7-2007

The NEBLINE, July 2007

Follow this and additional works at: http://digitalcommons.unl.edu/neblines

Part of the Agriculture Commons

http://digitalcommons.unl.edu/neblines/74

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

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 soybean, 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 such 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 (Mymrleontidae)

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.
Black Knott on Plums

Black knot is a widespread fungal disease that affects plum and cherry, and occasionally infects apricots, peaches and other plants. The fungus, genus *Corynebacterium*, infects fruiting spurs, stems and branches of susceptible plants.

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

**Maple gall bladders**

Mary Jane Frogge
UNL Extension Associate

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 mites. Plant hormones are involved when the pest interferes with leaf development, causing the swelling. 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. Pruning most leaf galls is extremely difficult.

**Maple gall bladders**

However, other than being unsightly, leaf galls are not harming the tree or shrub. Maple gall bladders are a collection example of leaf galls. Small green bumps appear on the tops of silver and red maple leaves, turning bright red. This is due to tiny mites feeding on newly developing leaves. While it may look bad, in reality the health of the tree is not threatened. Control is not practical or necessary.

Galls frequently appear on oaks. They may cause small bumps or larger, more visible growths. In the spring, the oak-apple gall appears as fairly large, round, apple-like growths. These are caused by a very small wasp. Some may affect twigs, such as the goat oak gall and oak apple gall, both commonly on oak. Most leaf galls on oak are not damaging.

*Leaves of hackberry often have the hackberry gall caused by an insect called a psyllid. Elms and hackberry may have galls such as the cockscob gall, caused by an aphid. This irregular gall looks like rooster’s combs on the leaves. Other shade tree, shrub, fruit crop and even perennial flower foliage may have galls appearing. Treatment is rarely suggested and would have been needed prior to the gall forming. This usually is not practical. Once the gall had formed, even if the pest is killed, the gall remains since it is actually plant tissue. Many gall makers have natural predators or parasites that help keep populations in check.*

**Hhackberry nipple gall**

HortUpdate is a FREE e-mail newsletter from the University of Nebraska-Lincoln Extension which provides timely information to the lawn and landscape industries. This e-mail includes current lawn and landscape problems with control recommendations and a seasonal “To Do” list. To subscribe, go to http://extension.horticulture.unl.edu or call (800) 755-7765.
Saved From the Birds—Rescue of a Baby Owl

Barb Ogg
UNL Extension Educator

Raucous bluejays and dive-bombing grackles 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 owl 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 his 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—his instincts, no doubt, knew he was an enemy.

After securing him in a pet carrier, I looked in the blue pages of the phone book for help. I almost called Wildlife Rescue, but realized this bird would get just the right care at Raptor Recovery. I called the first number and reached Elaine Bachel, who has been a Raptor Recovery Volunteer for 21 years. She quickly said, “I am feeding seven other screech owls; one more won’t be any problem at all.”

A few hours later, Elaine arrived at our door carrying a cardboard box (with ventilation holes) and leather gloves, which she promptly put on before she picked up the owl. Of all the raptors, Elaine has a special affection for owls, reflected by her license plate, “OWLS.”

Before we left, Elaine wanted to see where I found the owl. There could be other babies, she explained, I saw her and found a hole in the large elm tree that could have been where the screech owl was nesting. She said that screech owls sometimes have as many babies, there isn’t enough room in the cavity. These babies sometimes leave before they can fly away well enough to take care of themselves. This seemed like a great NEBRINE article, so, before she left, I asked Elaine if I could come to her house, see the raptors and maybe take a few pictures.

The next evening, I arrived at Elaine’s house. She first showed me several adult raptors that are under her care. She explained there are several reasons why these birds have not been released into the wild. Some have been imprinted by humans and do not have the ability to survive in the wild. Others 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 from the U.S. Fish and Wildlife Service. Elaine can keep these raptors because of the permit given to Raptor Recovery Network.

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 imprinted.

What does she feed them? Elaine feeds the screech owlets sterile baby food. She doesn’t want them to learn to eat anything that could introduce disease to wild birds. She also feeds them insects, which are on their own after weaning, to hide and hone their hunting skills. It is visially important to return owlets to active parents. Elaine’s owl parents 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.

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 poisioned by insecticides.
• lead shot found in wounded animals from hunting activities in the fall of the year.

In 1976, the Raptor Recovery Center was organized as a project of the Nebraska Audubon Society of Lincoln, Nebraska. It has been 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 or experienced raptor care facility to pick it up and bring it to the center 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.

Local Raptor Recovery Numbers

• Elaine Bachel 488-7586 (Lincoln)
• Carri Honz 483-4303 (Lincoln)
• Janet Stander 525-8682 (Lincoln)
• Betsy Finch 602-994-2009 (Elmwood)

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

Raptor Recovery Guidelines When You Find an Injured Raptor

• Approach the bird from behind, if possible.
• Cover the bird completely with a towel, blanket, jacket or any light-weight item.
• Quickly restrain the bird under the covering.
• As the bird calms down, gather the covering together, being careful to keep the bird covered until covered. Be sure the wings are folded against its body.
• Transfer the bird to a well-ventilated cardboard box as soon as possible.
• Contact Raptor Recovery Nebraska or the Nebraska Game and Parks Commission immediately.
• Do not attempt to treat or feed the bird yourself. Many well-meaning attempts have resulted in further injury or the death of a bird.
Pine Wilt Disease

Pine trees are a staple in rural and urban landscapes due to their hardiness, beauty and diversity; but hundreds 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-like color.

Cause
Pine wilt is caused by the pinewood 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. mugo) 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&PC. 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/ppd/diagnostic, hm or call 472-2559.

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: Sphaeropsis tip blight (caused by Sphaeropsis caerulea) and Dothiora needle blight. Spruces, firs, red cedars, junipers, white and ponderosa pines face little threat from pine wilt.

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.

Containers will be collected in cooperation with Farmers Cooperative Company. Our semi-trailer will be manned on Friday, June 29, 9 a.m. North of Waverly on the east advisory on 148th Street and on Friday, Aug. 10, 9 a.m.–Noon in Bennett 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.

Scrap Tire Collection Sept. 29 & 30

9 a.m.–9 p.m.
South parking lot, Shoemakers Truckstop
NW 48 & West O Streets, Lincoln, NE

Will accept tires of all shapes and sizes with no limit, free of charge!

We cannot accept tires from dealers, outside the state or with rims.

For more information, call 476-3590
Sponsored by: Sanitary Improvement District (SID) #6, Emerald, NE
Food & Fun at the Farmers’ Market

Amy Peterson and Alice Henneman, NE UNL Extension Educators

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

Go Directly Home
Go directly home from the market! Avoid side trips. Foods will decline in quality and perishable foods like meats 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 depletion 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 from 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. Unperforated 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.

Wash Hands
Wash hands before working with produce.

Wash Produce
Wash produce thoroughly before you use it, NOT when you bring it home! 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 or you 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.

Wash Fruits
Wash Fruits thoroughly before using. Produce with 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 or you 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.

Wash Hands
Wash hands before working with produce.

Selecting Amounts
Aim to buy foods you’ll eat now when they are fresh. 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 of fresh produce, go to http://lancaster.unl.edu/food/farmers-market.shtml

Wash Fruits
Wash Fruits thoroughly before using. 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 or you 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.

Wash Hands
Wash hands before working with produce.

Wash Produce
Wash produce thoroughly before you use it, NOT when you bring it home! 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 or you 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.

Wash Hands
Wash hands before working with produce.

Wash Produce
Wash produce thoroughly before you use it, NOT when you bring it home! 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 or you 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.

Wash Hands
Wash hands before working with produce.

Wash Produce
Wash produce thoroughly before you use it, NOT when you bring it home! 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 or you 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.

Wash Hands
Wash hands before working with produce.

Wash Produce
Wash produce thoroughly before you use it, NOT when you bring it home! 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 or you 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.

Wash Hands
Wash hands before working with produce.

Wash Produce
Wash produce thoroughly before you use it, NOT when you bring it home! 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 or you 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.
Save Energy and Money by Using Compact Fluorescent Light Bulbs

Energy savings of up to 75 percent can be realized by changing regular light bulbs to compact fluorescent light bulbs (CFLs). 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>26-32w</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.

Habits and Safety

- Never point or throw fireworks at another person. 
- Light them one at a time then move back quickly. 
- Never carry fireworks in your pocket or shoot them in metal or glass containers. 
- Light them one at a time then move back quickly. 
- Never carry fireworks in your pocket or shoot them in metal or glass containers.

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.
- Never experiment with homemade fireworks.
- Observe local laws and use common sense. Have a safe and happy 4th of July.
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 extensively with set-up of livestock pens at county fair

“I like being a volunteer because I play a critical role in helping teach kids important values such as responsibility and 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.

Horse Bits

County Fair 4-H Horse Entry Forms Due July 6

All County Fair Horse Entry Forms are due in the extension office before Friday, July 6. NO LATE ENTRIES will be accepted. Reminder — You must have passed all Walk-Trot or Level I Horsemanship requirements before July 6 to show at the County Fair. You must have passed Level II to participate in off-the-horse judging classes. Barqueat Examination requires a level III.

Special Needs Horse Show at County Fair

New to the county fair this year are two classes for special needs youth. There will be a mounted obstacle class, assisted and a mounted obstacle class, non-assisted. Classes are open to 4-H riders ages 8 to 18. 4-H attire required (as much as possible). Attire should be consistent with tack (English or Western). However, competitors must wear an ASTM/SEI approved helmet. Participants must provide their own horse and any special equipment needed such as mounting ramps, etc. Participants may show out of a stall or off a trailer. Riders may sign up for one class only. Class size will be limited to eight riders...first come, first served so sign up early! Due date for entries is July 6.

District Speech & PSA Contest Results

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 — Jessie Stephenson (medal)
- Junior Speech — Anne Greff
- Intermediate PSA — Rachel Pickrel, Jessie Stephenson
- Junior PSA — Jaime Stephenson (medal), Jacob Pickrel

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

4-H Volunteer T-Shirts Available

4-H volunteer T-shirts are available for sale at the extension office. Shirts are burgundy, 50/50 blend and available in sizes: S, M, L, XL & XXL. Cost is $6.50.

4-H Robotics County Fair Entry

4-H’ers involved in the Robotics curriculum may enter a project in the Lancaster County Fair in the following Engineering class (added after Fair Book went to press) — “You Be The Teacher” (class # H860012) — shares with others what you learned in this project. Examples may include a poster, an essay, etc. (note: not state fair eligible).

4-H projects for outstanding 4-H’ers involved in the Robotics curriculum may enter a project in the Lancaster County Fair in the following Engineering class (added after Fair Book went to press) — “You Be The Teacher” (class # H860012) — shares with others what you learned in this project. Examples may include a poster, an essay, etc. (note: not state fair eligible).

4-H Volunteer T-Shirts Available

4-H volunteer T-shirts are available for sale at the extension office. Shirts are burgundy, 50/50 blend and available in sizes: S, M, L, XL & XXL. Cost is $6.50.

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

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

All 4-H horse exhibitors and/or owners shall exhibit a horse at the State 4-H Horse Exposition that has been given any manner whatsoever, internally or externally, to narcotic, stimulants and depressants, analogues of any controlled drug or drug of any kind. A horse must be tested for the presence of phenylbutazone and/or butorphanol, both of which are Schedule II drugs, 24 hours before the horse can be shown. This statement must be signed and witnessed by a veterinarian. Horses on prescription treated for phenylbutazone and/or aspirin-like products must have a medical certificate showing the horse’s previous owner and/or one more class winners and one or more horses in the same class may be tested on Tuesday, Wednesday or Thursday by the Test Committee.

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/eqnews/4h/districtstateshows.html.

No 4-H horse exhibitors and/or owners shall exhibit a horse at the State 4-H Horse Exposition that has been given any manner whatsoever, internally or externally, to narcotic, stimulants and depressants, analogues of any controlled drug or drug of any kind. A horse must be tested for the presence of phenylbutazone and/or butorphanol, both of which are Schedule II drugs, 24 hours before the horse can be shown. This statement must be signed and witnessed by a veterinarian. Horses on prescription treated for phenylbutazone and/or aspirin-like products must have a medical certificate showing the horse’s previous owner and/or one more class winners and one or more horses in the same class may be tested on Tuesday, Wednesday or Thursday by the Test Committee.

The Nebraska State Fair in Lincoln is a unique event, which has been in operation since 1933. It is a great place to see the best of Nebraska agriculture, 4-H, and FFA. The fair offers a wide variety of events and activities for people of all ages. It is a great place to learn about agriculture, see the latest in agricultural technology, and have fun with friends and family. The fair features a variety of events, including equestrian competitions, livestock shows, and agricultural exhibits. The fair is open from 8 a.m. to 10 p.m. daily until July 29. The fair grounds are located at 84th Street and County Road F.115 in Lincoln.
Animal Entries Due July 6
All 4-H & FFA county fair animal entries forms are due to extension by Friday, July 6, 4:30 p.m. or postmarked by July 6. No late entries are allowed. These forms are available at the extension office or online at http://lancaster.unl.edu/4h/Fair.

Livestock Entry Form MUST be completed for each exhibitor entering livestock (beef, dairy, bucket calf, goats, sheep, swine). Bedding fees ($2.50/bag for beefs and bucket calves are being collected with entry forms — bedding for other animals must be purchased at the fair.

Volunteers Needed
Adults and youth are needed to help during County Fair. Help is especially needed in the following areas:
- Static exhibit setup day on Thursday, July 26 at 6-10 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 Pavillion 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, 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. 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.

Static Exhibit Check-In Monday, July 30, 4-8 p.m.
Static exhibits do not preregister, but MUST be entered at the static exhibit check-in, Monday, July 30 between 4 to 8 p.m. at the Lancaster Event Center, Lincoln Room. An adult — such as a club leader or parent(s) — should assist 4-H members in entering exhibits. All entry tags, associated instructions, recipe cards, data tags, etc. MUST be attached at this time.

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 what the judge looks for and how to improve skills. 4-H’ers may interview judge ONE exhibit from each project area (for example: one item from Celebrate Art, one item from Design Decisions and one item from Taste Tidbits). 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, youth age 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 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.
Static exhibit release times will be released on Sunday, Aug. 5 between 12 noon and 2 p.m. This includes both 4-H and Open Class static exhibits.

 Contest Information
Pre-registration is required for the Presentations, State Fair, Table Setting Contest and Bicycle Safety contests 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, enter day of contest.

Horticulture Judging Contest, July 12
The Horticulture Judging Contest will be held Thursday, July 12, 10 a.m.—Noon at the Lancaster Extension Education Center. Contest is open to all 4-H’ers — need not be enrolled in a horticulture project. See Fair Book page 33 for complete contest information. Extension Youth choose which of the following portions of the contest to participate in: Tree Identification, Grass & Weed Identification and Horticulture Judging Contest.

Junior Life Challenge Contest, July 12
The junior division Life Challenge will be held Thursday, July 12 at 1:30 p.m. at the Lancaster Extension Education Center. Open to all 4-H’ers ages 8–11 (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 LCD, slide, 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 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.

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 groom, brush and prepare an animal for show. At the completion of the 30 minutes, one team member must 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!

Table Setting Contest, Aug. 2
Contest will be Thursday, Aug. 2, 2:30 p.m. at Lancaster Event Center, Pavilion 3 – Exhibit Hall. A handout is available from the extension office or online at http://lancaster.unl.edu/4h. For the other County Fair contests, enter day of contest.

Bicycle Safety Contest, Aug. 4
This contest will be held on Saturday, Aug. 4, 10 a.m. at the Lancaster Event Center, south parking lot. 4-H members do not need to be enrolled in the bicycle project to enter this contest. See Fair Book page 34 for rules. Must preregister by July 6 by contacting the extension office (there is no entry form).

Volunteer at the 2007 Nebraska State Fair!
Hundreds of people volunteer their time and energy to support the 4-H sector and make the Nebraska State Fair incredibly successful. Along with the opportunity to participate in this great event for youth, media volunteers, and provide assistance to fairgoers, each volunteer will receive a free parking pass and gate entrance pass to the State Fair for the day(s) they volunteer.
A schedule of events and volunteer times, as well as a volunteer interest form are online at http://4h.unl.edu/programs/statefair. Please mail form no later than August 6. For more information, contact Doug Swanson at 472-2805.
**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 annually return at least $15 in benefits to Nebraskans for every dollar of state support, making it a primary engine for economic and social sustainability,** a new study says. "Much of what is required for 21st century success ... is directly addressed through the mission and operations of IANR," the study says.

IANR was created by the Nebraska Legislature in 1973 as a defined component of the University of Nebraska. It includes the College of Agricultural Sciences and Natural Resources, the Agricultural Research Division and UNL Extension. Headquartered on UNL’s East Campus, IANR has extension offices in 83 of Nebraska’s 93 counties, research and extension centers in Norfolk, Lincoln, North Platte and Scottsbluff and the Agricultural Research and Development Center near Mead.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.

"We thought it especially important to find a highly qualified, independent consultant to do this study for us, so that we’d get an unbiased perspective," Owens added. "As our faculty and staff work to meet Nebraskans’ needs today and in the future, it’s important we take a critical look at our programs and activities and determine how effectively they’re serving the state," said John Owens, IANR-Harlan vice chancellor and University of Nebraska vice president for agriculture and natural resources.
Correction

There was an error in "The Nebline" 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.

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 marketing 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.lpc.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.

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

Nutrition Scientist
Early Childhood Educator
Apparel Designer

The College of Education and Human Sciences offers 56 degree programs which can lead you to an exciting career!

For more information, call (800) 742-8800, ext. 0695 or go to http://cehs.unl.edu

EXTENSION CALENDAR

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, 57th & Holdridge Streets .......... 1 p.m.
26 Guardianship Training ............................................. 1 p.m.
25 4-H Horse Level Testing, Lancaster Event Center
Warm-up Arena ......................................................... 6:30 p.m.
25 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/Preparations/Style Revue Contest Pre-registrations Due to Extension
8 4-H Teen Council Meeting ........................................... 3 p.m.
10 Family & Community Education (FCE) Council Snazzy Summer S'mores .............................. 6—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.
23 County Fair 4-H Style Revue Judging, Lancaster Event Center—Pavilion 3, Exhibit Hall (Class 3 of 3) ........... 8 a.m.
25 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.

extension is a division of the institute of agriculture and natural resources at the university of nebraska–lincoln cooperating with the counties and the united states department of agriculture.

University of Nebraska–Lincoln Extension
In Lancaster County
444 Cherry Creek Road, Suite A
Lincoln, NE 68528-1507
(402) 441-7180
http://lancaster.unl.edu
E-mail: lancaster@unl.edu • Fax: 4-7148

Lancaster Extension Education Center
Conference Facilities
444 Cherry Creek Road, Lincoln

The Nebline

The Nebline is published monthly (except December) and mailed to more than 10,000 households in Lancaster County.

Tie Nolinic articles may be reprinted without special permission if the source is acknowledged as “University of Nebraska–Lincoln Extension in Lancaster County.” If the article contains a byline, please include the author’s name and title.

Use of commercial and trade names does not imply approval or constitute endorsement by UNL Extension.

Free Subscription

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

Order subscription • Change of address

Name
Address
City, State, Zip

Mail to: UNL Extension in Lancaster County
444 Cherry Creek Road, Suite A • Lincoln, Nebraska 68528-1507
**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 receiving $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.

**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.
- Ichneumonid wasps are internal parasites 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 egg directly into the host’s body. Adult ichneumonid flies often resemble house flies, but are usually larger, hairier and more robust.

**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 larvae 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 blue-cloth wasp. 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.

**Can You Guess It?**

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

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

**U.S. Drought Monitor Map**

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

Source: National Drought Mitigation Center, University of Nebraska-Lincoln

**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 total of 15 to 1 return on investment.

For the most recent map, visit http://www.drought.unl.edu/dm

Source: National Drought Mitigation Center, University of Nebraska-Lincoln

**Cricket hunter wasp**

**Ichneumonid wasp**

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