the mail after County fair about entering at the State Fair.

State Fair Gate & Parking Passes

State Fair gate passes and seasonal parking passes may be purchased and picked up at the extension office AFTER County Fair. These passes are for 4-H members and their immediate family only.

Volunteer at the 2007 Nebraska State Fair!

Counties have the opportunity to talk to judges about their fair exhibits and share their trials and lessons they learned. 4-H members also learn how to judge livestock for and to how to improve skills. 4-H’ers may interview judge ONE exhibit from each project area (for example: one item from Science, one item from Art and one item from Home Economics). Refer to page 38 of the Fair Book for project areas which have interview judging. Call the office at 441-7180 after July 4 to sign up for a five-minute time slot.

Clover Kids Show & Tell, Aug. 4

All Clover Kids, ages 5–7 by January 1, 2007, are invited to show & tell their 4-H exhibits at the Lancaster County Fair. Saturday, Aug. 4, starting at 1 p.m. Clover Kids Show & Tell is held in the Lincoln Room at the Lancaster Event Center. Youth are also invited to do a skit or song at this time. See page 33 of the Fair Book for more information. To register, call 441-7180 by Friday, July 27, or sign up at the static exhibit area Monday, July 30, 4–8 p.m.

Static Exhibit Release Time Sunday, Aug. 5, Noon–2 p.m.

These includes both 4-H and Open Class static exhibits.

Table Setting Contest, Aug. 2

This contest will be held on Saturday, Aug. 4, 4–8 p.m. at the Lancaster Event Center, Pavilion 3 – Exhibit Hall. A handout is available from the extension office or online at http://lancaster.unl.edu/4h. Must submit entry forms by July 6.

Cattle Fitting Contest, Aug. 1

The Team Cattle Fitting Contest will be held on Wednesday, Aug. 1 at 6 p.m. Teams of two 4-H/FFA members will have 30 minutes to brush, groom and prepare an animal for show. At the completion of the 30 minutes, one team member will compete in the showmanship phase while the other team member is available for questions. See Fair Book page 34 for complete contest information. Teams must preregister the day of the contest by NOON. Start putting your team together now!

State Fair Gate & Parking Passes

State Fair gate passes and seasonal parking passes may be purchased and picked up at the extension office AFTER County Fair. These passes are for 4-H members and their immediate family only.

Volunteer at the 2007 Nebraska State Fair!

Hundreds of volunteers provide their time and energy in support of the 4-H sector and the Nebraska State Fair. The Nebraska State Fair is incredibly successful. Along with the opportunity to participate in this great event, you are also able to give back in a meaningful way. Each volunteer who helps at the State Fair will receive a free parking pass and gate entrance pass to the State Fair for the day(s) they volunteer.

Table Setting Contest, Aug. 2

This contest will be held on Saturday, Aug. 4, 4–8 p.m. at the Lancaster Event Center, Pavilion 3 – Exhibit Hall. A handout is available from the extension office or online at http://lancaster.unl.edu/4h. Must submit entry forms by July 6.

Horticulture Judging Contest, July 12

The Horticulture Judging Contest will be held Thursday, July 12, 10 a.m.–6 p.m. at the Lancaster Extension Education Center. Contest is open to all 4-H’ers — need not be enrolled in a specific project. Contest questions will be based on the following: 4-H manuals: Citizen Safety, Youth in Motion, Growing on My Own, Attention Shoppers, Road to Good Cooking and Fast Foods.

Presentations Contest, July 20 or Aug. 4

Choose between three classes, all based on method of presentation. There are three methods in which 4-H’ers may present: 1) presentation using slides, video or overhead projector; 2) presentation using posters; or 3) multimedia presentation. You choose which date works for you: Friday, July 20 beginning at 1:30 p.m. or Saturday, Aug. 4 beginning at 8 a.m. See Fair Book page 35 for complete contest information. Must submit entry form by Friday, July 6. A handout is available at http://lancaster.unl.edu/4h/Fair and the extension office.

Style Revue Judging, July 25

Style Revue judging will be held Wednesday, July 25 starting at 8:30 a.m. The public Style Revue is Wednesday, Aug. 1, at 7 p.m. (both revues will be held at the Lancaster Event Center, Pavilion 3 – Exhibit Hall). A handout is available from the extension office or online at http://lancaster.unl.edu/4h. Must submit entry forms by July 6.

Premium Payouts Must Be Picked Up During County Fair, Sunday, Aug. 5

Premium payouts to 4-H & FFA exhibitors will be paid in cash on Sunday, Aug. 5, Noon–4 p.m. at the Lancaster County Fair Prizemaster Office. To subject identification, parent, guardians, 4-H club leaders, FFA chapter advisors will be permitted to pick up and sign for exhibitor premiums. NO CHECKS WILL BE ISSUED THIS YEAR! No changes or corrections will be made on premium amounts after 14 days.

Static Exhibit Check-In Monday, July 30, 4–8 p.m.

Static exhibits do not preregister, but must have a handshake card, static exhibit check-in form, and entry form and bucket calves are being collected with entry forms — bedding for other animals must be purchased at the fair.

Interview Judging, July 31

Interview judging is Tuesday, July 31 starting at 9 a.m. in the Lincoln Room. 4-H’ers have the opportunity to talk to judges about their fair exhibits and share their trials and lessons they learned. 4-H’ers also learn how to judge livestock for and to how to improve skills. 4-H’ers may interview judge ONE exhibit from each project area (for example: one item from Science, one item from Art and one item from Home Economics). Refer to page 38 of the Fair Book for project areas which have interview judging. Call the office at 441-7180 after July 4 to sign up for a five-minute time slot.

Contest Information

Pre-registration is required for the Presentations, Static Exhibits, Table Setting Contests and State Fair Gate & Parking Passes by July 6 (entry forms are available at the extension office or online at http://lancaster.unl.edu/4h). For the other County Fair contests, entry day of contest.

Get ready for fun at the 2007 Nebraska State Fair! Friday, Aug. 24 through Monday, Sept. 3! For a schedule of 4-H at the state fair and more, go to http://4h.unl.edu/programs/statefair.

Animal Entries Due Aug. 5

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Study: UNL Institute of Agriculture & Natural Resources is ‘Primary Engine’ for Nebraska Economy

Among the IANR Programs Cited by the Study...

- Research IANR scientists did with University of Florida colleagues led to new beef products that added $50–$70 in value per head over the past seven years. On Jan. 1, 2006, Nebraska had 2.6 million cattle on feed. At $50 per head, that’s $130 million more in 2006 alone.

- An extension demonstration project in the Republican River Basin focuses on teaching producers to achieve nearly full yields with less water. The project showed a water miser strategy used 31 percent less water while reducing corn yields only 3 percent. Pumping cost savings usually more than offset yield loss. Overall estimated value of knowledge gained in 2006 was $2.4 million, according to 130 producer participants.

- IANR-developed wheat varieties that perform well in Nebraska fields are worth roughly $30 to $35 million annually as legal guardians for elderly and disabled people and children in our state who cannot make decisions for themselves.

- UNL Extension partnered with the Nebraska legal system to develop a curriculum and materials to teach the more than 2,000 people appointed annually as legal guardians for elderly and disabled people and children in our state who cannot make decisions for themselves.

- UNL Extension’s NebraskaEDGE — Enhancing, Developing and Growing Entrepreneurs — program has helped nearly 2,000 Nebraskans transform their ideas into viable business opportunities since 1993.

- Since 2000, more than 260 College of Agricultural Sciences and Natural Resources students have partnered with faculty advisors to gain hands-on experience and improve job skills through UNL’s Undergraduate Creative Activities and Research Experiences program.

EXTENSION NEWS

Julie Rasmussen Joins Nutrition Staff

This spring, Julie Rasmussen joined the University of Nebraska-Lincoln Extension in the Lancaster County Nutrition Education Program (NEP). NEP helps limited resource families learn how to prepare nutritious and safe foods while stretching their food dollars.

Julie will teach nutrition to adults and youth at a variety of locations including WIC sites, rehabilitation facilities, after-school programs, day camp sites, and home visit settings. Previously Julie has been with the Nutrition Education Program in Lincoln, McPherson and Keith Counties for six years. While serving in those counties, Julie worked with numerous agencies including Arbor, Head Start, WIC, the Housing Authority, the Salvation Army and the Homeless Shelter to teach nutrition education. She also enjoyed teaching youth at group homes and to children in after-school, summer school and Head Start programs.

Two Promoted to Extension Associate

Zainab Rida and Marty Cruickshank were recently promoted from Extension Assistants to Extension Associates. Zainab has been with the Nutrition Education Program staff for five years and Marty Cruickshank has been with the 4-H staff for four years.

4-H Interns Assist with 4-H Programs

Each year, student interns join the 4-H staff at the University of Nebraska–Lincoln Extension in Lancaster County and provide much needed assistance during the summer for contests, County Fair and other activities.

- Jessica Bauman assists Marty Cruickshank with the horse, poultry and rabbit areas (this is Jessica’s third summer as a 4-H intern).

- Jami Rutt assists Tracy Kalm in the Family and Consumer Science areas (this is Jami’s third summer as a 4-H intern).

- Jessalyn Schrock assists Deanna Karmarin in the livestock areas (this is Jessalyn’s first summer as a 4-H intern).

Pollution Prevention Intern

The Partners in Pollution Prevention (P3) program is a 12-week program which is part of a UNL biological systems engineering class. This summer, P3 intern Jason Thorndal is working with UNL Extension in Lancaster County.

Jason will visit small businesses to assess their work situations, provide research options and a detailed report on how to conserve resources. More information about the program is online at www.ianr.unl.edu/p3
**EXTENSION CALENDAR**

All programs and events will be held at the Lancaster Extension Education Center unless otherwise noted.

**June**

25-26 4-H Premier Animal Science Events (PASE)/FCE Life Challenge, UNL East Campus

25 Family & Community Education (FCE) Council Meeting, Northbridge Community Center, 27th & Holdridge Streets — 1 p.m.

26 Guardianship Training — 5:30–8:30 p.m.

26 4-H Horse Level Testing, Lancaster Event Center

Warm-up Arena — 6:30 p.m.

27 Nutrition Education Program ABC’s for Good Health

(Class 3 of 3) — 10 a.m.–12:30 p.m. or 6–8:30 p.m.

29 Agricultural Pesticide Container Collection, Farmers Coop East Elevator on 148th St., Waverly — 9 a.m.–Noon

**July**

2 4-H Horse Level Testing, Lancaster Event Center

Warm-up Arena — 6:30 p.m.

6 ALL 4-H/FFA County Fair Animal Entry Forms Due to Extension (NO LATE ENTRIES WILL BE ACCEPTED)

6 4-H Table Setting/Bicycle Safety/Presentations/Style Revue Contest Pre-registrations Due to Extension

8 4-H Teen Council Meeting — 3 p.m.

10 Family & Community Education (FCE) Council

Sizzling Summer Seminar — 9 a.m.–9 p.m.

12 4-H Horticulture Contest — 10 a.m.–12 p.m.

12 4-H Junior Life Challenge — 1:30 p.m.

13 Extension Board Meeting — 8 a.m.

15 State 4-H Hippology, Fonner Park, Grand Island

16–19 State 4-H Horse Show, Fonner Park, Grand Island

17 Guardianship Training — 5:30–8:30 p.m.

20 County Fair 4-H Presentations Contest — 1:30 p.m.

20 County Fair 4-H Style Revue Judging, Lancaster Event Center - Pavilion 3, Exhibit Hall — 8 a.m.

29 County Fair 4-H Horse Show Pre-Fair Briefing, Lancaster Event Center - 4-H Office

30 Entry day for County Fair Static Exhibits, Lancaster Event Center - Lincoln Room — 4–8 p.m.

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**Correction**

There was an error in Tit Nubin’s June 2007 feature story. Using 2005 estimates for Lincoln and other incorporated towns and villages and the 2005 estimate of the total population of Lancaster County results in a rural population estimate of 18,500 persons, not 33,000 as reported in the story.

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**Your 4-H Talent Can Lead to an Exciting Career!**

Recipe to Reality Seminar, Aug. 10

University of Nebraska Food Processing Center will present a seminar, “From Recipe to Reality,” on Friday, Aug. 10 in Lincoln. The workshop is specifically designed to provide entrepreneurs with an understanding of key issues they will need to consider when starting a food business, including market research, packaging, pricing, legal and business issues. Pre-registration is required and space is limited. Registration deadline is July 27. To request additional information, go to www.fpc.unl.edu or call 472-2819.

Nebraska Statewide Arboretum Photo Contest

Capture the beauty of Nebraska through the Nebraska Statewide Arboretum! Twelve images that best display the theme, “A Year in the Garden,” will be compiled into a calendar and may appear in other NSA publications and displays. Each winner will receive five copies of the calendar and a tree seedling from NSA. Rules and entry forms can also be found online at http://arboretum.unl.edu. For more information contact NSA at 472-2971. Entries must be postmarked by Sept. 14.

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**The Nebline**

Tit Nubin is published monthly (except December) and mailed to more than 10,500 households in Lancaster County.

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444 Cherry creek Road, Suite A • Lincoln, Nebraska 68528-1507
Still Time to Sign Up for 4-H Summer Camps!

There is still time to sign up for 4-H summer camps held in late June, July and early August!

Open to all youth ages 5-19, 4-H summer camps are a great opportunity to meet new friends and experience a wide variety of exciting activities such as canoeing, mountain biking, horseback riding, rappelling or climbing, volleyball, basketball, art, dancing, backpacking, shooting sports, water skiing and fishing!

Most camps include one to three overnight stays in comfortable cabins. Camps and trips are held at three 4-H camp locations in Nebraska:

- Eastern Nebraska 4-H Center, Gretna
- Nebraska State 4-H Camp, Halsey
- South Central 4-H Center, Alma

Brochures with camp descriptions, registration forms and more information are available online or at the extension office. New this year, register online!

http://4h.unl.edu/camp

Can You Guess It?

Did you guess it? Find out at http://lancaster.unl.edu

Did you guess it from the June Issue? The answer was Cedar-Apple Rust Gall!

I ANR At Work for Nebraska

continued from page 10

According to the study, “IANR has been, is and will continue to be a primary engine for economic and social sustainability and growth in the state of Nebraska.

Based on the impact examples examined by Battelle, it is the conclusion of this study that the state of Nebraska is receiving an excellent return on its investment in IANR,” the study reported.

The study also points out the importance of the College of Agricultural Sciences and Natural Resources in preparing the workforce for Nebraska’s economy; historically about 70 percent of the college’s graduates take their first job after graduation in Nebraska.

The $160,000 “At Work for Nebraska” report captures the economic impact of IANR programs. It points out that the state’s investment in IANR pays off many times over — conservatively estimated at 15 to 1. For example, IANR is received $71.6 million in state funds in the 2005 fiscal year. Here’s what taxpayers got in return:

• More than $750 million in annual benefits from the institute’s research, teaching and extension activities. That’s measured in improved economic output and savings — in other words, real money in real Nebraskans’ pockets.
• About $338 million in annual benefits through the economic ripple effects of IANR doing business in Nebraska — paying employees, buying products and supplies and having that money multiply throughout the state’s economy.

The complete report is available online at http://atworkfornebraska.unl.edu. No state tax funds were used to pay for this report.

Battelle is a nonprofit research and development organization specializing in global science and technology. It operates five national laboratories.

Institute of Agriculture and Natural Resources –

AT WORK FOR NEBRASKA

In 2005, the state allocated $71.6 million to the Institute of Agriculture and Natural Resources at UNL. IANR’s teaching, research and extension education activities returned, conservatively, $750 million in benefits to Nebraskans and another $338 million from the ripple effects of doing business in the state, for a 15 to 1 return on investment.

Beneficial Insects

continued from page 1

Ground Beetles (Carabidae)

These insects get their name by their poor ability to climb. Nearly all ground beetles spend their time under leaf litter and other debris on the ground. Both the adult and larva are predators of a wide variety of pests. The hard wing covers of the adult are typically shiny, black and ridged. However, some species may be brightly colored or metallic.

Many ground beetles are black but there are also metallic blue and green species.

Tachinid Flies (Tachinidae)

The larvae of all tachinid flies are internal parasitoids of caterpillars and beetle larvae. There are three basic ways in which the larvae enter the host: 1) eggs are laid on the leaves of the plant, and, after the eggs hatch, the larvae are ingested by the feeding host; 2) eggs are glued to the host and the larvae penetrate the host’s body; 3) the female uses her piercing ovipositor to insert the eggs directly into the host’s body. Adult tachinid flies often resemble hoverflies, but are usually larger, hairier and more robust.

Tachinid fly adult (left) and eggs (right) on a host caterpillar.

Wasps (Hymenoptera)

While some wasps are capable of becoming a nuisance, most do not pose a problem, and instead, act as a major biological control for many yard and garden pests.

Social wasps, such as paper wasps, form colonies and feed their larva live prey. Hunting wasps are solitary insects, which construct their nests underground, in the pith of plants or with the use of mud. The females carry the captured prey to the nest where it is used as a food source for developing larvae. Examples of hunting wasps include the cicada killer and steel blue cricket hunter. Ichneumonid wasps are interesting insects able to use their antennae to detect caterpillars and other larvae within the wood of trees. After detecting the host, the female drills her ovipositor, or egg-laying device, into the wood and injects an egg near or directly into the host’s body. The larvae of the ichneumonid wasp then feed on their host as they continue to develop.

U.S. Drought Monitor Map

As of June 12, Lancaster County was not in drought conditions.

For the most recent map, visit http://www.drought.unl.edu/DM
Source: National Drought Mitigation Center, University of Nebraska-Lincoln

Ichneumonid wasp

Cricket hunter wasp

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