3-2009

The NEBLINE, March 2009

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By holding a fertile egg up to a light (called candling), students can see how the embryos are growing. Pictured above is a chicken embryo after incubating seven days. Third grade classrooms can participate in the project.

When extension staff enter into the classroom for the first presentation, the atmosphere is electric. Students can not wait to start their embryology project. In this first visit, students learn about the study of embryos (embryology), where the eggs come from, the parts of an egg like the “germ spot”, the difference between fertile eggs and eggs in the grocery store and how the students will need to care for their eggs. The eggs are then set in the incubators. Once the eggs are set, the children take full responsibility for the care of the eggs. They turn the eggs, rotate the eggs, keep them warm and keep humidity in the incubator.

One week later, extension staff return to the classrooms where students review what they’ve been doing to take care of the eggs. Students learn more about how the embryos develop in an egg, how chicks hatch and tips on caring for the chicks after they hatch. The eggs are then candled in the classroom. See EMBRYOLOGY on page 12.

**Thank You**

There are many people and organizations who help support the 4-H Embryology program. Thank you!
- Richard Earl of the Lincoln Northeast Kiwanis Club for donating $400 to support equipment for the live streaming video.
- Lincoln Northeast Kiwanis Club for picking up the fertilized eggs from Hy-Line Poultry Farms in Spencer, Iowa (which donates the eggs for this project)
- Norcal Forage for creating a special lid for the Howe Rotor incubator on 4-H Egg Cam
- Nebraska Department of Agriculture, Poultry & Egg Division for supporting the Lancaster County 4-H Embryology with incubators for local classrooms and 4-H Egg Cam
- Hy-Line/Hy-Vee for providing the Embryo Development posters for classrooms
- Kiwanis who picks up the eggs, bags, and supplies for the 4-H Egg Cam
- University of Nebraska-Lincoln Extension
- UNL Extension in Lancaster County
- UNL Communications & Technology department for providing the Embryo Development posters for classrooms

**New this Year! 4-H EGG Cam features a live streaming view!**

The 4-H Embryology Web site is http://lancaster.unl.edu/4h/embryology features resources on incubation, candling and caring for poultry. You’ll also find educational photos, amazing video clips and 4-H Egg Cam. In the Spring of 2008 the Lincoln Northeast Kiwanis Club set up a web cam and directed the view into an incubator. It was an instant hit! In five years, nearly 1 million hits were recorded on 4-H Egg Cam and the office could barely keep up with the traffic to the site specifically when birds were hatching. People from all around the world have tuned in. Classroom, child care centers, home school families and poultry enthusiasts of all ages follow the progress of the eggs, watch the chicks hatch and then enjoy the birds on camera.

4-H Egg Cam now features a live streaming view. The UNL Communications & Technology department has been providing technical support for the project to help make this new view possible and help the office better manage traffic to the site. The community has also been supportive of the live streaming project. 4-H Egg Cam is available live 24/7 from January to early summer. Check it out at http://lancaster.unl.edu/eggcaml

There is also a 4-H Egg Cam Fan Page on Facebook. Become a Fan–Join us. You can take part in discussions, get the latest info on hatchings, upcoming events, post to the Wall and so much more. It’s free and fun! Learn more at http://lancaster.unl.edu/eggcaml

**Extension Associate Marty Cruickshank (right) candles eggs in Lancaster County classrooms as part of the 4-H Embryology School Enrolment program.**

Nearly 3,900 third graders in 165 classrooms in 52 schools in Lancaster County know exactly what time of year it is! It’s time to hatch eggs in their classrooms as part of the exciting school enrichment project- 4-H Embryology. UNL Extension Lancaster County has been bringing 4-H Embryology to local classrooms for over 30 years. Along the way, the program has adapted to make sure the curriculum meets state science standards, continues to be updated with current research and has stayed on top of technology. But learning about how life begins, the process of hatching eggs and caring for chicks hasn’t changed. It is a shared experience for thousands of children. The 4-H Embryology program continues to be one of the most memorable, hands-on learning experiences for both students and teachers. Many teachers have creatively used math, poetry, art and music to reinforce science-based concepts.

Marty Cruickshank, 4-H Extension Associate coordinates the scheduling of classrooms, supplies and staff to help make deliveries and presentations. She works with Richard Earl from the Lincoln Northeast Kiwanis who picks up the fertilized eggs from a hatchery in Spencer, Iowa. Earl works closely with the hatchery who donates the eggs so he can supply the 4-H Embryology project. Due to the number of schools, three sessions are scheduled each spring so all students can participate in the project. The second step is to provide knowledgeable landowners with an aerial photograph showing the location(s) of the noxious weed infestations. The third step is to contact the landowners to prevent and control the weeds. In 2008, 491 weeds were sent to 70 landowners and a legal notice was sent to one landowner. Letters were sent to 41 landowners with the need for possible forced control. For the purpose of regulation, the Director of Agriculture establishes which plants are Nebraska’s noxious weeds which can be found in the state. Failure to control noxious weeds in this state is a serious problem for the purpose of regulation. The Director of Agriculture establishes which plants are Nebraska’s noxious weeds which can be found in the state. Failure to control noxious weeds in this state is a serious problem

**Lancaster County Weed Abatement Program.**

Learn to Recognize Nebraska’s Noxious Weeds

Special Pullout Section

**WEED AWARENESS**

Prepared by the Lancaster County Weed Control Authority

The Lancaster Noxious Weed Abatement Program since entering Nebraska’s noxious weeds list in 1997, the Noxious Weed List has had five additional noxious weeds added.

4-H & Youth

Horticulture

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Miscellaneous
How to Account for Differences in Moisture Content in Commodities

Tom Dorn
UNL Extension Educator

One of the frequent questions I receive at the extension office involves converting the weight of a product at one moisture content to what it would weight at a different moisture content.

Example 1: A corn producer has delivered a semi load of corn at 16.7% moisture to a cattle feedlot. The net weight of corn is 33,420 pounds. The cattle feeder has agreed to take only a moisture safe product at 15.5%, but no drying shrink since this corn will be steamed and flaked before feeding. How many bushels should the corn producer be paid for?

Converting the weight from one moisture content to another requires a two-step mathematical process.

Step 1. Calculate the pounds of dry matter (weight at 0% moisture) of the original product.

From the moisture meter reading, we know 16.7% of the weight of the corn is water.

Stated differently, we know 100% - 16.7% = 83.3% of the corn delivered is dry matter.

To calculate the pounds of corn dry matter on the truck, multiply the net pounds of product by the percentage dry matter in the product. 33,420 x 0.833 = 27,859 pounds of dry matter.

Step 2. A. Standard bushel of 42 corn weighs 56 pounds at 15.5% moisture. Calculate the pounds of corn at standard moisture content (15.5% moisture).

Corn at 15.5% moisture content has: 100% - 15.5% moisture = 84.5% dry matter.

By dividing the pounds of dry matter from Step 1 by the dry matter content of standard corn, we can compute how much this load of corn would weigh at standard moisture.

27,859 pounds dry matter ÷ 84.5% dry matter = 32,945 pounds of corn at 15.5% moisture.

The producer should be paid for 32,945 pounds ÷ 56 pounds per bushel = 588.3 bushels.

Example 2: The elevator will pay for soybeans up to 13% moisture based on 60 pounds per bushel but will impose a moisture dock over 13%.

Lets look at case of a producer whose soybeans dried down so rapidly, they have 100% - 15.5% moisture = 84.5% dry matter. We are going to calculate how much this load of corn would sell for at 13% moisture.

The producer has: 100% - 15.5% moisture = 84.5% dry matter from Step 1 by the dry matter content of standard corn, we can compute how much this load of corn would weigh at standard moisture.

27,859 pounds dry matter ÷ 84.5% dry matter = 32,945 pounds of dry matter.

32,945 pounds ÷ 56 pounds per bushel = 588.3 bushels.

Step 2. Assume the beans had been delivered at the same moisture, the producer would have been paid for 404,009 pounds ÷ 60 pounds per bushel = 6,733.5 bushels.

The monetary loss on this field resulting from delivering 9% moisture soybeans instead of 13% moisture soybeans was 6,733.5 - 6,437.5 bushels = 296 bushels x $9.66 per bushel = $2,859.

On an equal moisture content basis, we find Bill’s hay at $95 per ton is a slightly better bargain than Tom’s hay at $90 per ton.

Controlling Winter Annual Bromes with Herbicides

Tom and Bill both have hay for sale.

Tom has freshly-baled hay at 21% moisture which he has priced at $90 per ton. Bill allowed his hay to dry more in the windrow before baling. This hay is 14% moisture. He is asking $95 per ton. Assuming both products have the same nutrient content analysis on a dry-matter basis, whose hay is the better buy?

Step 1. Tom’s hay is 100% - 21% moisture = 79% dry matter. A ton of this hay has 2,000 pounds per ton x 0.79 = 1,580 pounds of dry matter per ton.

Step 2. Each ton of Tom’s hay has converted to 14% moisture (86% dry matter) like Bill’s hay; would weigh 1,580 pounds ÷ 0.86 = 1,837 pounds (163 pounds less than Bill’s hay at the same moisture content). The price per ton of Tom’s hay, if converted to 14% moisture, is actually (2,000 - 1,837) x $90 = $93 per ton.

Japan brome

Downy brome

Early weeds like downy brome, cheatgrass and wild oats can be a big problem in pastures. They reduce pasture quality and carrying capacity.

WARM-SEASON PASTURES
In pastures dominated by warm-season grasses, one control option is to spray one pint of glyphosate, like Roundup, per acre as soon as weedy bromes start to green up in the spring but before warm-season grasses start growing. This will kill most of the downy brome and will knock out other early weeds like bluegrass without harming warm-season grasses.

Another option is to use 4-6 ounces of Plateau herbicide, which will also provide some residual herbicide activity for later-emerging weeds as well.

COOL-SEASON PASTURES
Weed control in cool-season grass pastures is tougher. Both glyphosate and Plateau harm cool-season grasses. Gramoxone is a better choice, but don’t spray until the weedy bromes are about to form seed heads. Gramoxone will kill all the green top growth it contacts, including weedy bromes. This will eliminate them producing seed to allow any mower in the pasture to grow in two to three weeks.

A bale of hay from these grasses can last several years in the soil, which means you should plan to repeat these treatments for several years. Once you’ve gotten rid of the weeds, be sure to graze the pasture to maintain the vigor and competitiveness of the desired grasses.

Source: Bruce Anderson, Extension Forage Specialist

Master Conservationist Entries Due April 1

Nebraska adults and youth in both rural and urban areas who have implemented soil and water conservation practices are eligible to enter the 2009 Master Conservationist Recognition program. The deadline for entries is April 1. There are categories for youth groups and individuals, residences, communities and private businesses as well as production agriculture (farming and ranching). Master Conservationist program brochures are available at the UNL Extension office and online at http://owh.com (click on the “In the Community” link).

Tom Dorn, UNL Extension Educator, is a 2008 Master Conservationist. Visit his farm’s website at http://owh.com (click on the “In the Community” link) to see how he’s contributing to a cleaner environment.

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103 Agricultural Hall
F.O. Box 830702
Lincoln, NE 68583-0702
(402) 472-5013
www.casnr.unl.edu
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The Nebraska Farm View
http://lancaster.unl.edu
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Winning the Game Marketing Workshop, Feb. 27

University of Nebraska–Lincoln Extension will present a “Winning the Game” Marketing Workshop Friday, Feb. 27 at Horizon bank, 10841 N. 142 St., Waverly (north side of the tracks). Enter from the west side of the bank and go to the basement. Registration and refreshments begin at 8:15 a.m. The workshop will start promptly at 8:30 a.m. and will conclude by noon.

There is no registration fee because Horizon Bank and the Nebraska Soybean Board is sponsoring the workshop. You do not need to be a Horizon Bank customer to attend.

Have you ever written a concise and practical marketing plan? During this workshop, producers will: • Learn about the seasonal price trends in grain.
• Examine the key elements of a solid marketing plan.
• Learn about the role of crop insurance, target dates, target prices and “trump cards” in a marketing plan.
• Test their market planning skills using a marketing game with actual daily market prices from a year in the recent past.

This is one of 35 Winning the Game workshops slated across Nebraska in 2009.

Forage Specialist

<3

Cool-Season Pastures
Weed control in cool-season grass pastures is tougher. Both glyphosate and Plateau harm cool-season grasses. Gramoxone is a better choice, but don’t spray until the weedy bromes are about to form seed heads. Gramoxone will kill all the green top growth it contacts, including weedy bromes. This will eliminate them producing seed to allow any mower in the pasture to regrow in two to three weeks.

A bale of hay from these grasses can last several years in the soil, which means you should plan to repeat these treatments for several years. Once you’ve gotten rid of the weeds, be sure to graze the pasture to maintain the vigor and competitiveness of the desired grasses.

Source: Bruce Anderson, Extension Forage Specialist

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For University of Nebraska–Lincoln to use your education, interest and expertise with a comprehensive plan for diversity.
Canada Geese Populations are Increasing

Barb Ogg
UNL Extension Educator

Canada geese have been问题是我不理解的《Unl》中的内容。在这些内容中，我只理解了关于加拿大鹅的一些信息，例如：

- *Male* and *female* Canada geese are américar in appearance, but the *male* of a mate is usually a bit larger. *Males* will usually be sitting on the nest. The drake will generally guard the nest.
- Most *pairs* of Canada geese mate for life, but a new one will be selected if one dies.
- Canada geese usually breed the first time in their third year, but these young pairs are more likely to be unsuccessful the first time around. Fewer times may abandon the nest or not protect it from predators.
- As early as the first week of March, Canada geese may start nesting. Females usually nest on the bank near open waters. Their nest is a shallow depression lined with plant material and down.
- Soon after hatching, their parents take them to the safety of water. From their first day, goslings are excellent swimmers and can swim 30–40 feet underwater.
- The most-colored goslings eat almost continuously and grow quickly. They may weigh as much as 7 pounds after only eight weeks.
- When the young are half grown, their parents molt and lose their old white feathers for flight. For about a month, they will be unable to fly. The parents grow new flight feathers by late summer, in time to teach the youngsters how to fly.
- In the wild, many Canada geese live less than 10 years and some as long as 25 years.

Managing Pocket Gophers

Soni Cochran
UNL Extension Associate

Pocket gophers...and their digging reduces...Within an extensive system of feeding tunnels and chambers. The plans pocket gopher spends almost its entire life underground below ground. Essential to long-term success. For more information: Nebraska Statewide Pocket Gopher in Nebraska is available online at http://lancaster.unl.edu/pest or at the extension office.
Food & Fitness

March 2009

A serving of “Old Fashioned Bread Pudding” is a delicious way to add whole grain breads to your meals! Buttering each slice of bread and sprinkling it with cinnamon before cutting it into cubes makes every bite especially tasty!

By Alice Henneman, MS, RD, UNL Extension Educator

Enjoy Nebraska Goods!

Old Fashioned Bread Pudding

(Serving Size: 1/2 cup • Yield: 6 servings)

5 slices whole wheat bread
2 tablespoons margarine or butter
1/4 teaspoon cinnamon
1/3 cup sugar, white or brown
1/2 cup raisins
2 cups nonfat liquid milk
1 teaspoon vanilla extract

Preheat oven to 350 degrees F. Spread one side of bread with margarine or butter. Sprinkle with cinnamon. Cut bread into 1-inch cubes. In a medium-sized bowl, combine bread cubes, sugar and raisins. In another bowl, blend eggs, milk, salt and vanilla. Pour liquid over bread mixture; lightly mix. Transfer mixture to a casserole dish coated with oil and sprayed with a nonstick spray. An 8 x 8 inch square baking dish works well. Bake uncovered for 50 to 60 minutes or until the center of the mixture reaches 160 degrees F when measured with a food thermometer. At this temperature, a metal knife inserted near the center of the pudding comes out clean. Serve warm or cold. Do not let bread pudding set at room temperature over two hours TOTAL time. Eat within three to four days.

Alice Henneman, MS, RD, UNL Extension Educator

If you’re like most people you could use a few more hours to accommodate your daily “to do” list activities. Rather than adding “take a time management class” to your “to do” list, consider starting a “don’t do” list. You may discover doing LESS can bring MORE enjoyment to your life. Especially if doing less allows you to spend time doing more to contribute to your health and happiness!

Alice Henneman, MS, RD
UNL Extension Educator

Exercise and diet are two areas often given short shift in the typical time-squeezed day. Yet they are important for our overall quality of life. Free-up your time so you can achieve your personal fitness goals.

What Can You Stop Doing?

“Great idea,” you may be saying, “but how?” Here are some tips from time-savvy registered dietitians who were asked: What one or more things have you STOPPED doing to have more time to focus on eating healthy and exercising? Perhaps one will trigger a ‘don’t do’ for you.

“The most helpful thing I can think of is that I have made to do more time is we moved our TV set out of our living room on the main floor of our home, to the rec room. I can watch a movie or do laundry and not be bothered by the TV sound. But the absolute best timesaver is that I now have time to read!”

—Alice Henneman

“I stopped painting my fingernails to have time for a Master’s Swimming program. I used to spend one night a week on my nails and now I spend it swimming instead. I relented my hair, my hair and spray and got a wash and wear haircut so I can work out during my lunch hour and still get back to work.

Instead of getting together with girlfriends for breakfast, lunch, or dinner, we get together for bike rides or corner walks around the neighborhood. Lizzan Powers-Hammond

“Don’t stay up late watching lame shows on TV. Go to bed early, get up early, and head to the gym to exercise. You’ll feel better all day long.”

—Jane Erickson

Do a “Don’t Do” List! Fitting in Healthy Food and Fitness

Now. Start thinking “don’t do” and start “don’t doing” it NOW!

Alice Henneman

“Don’t go near the kitchen or any place else there’s food while you’re on the telephone.”

—Shari P. Mermelstein

“Don’t try so hard to please your family with all the proper food groups and favorites when pushed for time—whole grain cereal with milk, fresh fruit, yogurt, juice and peanut butter are favorites for all family members, take just minutes to put on the table and can fulfill all of the food groups. The five-course meal will have to wait. Don’t keep searching your calendar for an hour block of time to go to the gym or health club and away from your family—look for those opportunities to play and be active—it counts!!! Playing in the park, hiking, walking at the zoo, raking and playing in the leaves are all fun for kids and provide a chance to be active.

Physical activity . . . it’s everywhere you go!”

—Barbara Fraser

“Do it once. Change your eating habits. Start thinking ‘don’t do’ and start ‘don’t doing’ it!”

Now! Start thinking “don’t do” and start “don’t doing” it NOW!

Mandi Meinke
UNL Extension Associate

To help answer the question “What’s for dinner?” five main dishes using ground beef were featured last month. This article will highlight main dish recipes using chicken (online at http://lancaster.unl.edu/ nepl). The following four recipes uses cooked chicken which can be cooked, de-boned (if not boneless), chopped and frozen ahead of time. The last recipe uses uncooked chicken breasts. Thaw and cook chicken about four servings and can be doubled for more servings or to use for a later meal.

Plan each meal to include all five food groups and enjoy!

5 More Main Dishes—Each Using Only 5 Ingredients

Chicken Enchiladas
1 can cooked chicken, chopped
4 ounces cream cheese
1 can (4 ounces) chopped green chilies
4 flour tortillas
4–6 ounces Mexican or cheddar cheese, shredded

Heat oven to 350 degrees. Mix the chicken, cream cheese and green chilies. Spread this mixture over the flour tortillas and roll up. Place the tortillas in a greased baking dish. Sprinkle the cheese over the top, cover and bake for 20 minutes. For a more moist enchilada, pour ¼ cup milk over the enchiladas before baking.

Chicken and Stuffing Bake
1 can (14.5 ounces) diced tomatoes, undrained
1 package (6 ounces) stuffing mix for chicken
1/2 cup water
1 cup cooked chicken, chopped
1 package mozzarella cheese

Heat oven to 375 degrees. Mix diced tomatoes, stuffing mix and water until just moistened. Layer chicken, cheese and stuffing mixture in this order, in a medium baking dish. Cover and bake 20 minutes or until chicken is cooked through. Refrigerate leftovers promptly. To reheat, cover each serving and microwave on HIGH about 1-1/2 minutes.

Chicken Fingers
2 chicken breasts, boneless not cooked
1 cup flour
2 eggs, beaten
1 cup butter-flavored cracker crumbs
1/4 cup Parmesan cheese
1/2 teaspoon onion powder (optional)
1/4 teaspoon garlic powder (optional)

Cut chicken in 1-inch strips. Put flour in a small bowl and beaten eggs into another bowl. Mix cracker crumbs, Parmesan cheese and (optional) onion powder. Another small bowl. Dip and coat each strip in the flour, then egg, then cracker crumbs/cheese mixture. Place strips in large frying pan coated with 2 tablespoon vegetable oil. Cook on medium heat, turning once, until chicken is done (about 15 minutes).

Chicken Salad Sandwiches
1 cup cooked chicken, chopped
2 tablespoons salad dressing
1 tablespoon pickle juice
1/3 cup celery, finely chopped

Mix all the ingredients together and serve over toasted buns.

Creamy Chicken Stew
4 medium red potatoes
4 cup cooked chicken
1 cup cream cheese
4 cups frozen peas and carrots
1/4 cup zesty Italian dressing

Poke several holes through each potato and cook in the microwave until tender, (about 7 minutes on High). Cut potatoes into bite-size pieces and put in a large saucepan. Add the rest of the ingredients and simmer on medium for 10-20 minutes. Refrigerate leftovers promptly.

By Alice Henneman, MS, RD, UNL Extension Educator

Get more tips for making healthy choices at http://nepl.unl.edu/stamp.
Tips to Help Parents Talk to Their Kids About Sex and Technology

Talk to your kids about what they are doing in cyberspace. Just as you need to talk openly and honestly with your kids about real life sex and relationships, you also want to discuss online and cell phone activity. Make sure your kids fully understand messages or pictures they send over the Internet or their cell phones are not truly private or anonymous. Also make sure they know others might forward or forward messages to people they do not know or want to see them, and school administrators and employers often look at online profiles to make judgments about their current and future employers/employees. It’s essential your kids grasp the potential short-term and long-term consequences of their actions.

Know who your kids are communicating with. Of course it’s a given you want to know who your children are spending time with when they leave the house. Also do your best to learn who your kids are spending time with online and on the phone. Supervising and monitoring your kids’ whereabouts in real life and in cyberspace doesn’t make you a nay; it just part of your job as a parent. Many young people consider someone a “friend” even if they’ve only met online. What about your kids?

Set expectations on electronic communication. The days of having to talk on the phone in the kitchen in front of the whole family are long gone, but you can still limit the time your kids spend online and on the phone. Consider, for example, telling your teen to leave their phone on the kitchen counter when they’re at home and to take the laptop out of their bedroom before they go to bed, so they won’t be tempted to log on or talk to friends at 2 a.m.

Be aware of what your teens are posting publicly. Check out your child’s MySpace, Facebook and other public online profiles from time to time. This isn’t snooping—this is information your kids are making public. If everyone else can look at it, why can’t you? Talk with them specifically about their own notions of what is public and what is private. Your views may differ but you won’t know until you ask, listen and discuss.

Consider limitations on electronic communication. Make sure you are clear with your teen about what you consider appropriate “electronic” behavior. Just as certain clothing is probably off-limits or certain language unacceptable in your house, make sure you let your kids know what is and isn’t acceptable online/phone. And give reminders of those expectations from time to time. It doesn’t mean you don’t trust your kids, it just reinforces you care about them enough to be paying attention.

Source: The National Campaign to Prevent Teen and Unplanned Pregnancy

Food Entrepreneur Seminar, March 9

The University of Nebraska–Lincoln Food Processing Center is presenting the first National Small Food Manufacturer Conference on April 23-24 at the Holiday Inn Downtown in Lincoln. This conference has been designed specifically for small food manufacturers throughout the country; Learn how to Heat up your food business!

The conference includes current topics and industry

National Small Food Manufacturer Conference in Lincoln

The University of Nebraska–Lincoln Food Processing Center is presenting the first National Small Food Manufacturer Conference on April 23-24 at the Holiday Inn Downtown in Lincoln. This conference has been designed specifically for small food manufacturers throughout the county; Learn how to Heat up your food business!

The conference includes current topics and industry
Local Bagworm Control Initiative

Last year Lancaster County Horticulture Extension Staff and Lancaster Master Gardeners received hundreds of calls on bagworms. To help educate the public on this serious problem and its control we have formed a plan. Over the next few months you will see monthly reminders on what you can do to deal with this issue.

Please take a walk through your landscape and check all your plant material, especially spruce and junipers. During the months of March, April and early May, the only means of control is hand picking the bags from your plants. Place them in a bag and put the sealed bag in the trash. If you have large trees or too many bagworms to effectively pick off your plants, chemical control will be needed after they hatch in June.

—Mary Jane Frogge, UNL Extension Associate

2009 Great Plants Selections

**Tree of the Year Cornelian cherry dogwood, *Cornus mas***

Durable small tree, with rounded clusters of tiny yellow flowers in early spring before leaves appear, dark green leaves and bright cherry red fruit in late summer. The olive-shaped fruits are relished by songbirds or can be used to make jam or jelly. Bark is an attractive mix of gray and brown that exfoliates on mature branches. The main trunk is typically very low, with low branches hovering just above the ground. It can be trimmed up at the base to make it more tree-like and better reveal the exfoliating bark. This slow-growing American native remains free of insect, disease and cold injuries. It grows best in part shade or dry shade, especially under conifers. Growing only 2–5 feet per year, this drought-tolerant gem is best protected from winter winds that can burn the foliage.

**Creeping mahonia**

This evergreen groundcover grows along the rocky ridges and under the thick evergreen canopy of western Nebraska’s Pine Ridge. Stiff, spine-tipped leaves, reminiscent of holly, turn a rich bronze-purple in late fall through the winter. This plant has fragrant, yellow flowers in early spring, followed by small clusters of grape-like, dark blush-purple berries in late summer. Planted in masses, it spreads slowly to make an attractive evergreen groundcover, but prefers rich, well-drained soils, but tolerates high pH and heavy clay better than any dogwood. Ideal for a small yard as an accent plant or planted in groups as a hedge or screen. It grows best in full sun, but tolerates some shade.

**Grass of the Year Shenandoah switchgrass,** *Panicum Shenandoah*

Bright green leaves of this switchgrass are tipped with dark red by mid-summer, turning entirely red and orange in fall. Only 4 to 5 feet tall in flower, this slow-growing selection is very adaptable, tolerating drought and soggy soils, high pH and full, hot sun. One of the best grasses for maintaining upright habit and tight clump form in the garden. Plant as a single specimen, in masses or as a companion to perennials with bold foliage.

**Perennial of the Year Arkansas bluestar,** *Amsonia hubrichtii*

Excellent, dependable plant with upright stems that emerge in early spring and rapidly extend to mature size. Plants are topped with starry, pale blue flowers in May and June. Fine, thread-like dark green leaves unfold along the thin stems to form a very fine-textured mound of foliage. In autumn, the foliage turns a lovely golden-yellow and is at its brightest when planted in full sun. Takes several years to grow into an attractive mound, but dependable and long-lived in rich, well-drained soils.
The major goal of the Lancaster County Weed Control Authority is to get voluntary compliance of landowners with the Nebraska Noxious Weed Control Act and the City of Lincoln’s Weed Abatement Program. The first step is to make landowners aware of these responsibilities and obtain their willingness to abide by them. The second step is to provide any needed assistance to the landowners. The third step is to carry out an inspection program, as needed, to identify infestations and violations for the purpose of getting landowners to prevent and control the noxious weed infestations or to avoid and correct weed abatement violations when they occur.

**Noxious Weed Program**

The Lancaster Noxious Weed Program promotes awareness and knowledgeable landowners who can carry out effective control programs. The program provides general awareness through the annual Weed Awareness insert in the UNL Extension in Lancaster County, the Lancaster County Weed Control Authority Web page, various exhibits and newsletters. The most direct awareness effort is carried with an extensive survey and inspection program. This program utilizes a computer database of all inspections since 1994 and the Lincoln/Lancaster Geographic Information System used to record the locations of noxious weed infestations found. Sites are selected for inspection from the previous year’s inspection information which indicates the severity and extent of the infestation and the control efforts made by the landowner. Sites are selected where it is felt the landowner needs a reminder letter or assistance in control efforts and, in a few cases, the need for possible forced control. These landowners are provided with an aerial photograph showing the location(s) of the noxious weeds found by the inspector and recommended options for control. Additional landowner sites are inspected when observed, a complaint is received and infestations found. Follow-up inspections are made to assure control is accomplished.

**Musk Thistle**—In 2008, 491 sites were selected for inspection. An additional nine sites were inspected because of complaints received and 28 sites observed by the inspectors during other inspections and while making a survey of the roads and adjacent lands when driving the 1,400 miles of county roads the last part of June. Over 5,300 acres were inspected resulting in finding 436 infestations on 975 acres. Cards were sent to 41 landowners with only trace infestations; reminder letters were sent to 241; and 91 legal notifications were sent. The Authority contracted for forced control on three sites and nine acres. Landowners controlled 292 sites on 588 acres. Landowners did not completely control 117 sites. These landowners received letters about doing fail control and informed they would be inspected in the spring of 2009.

**Leafy Spurge**—A total of 342 leafy spurge sites were selected for inspection, of which 191 were located in county roadways. The 170 county roadway sites found to be infested were contracted for spraying. The county has been spraying these roadway sites since 1989. Even with this annual spraying effort, all the sites have not been controlled. The number and acreage of sites have probably been reduced by 50%. This is a reflection of how difficult leafy spurge is to control. There was a total of 353 acres found infested on 276 sites. Reminder letters were sent to 70 landowners and a legal notice was sent to one landowner.

**Purple Loosestrife**—All 41 known wild purple loosestrife infestations were selected for inspection. One ornamental site was inspected.

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**Learn to Recognize Nebraska’s Noxious Weeds**

Noxious weed is a legal term used to denote a destructive or harmful weed for the purpose of regulation. The Director of Agriculture establishes which plants are noxious. These non-native plants compete aggressively with desirable plants and vegetation. Failure to control noxious weeds in this state is a serious problem which is detrimental to the production of crops and livestock and to the welfare of residents of this state. Noxious weeds may also devalue land and reduce tax revenue.

*Nebraska's noxious weeds Spotted and Diffuse Knapweeds have not been found in Lancaster County.*
Spraying saltcedar at Lake McConaughy weed infested forage products can cost you should be aware that noxious Certified Weed Free forage. As a buyer, weed infestations by insisting on was contracted on 207 sites, 92 sites cut by landowners were 87% of the personal contacts. The 1,441 sites was made, or they were cut prior complaint. These sites either were inspected within three days of the that did not have a violation when follow-up will be made on all 19 violations, and 162 of these were made on five sites. Landowners controlled two of the three sites found infested. Saltcedar was controlled on all three sites found.

City of Lincoln Weed Abatement Program

The City of Lincoln Weed Abatement Ordinance requires owners of land within the city limits to maintain the height of weeds and worthless vegetation below six inches. Three seasonal inspectors are used in administering this program. Most inspections are carried out as a result of a complaint. There were 171 properties pre-selected for inspection because of past violations and the lack of response to correct the violations. There were 1,921 complaints back on 1,837 properties. Over 280 additional properties were inspected with citations issued when a violation was found. Phragmites—Non-native Phragmites was designated a new noxious weed by the Governor in 2006. In 2007, there were found 32 phragmites sites in 2007. We have since determined these sites by 2008 all are non-native and, therefore, noxious. These sites cover almost 140 acres (see the map on back page of this insert). Landowners are being notified of the location sites and options for control. We will be working with landowners in 2009 to arrive at an acceptable control plan.

North American Weed Management Conference Comes to Nebraska in 2009

The 17th Annual North American Weed Management Conference and Trade Show will be at the Holiday Inn, Kearney, NE, September 21-24, 2009. The theme is “Response to the Riparian Invasion—Improving the Health of Our Riparian Areas.”

The North American Weed Management Association (NAWMA) is a professional association of individuals interested in managing invasive plants. Their annual conference highlights the efforts of the state or province of the conference location.

The Nebraska Weed Control Association will host this year’s conference. Lancaster County Weed Control Superintendent Russ Shultz is program chair.

The Conference

The riparian plant invaders present a unique challenge and threat across North America—very invasive weeds which can gobble up the narrow, but extremely important, riparian areas quite rapidly. These threats in Nebraska were addressed at the 2006 “Threats to Nebraska Rivers-Invasive Plants Conference.” The governor established a riparian vegetation management task force and the legislature provided $4 million for funds to fight the invading riparian vegetation over this two-year period. Conference attendees can hear and see the results of this effort and learn about future planned actions including what we should be doing to get ready for the next riparian plant invaders.

Speaker Topics

The Governor is scheduled to give the welcome with Senator Tom Carlson giving the keynote on Nebraska’s Riparian Vegetation Management Plan. Other speakers will address Nebraska’s response. Their topics will be Nebraska Weed Management Areas and Natural Resources Districts Limiting the Way, Nebraska Vegetative Management Grant Program Projects, NRCS Assistance, Nebraska Noxious Weed Control Act Amendments Responding to Needs, Nebraska On-Line Weed Management Program, Multi-State Cooperative Riparian Efforts, Status of the North American Phragmites Explosion, Getting Ready for the Next Riparian Plant Invaders, and an example awareness program.

Tour

A tour will show the problems and responses on the Platte River. Attendees can see the invasion of non-native plants in the streambed and adjacent riparian areas. See the results of the weed management areas’ projects, Roadside Weed Control, and herbicide, grazing and burning trials. More information and registration information will be available online at http://nawma.org or http://neweed.org or contact the Lancaster County Weed Control office at 441-7817.

Weed Free Forage Certification Program

You can prevent potential noxious weed infestations by insisting on Certified Weed Free forage. As a buyer, you should be aware that noxious weed infested forage products can cost you hundreds or even thousands of dollars down the road. Ask your forage supplier to have their hay certified prior to harvest. Forage growers must call the Lancaster County Weed Control Authority one to two weeks prior to harvest. There is no charge for the field inspections. There is a small charge for the cost of bale tags. Nebraska carries out its Weed-Free Forage Certification Program in accordance with the standards of the North American Weed Management Association standards. Certified weed-free forage products include: strands, alfalfa hay, forage pellets/cubes, alfalfa hay, grain hay and grass hay. Weed free forage is required on many U.S. Forest Service and Bureau of Land Management lands, in National Parks, Bureau of Reclamation land, military locations, tribal lands as well as National Fish and Wildlife refuges. The Nebraska Department of Roads requires weed-free forage on highway projects. Restrictions may apply to other lands administered by provincial, county, state or federal agencies.

If you have questions about certification regulations or weeds not allowed in certified forage, please see the North American Weed Management Association’s (NAWMA) Web site at http://www.nawma.org for a complete list of weeds and regulations.

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was also inspected as a result of being observed by an inspector. A total of 63 inspections were made on the 44 sites. Inspectors found 19 violations on 13 acres. No violations were found on the other 25 sites. Landowner notifications included four local notices, 15 reminder letters, and 3 personal contact. Landowners controlled 13 sites. Follow-up will be made on all 19 violations, and 162 of these were made on five sites. Landowners controlled two of the three sites found infested. Saltcedar was controlled on all three sites found.

Phragmites growing out the Platte River

Spraying saltcedar at Lake McConaughy

Riparian Vegetation Management Task Force Report

The Survey and Monitoring Work Group is working on the identification of infestation location, composition and extent. The Vegetation Water Use Work Group is looking at water usage by riparian vegetation and, whether or to what extent, vegetative water use can be determined to affect stream flow. 

LB 701 also created a grant program for management of riparian vegetation areas. The task force’s intent to appropriate $4 million for 2007 and 2008 for this purpose. Since July 1, 2007, these projects have made tremendous progress in attempting to deal with a huge problem. Six projects have treated over 10,000 acres on 348 miles of the Republican and Platte Rivers. Almost $3.5 million were expended as of Dec. 15, 2008. Senator Tom Carlson has introduced LB 98 in the 2009 Unicameral session to extend the Riparian Vegetation Management Grant Program and the work of the task force.

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If you have questions about certification regulations or weeds not allowed in certified forage, please see the North American Weed Management Association’s (NAWMA) Web site at http://www.nawma.org for a complete list of weeds and regulations.
Musk Thistle Management Strategy

Musk thistle remains the most plentiful noxious weed in Lancaster County. It takes continued efforts to keep under control. To successfully fight weeds, you need to know as much as possible about each weed and develop a strategy to manage each weed. Musk thistle (Carduus nutans) is usually thought of as a biennial, germinating one year, usually in the fall, overwintering and flowering the next year. When there is a long enough cool period in the spring, some musk thistle plants will act as annuals by germinating in the spring and flowering in early summer. Musk thistle spreads only by seed. One head can produce over 1,000 seeds. The seeds can remain viable in the soil for 10 years. The key to managing musk thistle is to prevent all plants from going to seed, prevent the spread of seeds and maintaining vigorous growth of desirable vegetation.

Control Steps

1) Scout the areas with possible infestations in late-September and early-October for seedlings and rosettes. A seed bank has built up in the soil at these sites. These seeds will remain viable for eight or more years waiting for the right conditions to germinate.

2) It is most effective to treat the entire area with herbicides in order to control all the small seedlings, rosettes and seedlings not emerged. Spot control of these sites usually results in a lot of escapes since not all the plants are observed and some plants germinate late. (Use 2,4-D as a contact herbicide along with another herbicide adding to the effectiveness of killing the plants present but also have a residual that will kill later-generating plants. Some of the herbicides providing residual control are Escort (http://www.dupont.com/ag/vn/products/escort.html), Tordon 22K, Vanquish, Banvel and Etsol (http://www.dupont.com/ag/vn/literature/h87276.pdf).)

3) Use 2,4-D as a contact herbicide along with another herbicide adding to the effectiveness of killing the plants present but also have a residual that will kill later-generating plants. Some of the herbicides providing residual control are Escort (http://www.dupont.com/ag/vn/products/escort.html), Tordon 22K, Vanquish, Banvel and Etsol (http://www.dupont.com/ag/vn/literature/h87276.pdf).

4) Scout these fall-treated areas in March and April for escapes and new plants.

5) Provide control prior to bolting of the flower stem in May. Use 2,4-D along with a residual herbicide.

6) Severing these areas where needed follow-up control until July. Be alert to the musk thistle plants acting as annuals due to a cool spring. Remember, the best approach to control musk thistle is to scout and treat areas with past infestations (these areas have built up a seed bank in the soil) in the fall and spring. Provide treatment in the spring prior to bolting and always scout treated areas for escaped plants. One plant going to seed can contribute thousands of seeds to the seed bank.

Mechanical Control

Severing the root of musk thistle a couple of inches below the soil surface will kill the plant. The entire root does not have to be removed. Hand cutting or mowing has to be done at weekly intervals to be effective. Fire has not proven to provide effective control. The plants survive prescribed burning, but can be easily found and controlled by other means after the burn.

Biological Control

Musk thistle head weevil (Rhinocyllus conicus) is an introduced biocontrol species widespread in Lancaster County. They are reducible viable seeds being produced, but do not provide complete control by themselves. You can learn more about biological control by visiting Cornell University Web site at http://www.msu.edu/ent/biocontrol/weedfeeders/wdftrtnc.html

Invasive Plant Web Sites

The Internet is an excellent place to find information. It is sometimes hard to key in on the best and most reliable information. Below are some excellent sources of information on invasive plants. You should be able to find any information on invasive plants.

Lower Platte Weed Management Area—http://www.lowerplattewma.org—The LPWMA is a group of public and private agencies and individuals comprised with stopping the spread of noxious and invasive plants located in the Lower Platte River drainage area. This Web site provides awareness information and other information on the activities of the WMA.

• LPWMA Mapping Program—http://www.ndrmapmaker.org/loosestrife—The LPWMA uses GPS cameras and GIS technology to track infestations and control efforts along the river corridor. This data is used in NRD MapMaker system, resulting in an interactive map with infestation site details and photos.

Lancaster County Weed Control Authority—http://www. lancaster.ne.gov/cnty/weeds—Provides: Publications; Laws and Regulations; Management; Special Note: Weed Complaint Form.

Nebraska—http://www.neweed.org—The Nebraska Weed Control Association (NWCA) is a non-profit organization comprised of regulatory agencies and weed control authorities in county government. The Web site provides information about NWWCA and News, Invasives, Events, Gallery and Grants.

• NWCA Invasive Mapping System—http://www.neweedmapper.org/Weed—a state-wide mapping solution for all 93 counties in Nebraska. This mapping system creates a state-wide database of invasive species information and maps them using ArcGIS.

Nebraska Department of Agriculture—http://www. agr.state.ne.us/—Noxious Weed Program—http://www.agr.state.ne.us/division/bpl/wnp/wp1.htm—Biological Control Information, Information for County Weed Control Supervintends, Noxious Weed Control Act and Noxious Weed Responsible Persons’ Regulations.

• Pesticide Program—http://www.agr.state.ne.us/division/bpl/pest/pes1.htm—Pesticide Program is responsible for regulating the distribution, storage and use of all pesticides in the state of Nebraska. Information is provided on Applicator Certification and Training, Health, Safety, and Environment, Pesticide Labels, Questions and Issues, Product Registration, Dealer Licensing and Regulations and Enforcement.

• Riparian Vegetation Management Task Force—http://www.agr.state.ne.us/riparian/rim.htm—The Riparian Vegetation Management Task Force was created in 2007 by the Nebraska unicameral as part of LB 701. The legislation outlined these duties and responsibilities for the Task Force to develop and prioritize vegetation management goals and objectives; analyze the cost effectiveness of available vegetation treatments; develop plans and policies to achieve goals and objectives; make recommendations to the Governor and legislature regarding legislation needed to achieve its goals and objectives. All of the minutes of meetings, reports and other information are available on this Web site.

• Weeds of the Great Plains—http://www.agr.state.ne.us/forms/nw11.pdf—Handbound book which features, detailed narratives of over 400 plants; Line drawings of 246 weeds; large colored photographs; close up photographs of weed flowers, seedlings, and key identification characteristics; identification methods to distinguish similar species; historical attributes and uses of each plant; and habitats and descriptions of growth forms.

Nebraska Invasive Species Project—http://morunl.edu/invasives—resource for invasive species information. This Web site is dedicated to providing information about research and management efforts going on throughout the State of Nebraska.


National

North American Weed Management Association—http://www.nawma.org—NAWMA is a network of public and private professional weed managers who are involved in implementing any phase of a county, municipal, district, state, provincial or federal noxious weed law. The mission of NAWMA is to provide education, promote direction, professional improvement and environmental awareness to preserve and protect our natural resources from the degrading impacts of exotic, invasive noxious weeds.

Invasive Species Information Center—http://www.invasivespeciesinfo.gov—Gateway to invasive species information covering federal state, local and international sites.

The PLANTS Database—http://plants.usda.gov—provides standardized information about the vascular plants, mosses, liverworts, hornworts and lichens of the U.S. and its territories and includes a section on invasive and noxious weeds.

Weeds Gone Wild: Alien Plant Invaders of Natural Areas—http://www.nps.gov/plants/alien—a Web-based project of the Plant Conservation Alliance's Alien Plant Working Group, providing information to the general public, land managers, researchers and others on the serious threat and impacts of invasive alien (exotic, non-native) plants to the native flora, fauna and natural ecosystems of the United States.
We have been increasing the surveys in Lancaster County upland areas. The plentiful dispersion of the seeds by wind as well as water is contributing too many of the plant parts being carried by water downstream. It has been found the native. As a result of this visit, we feel and determined they were all non-native. The non-native phragmites received an emergency designation in the Republican River counties in August 2007. This emergency designation was expanded to the entire state in April 2008.

The Lower Platte Weed Management Area (LPWMA) has been working with the landowners in the Lower Platte River Basin since 2003 fighting the non-native plants invading the Platte River and its tributaries. The LPWMA includes the ten counties in the Lower Platte River Basin, including Lancaster County. The initial efforts were directed at controlling purple loosestrife, saltcedar, and phragmites. This is seriously impacting the flow of the river and the nesting habitat of the least terns and piping plovers. Because of this dramatic change to the river, the LPWMA has expanded its goal from, just dealing with the non-native plants in the riparian area to the management of all of the vegetation for the benefit of the landowners and the public. The Natural Resources Districts (NRDs) in the LPWMA have contributed greatly in addressing this expanded goal in 2008. These NRDs include the Papio Missouri River NRD, Lower Platte North NRD, Lower Platte South NRD and Central Platte NRD. The accomplishments would not have been possible without the help of the Many private landowners cooperated and contributed in this effort.

Survey and Mapping Program

The Lower Platte WMA Mapping Program was developed and is being maintained by the GIS specialist of the Lower Platte North NRD. The LPWMA has been mapping locations of purple loosestrife, saltcedar and phragmites since 2003. This mapping program is being used to help map newly-infested areas and monitoring the sites found. The LPWMA, Lower Platte North NRD and the Papio-Missouri River NRD each purchased a camera with GPS capability. These cameras were used to survey phragmites along 170 miles of the Platte River and in Lancaster County. Over 300 sites were found along the lower Platte River and over 70 sites were found in upland areas in Lancaster County. These sites and photos can be viewed on the LPWMA Mapping Program at http://www.nrmapmaker.org/loosestrife

2008 Control Efforts

A total of 1,054 acres of vegetated sandbars in the Lower Platte River were treated by helicopter, airboat and ground applications. Very precise applications of an EPA-approved aquatic herbicide was made in October by a Sky Copter helicopter utilizing GPS technology controlling the application and providing a record of spatial data, extent and rates. A total of 751 acres of purple loosestrife was treated along 56 miles of the Lower Platte River from north Douglas County line to the mouth of the Missouri River. Ground applications were made by County Weed Control Authorities and contracted applications by RUE LLC. Nebraska Agriculture Association members donated their time and the use of their airboats to assist the counties with the applications. A total 303 acres were sprayed from airboats. About 152 acres were sprayed from land (one species) stands creates concerns.

Update on Lancaster County Phragmites

Last year’s Weed Awareness insert raised concerns about phragmites, a very tall non-native grass that invades wetlands. At that time, we had found 32 sites in Lancaster County. The non-native phragmites received an emergency designation in the Republican River counties in August 2007. This emergency designation was expanded to the entire state in April 2008.

Phragmites is characterized by its towering height of over 15 feet and its stiff and hollow stem. Its feathery and drooping inflorescences (clusters of tiny flowers) are purplish when flowering and turn white. The grayish or brownish in fruit. They wave like plumes in the breeze. Flowering occurs from July-October. Phragmites is a colonial plant, spreading by rhizomes (underground stems) and capable of forming large stands or colonies arising from one or a few seeds or plant pieces. These colonies form along the margins of streams and ditches and in pastures. They can form in wetlands and in disturbed areas and their aggressive growth and tendency to outcompete other plants and form monospecific (one species) stands creates concerns.

Survey and Mapping

The Lower Platte Weed Management Area Mapping Program was developed and is being maintained by the GIS specialist of the Lower Platte North NRD. A camera with GPS capability is being used to survey phragmites along the Platte River and in Lancaster County (see above). Over 300 sites were found along the lower Platte River and over 70 sites were found in upland areas in Lancaster County. These sites and photos can be viewed on the LPWMA Mapping Program at http://www.nrmapmaker.org/loosestrife

Identification

Phragmites can be identified by its very tall height reaching over 15 feet and its stiff and hollow stem. It is a very tall non-native grass that invades wetlands. At that time, we had found 32 sites in Lancaster County. These sites and photos can be viewed on the LPWMA Mapping Program at http://www.nrmapmaker.org/loosestrife

Helicopter application

Plants for 2009 and the Future

The goal of the LPWMA is to improve the health of the riparian areas of the Lower Platte River and its tributaries for the benefit of the owners, users and general public by controlling the non-native phragmites and improving stream-flow. The LPWMA plans to continue controlling riparian plant invaders and improving stream-flow. The LPWMA plans to continue controlling riparian plant invaders and improving stream-flow. The LPWMA plans to continue controlling riparian plant invaders and improving stream-flow. The LPWMA plans to continue controlling riparian plant invaders and improving stream-flow. The LPWMA plans to continue controlling riparian plant invaders and improving stream-flow. The LPWMA plans to continue controlling riparian plant invaders and improving stream-flow.
Nobody likes pests, especially when they are crawling over fresh fruits and vegetables. This spring after planning what to plant, research pest problems. There are general feeding types and specific pests for common garden vegetables, such as lettuce, cabbage, tomatoes and peppers. The Web, garden books, local extension officers, garden journals or magazines provide excellent information.

The most common pests are grasshoppers, spider mites and leaf beetles. Cutworms are also general pests that result from moths coming into the garden and laying eggs. Cabbage and broccoli often are attacked by imported cabbage worms in late spring and carrots often are attacked by carrot weevils in late July.

It usually is not necessary to treat soil before or at planting, but it’s a good idea to till ground thoroughly before gardeners cultivate any underground life will be exposed. Some insects left under ground will attack roots or bulbs.

Early detection is important. Check once or twice a week to detect the first occurrence of pests, which often is indicated by chewed-up portions of leaves, wilting, spots or holes. Measures to minimize the use of insecticides include physically removing the pest, destroying the pest on sight, removing the infected plant part or using insecticidal soap, especially for soft-bodied pests. Unfortunately, there may come a time to use insecticide as treatment. Appropriate insecticides do not last long, usually only one to three days.

Choose insecticides with carbaryl or permethrin because they can be used on a variety of crops.

Early Detection is Key to Minimizing Insecticide Use in Home Gardens

Jim Kalisch UNL Extension Entomologist

Providing bird houses and shelves can be a fun and rewarding part of a wildlife garden. A well-built house that is durable, rain-proof, cool and easy to clean can add to the attractiveness of a yard.

To determine what type of nest box or platform to build, think of the birds most likely to visit the yard. Bird houses and shelves can be constructed from a wide variety of materials, including PVC pipe or natural items, such as gourds. Avoid using metal for bird house construction because it tends to heat over. Any good, solid, untreated wood generally is the best construction material.

Cedar, pine or poplar are particularly easy to work with and will last the longest while most other woods are less durable. Use planning and good craftsmanship to keep out unwanted species. Avoid disturbing nestlings should be removed from the entrance hole size, so measure several 1/4-5/16 inch holes along the floor of the birdhouse allows a difference in outside temperature.

Roughen the inside portion of the entrance hole, so measures—should be fairly exact. Also, properly-sized entrance holes may keep out unwanted species. Avoid perches at the entrance hole because birds don’t need them and perches make handy grips for would-be nest predators. In Nebraska, facing the entrance hole in a southeasterly to northeasterly direction may help make handy grips for would-be nest predators. In Nebraska, facing the entrance hole in a southeasterly to northeasterly direction may help prevent chilling from cold spring rains.

Roughen the inside portion of the hole just below the entrance so young birds can climb out of the house easily. This can be done by sawing grooves 1/8 inch deep or by punching dents in the wood with a screwdriver.

Houses need an access door that allows easy inspection with minimum disturbance to occupants. One of the sides can be made to slide out for side access or hinges can be placed on the top. Also, houses mounted on smooth metal poles are less vulnerable to predators than those mounted to a wooden post or tree.

Clean nest boxes and shelves are more likely to be occupied. Proper sanitation improves the chances of a healthy and successful brood. Nest boxes and shelves should be cleaned prior to each nesting season and immediately after any broods have left the box, even if the adult birds show signs of nesting. One nesting material, eggs and dead nestlings should be removed from the box or shelf to keep parasites down. A nearby birdhouse, with clean water and a place for sand or dust bathing that allows the birds to keep parasites down. A nearby birdhouse, with clean water and a place for sand or dust bathing that allows the birds to keep parasites down. A nearby birdhouse, with clean water and a place for sand or dust bathing that allows the birds to keep parasites down.

Monitor bird houses once a week to prevent non-native nuisance species, such as house sparrows or European starlings, from taking over. If cleaning boxes after each brood has fledged, the box may be used again throughout the summer. In the fall, after cleaning out the boxes for the last time, the boxes can be left up as shelter in the winter or access to the boxes can be prevented by plugging the entrance holes or the boxes can be put in storage. If left outside, squirrels may gnaw to enlarge the entrance holes and the boxes may be destroyed.

Plants brought into the home from a greenhouse are moving to an environment where light is less intense, and hence, where growth may proceed more slowly. Most plants already have sufficient fertilizer in their soil to sustain growth for up to three months under interior conditions. This is particularly true during fall and winter.

Even if plants continue to grow vigorously, it is wise to wait a month while it adjusts to its new environment, before adding fertilizer. Likewise, a newly potted plant needs time in which to grow new roots to absorb the fertilizer you will be applying. It is often easier to feed a number of plants at the same time, and the schedules can be combined in this way: for a general practice, apply fertilizer to most indoor plants every 1-2 weeks. Slow release fertilizers that grow slowly, and once or twice only during the winter months. Additionally, apply the plant food more frequently in a diluted form; this accommodates plants which would be injured by full-strength fertilizer. Approximately half the recommended amount is used as half as much fertilizer per plant or in solution.

Annual plants grow very quickly and need fertilizing every two or three weeks during their short season. Some flowering plants, like Azalea, should not be fed at all while they are in flower. Any prepared fertilizer mixture for the type of plants you have is fine: for most foliage and flowering plants, a 10-10-10 or a 20-20-20 type will do. Apply fertilizer around the plant base, and cover it with mulch. Slow release pellets. Simply apply the fertilizer solution in place of water when you would normally be watering the plants. However, be sure the soil is slightly damp when you fertilize; never feed plants with dry soil, because roots will be damaged by the chemi- cals you add unless they are diluted further by soil moisture.

Use all fertilizers at or weaker than the recommended strength of dilution, never stronger. Newly rooted cuttings, seedlings and young plants will benefit from weaker solutions to avoid damage to the soft young roots.
Do You Like Bugs?  

4-H Entomology  
Workshop, Feb. 23  

A 4-H Entomology workshop will be presented on Monday, Feb. 23, 7-8:30 p.m. at the Lancaster Extension Education Center, 444 Cherry Creek Road, Lincoln. This free workshop will introduce the new 4-H entomology curriculum and include a hands-on project which 4-H’ers could exhibit at the county fair.  

Youth ages 10 and up and adult volunteers are encouraged to attend. Pre-register by Feb. 18 by calling 441-7180.

4-H Camp Scholarships  

The following scholarships go towards attending Nebraska 4-H summer camp(s). Application deadline is May 1—preference given to applications submitted by March 1. Applications are available by extension office and at http://lancaster.unl.edu/4h/Programs/award.shtml

Windstream 4-H Camp Scholarship—Thanks to the generosity of Windstream Communications, two Lancaster County 4-H members will receive full scholarships to attend a 4-H summer camp at the Eastern Nebraska 4-H Camp. Participants must be 9 or 10 years of age, enrolled in at least one sewing project. Joyce Vahle Memorial Scholarship—A $100 scholarship is awarded to a 4-H'er between the ages of 8-14 who is attending a 4-H camp. Applicants should be currently, or have had at least one sewing project.

4-H Speech Contest  

The 2009 4-H Speech Contest will be held Sunday, April 19 at 1:30 p.m. at the Lancaster Extension Education Center, 444 Cherry Creek Road, Lincoln. The Speech Contest provides 4-H’ers the opportunity to learn to express themselves clearly, to organize their ideas and have confidence. Register by April 13. If you do not have the capabilities to record a PSA, contact Tracy at 441-7180. To submit a prerecorded PSA via cassette tape or CD playable on 4-H, bring 1/3 yard and 2/3 yard contrasting fabrics, pre-washed 100% cotton (no plaids) and matching thread. Also bring your sewing machine, basic sewing equipment such as scissors, pins, measuring tapes, etc. Follow forms provided. Open to all youth (need not be a 4-H).

4-H PSA Contest Guidelines  

Once again, the 4-H Public Service Announcement (PSA) Contest will be by audio only. Any 4-H member ages 8-18 can submit a prerecorded PSA via cassette tape or CD playable on any standard recording player. Deadline for PSA submissions is by March 13. If you do not have the capabilities to record a PSA, contact Deanna to set up a recording time. anne at the Lancaster Extension Education Center, 444 Cherry Creek Road, Lincoln. Please be sure to submit your contest form with your entry. The State 4-H PSA contest is open to all youth ages 8-18. If you have not yet signed up, please call Marty at 441-7180.

4-H Horse Stampede, March 14  

The 2009 4-H Horse Stampede will be held on Saturday, March 14 at the Animal Science Building on UNL East Campus. The stampede is the State 4-H horse, public speaking, demonstration and horse bowl competition. If you didn’t sign up to participate this year, please come and watch. Support the competing Lancaster County 4-H’ers and to attend. RSVP preferred, please call 441-7180 by Feb. 27.

4-H Scholarship Applications due March 2  

Nebraska 4-H offers several scholarships for 4-H’ers who are graduating seniors. Deadline for applications is March 2. Information and applications are available online at http://ne4hfoundation.org or at the extension office.

Jammie Jamboree, March 28  

Join us at the Jammie Jamboree and make jammie bottoms on Saturday, March 28, 9 a.m. at the Lancaster Extension Education Center, 444 Cherry Creek Road. Bring your own pull-on pajama bottom pattern, prewashed flannel or 100% cotton fabric (no one-way design fabrics or flannel)! Bring a sewing machine, basic sewing equipment such as scissors, pins, measuring tapes, etc. Pillow forms provided. Open to all youth. RSVP preferred, please call Tracy at 441-7180. Please bring an item for raffle such as crafts, rabbit items, plants, etc. Sponsored by Lancaster County 4-H Rabbit VIPS

Volunteers Needed  

Youth Curriculum Committee is seeking 4-H’ers who are interested in technology and communication. Deadline is April 1.
Lancaster County 4-H Achievement Night was held Feb. 10 at the International Quilt Study Center & Museum. The evening included an opportunity to explore the museum and current exhibitions. Achievement Night was presented by 4-H Council with generous support from UNL. 4-H’ers, 4-H clubs and 4-H leaders were recognized for their 2008 achievements. Lancaster County 4-H congratulates these youth who work throughout the year on their 4-H projects and commit themselves to excellence! We also thank the 4-H leaders who volunteer their time and talents to youth! For a complete list of award, scholarship and pin recipients (as well as additional photos) visit online at http://lancaster.unl.edu/4h

Grace Farley was awarded OUTSTANDING 4-H MEMBER. She has been a 4-H member for 13 years, involved in numerous 4-H projects and contests. She is a member of Cool Clovers 4-H club and junior leader for Star City Explorers. She has been in many leadership activities such as 4-H Teen Council (currently as President) and Citizenship Washington Focus. She has participated in many community service projects.

Grace Farley was awarded OUTSTANDING 4-H MEMBER.

Presented to 4-H’ers who have completed the most hours of community service. Award recipients receive a $30 Activity Certificate from Lancaster County 4-H Council redeemable towards 4-H activities and supplies.

Age 14 and over: Grace Farley, Spencer Farley, Terra Garay, Kyle Pedersen, Hannah Spencer, Jessica Stephenson, Britni Waller

Age 13 and under: Maddie Gabel, Sadie Hammond, Soige Hammond, Abby Spencer, Jaime Stephenson, Lexi Trumbley

CAREER PORTFOLIOS

County winners:
Animal Science: Elizabeth Boender
Leadership & Citizenship: Sadie Hammond
Consumer & Family Sciences: Soige Hammond
Animal Science: Levi Meyer*
Healthy Lifestyles: Britni Waller*
*Nominated to represent Lancaster County at district competition

NEBRASKA DIAMOND CLOVER

A new statewide program which encourages 4-H members to engage in a variety of projects and activities.
Level 1 Amethyst: Alyssa Bennett, Valerie Gabel, Adriana Miller, Lucy Polk, Jacob Rushman

Level 2 Aquamarine: Madeline Gabel

COLLEGE SCHOLARSHIPS

Lancaster County 4-H Council — $500: Carly Belz, Grace Farley, Eliza Hammond, Christina Mayer, Hannah Spencer, Katie Zabel
Lancaster County Teen Council — $250: Grace Farley and Christina Mayer
Lane Community — $200: Trevor Woodward
Lincoln Center Kiwanis — $1,000: Grace Farley

South Prairie Wranglers of the Hickman area is winner of Category III (33 or more members). The club’s 34 members were enrolled in approximately 26 projects and entered 226 total exhibits at the Lancaster County Fair. The club is winning this award for the 1st time. Kendra Ronnau is club leader and there are 7 assistant or project leaders.

Cool Clovers 4-H Club of Lincoln is winner of Category I (7 members or less) — and winner of the Wayne C. Farmer trophy as overall Outstanding 4-H Club for the year. The club’s 7 members were enrolled in approximately 37 projects and entered 81 total exhibits at the County Fair. This is the 4th year as an Outstanding Club and the 1st year winning the Wayne C. Farmer trophy. Jean Pedersen is club leader.

Rough Riders 4-H Club located south of Lincoln is winner of Category II (8-12 members). This club’s main project is horse, but the 11 members were also enrolled in approximately 9 other projects and entered 77 total exhibits at the County Fair. The club is winning this award for the 1st time. Kathy Anderson is club leader and Tammy Goering and Chris Peters are assistant leaders.

Jeff Cassel and Ellen Muehling were presented American Youth Foundation I DARE YOU awards for striving to achieve their personal best.

The Lincoln Center Kiwanis Club presents Outstanding 4-H Club Awards to the top 4-H clubs participating in the Lancaster County Fair. There are three categories based on number of club members. One category winner is awarded the Wayne C. Farmer memorial cup as the overall Outstanding 4-H Club for the year. Clubs receive points based on all members’ total county fair exhibit and contest placings. The following clubs were recognized at a recent Lincoln Center Kiwanis meeting and at 4-H Achievement Night:

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Lincoln’s Free Tax Preparation and Filing

The Human Services Federation and the Lincoln Tax Assistance Coalition will provide free tax preparation services for residents who qualify for the Earned Income Tax Credit (EITC). In 2008, over 5,000 free tax returns were filed which resulted in $4.3 million in refunds to our local economy.

The EITC is a special tax benefit for working people who earn low to moderate incomes. To be eligible for the EITC, for tax year 2008, your earnings are as follows:

- **You do not have a qualifying child** and your earned income was less than $12,880 ($15,880 if married filing jointly).
- **You have one qualifying child** and your earned income was less than $33,995 ($36,995 if married filing jointly), or
- **You do not have a qualifying child** and your earned income was less than $12,880 ($15,880 if married filing jointly).

**The majority of families in this community that live in poverty are working families, and nobody who works full-time and has children in their home should be in poverty,”** said Rick Carter, Executive Director of the Human Services Federation and Chair of the Lincoln Tax Assistance Coalition. “Special emphasis will be placed on increasing the claiming of the Earned Income Tax Credit (EITC) and other federal tax credits created to increase the incomes of low income workers; and engaging low income families and individuals in a gradual process of building financial assets for the future.”

The Lincoln Coalition is a public, private and non-profit collaboration between the Internal Revenue Service and the Human Services Federation. The group is part of a state and national movement to assist people who are working but still unable to make ends meet. Program support comes from the Lincoln Community Foundation, United Way of Lincoln and Lancaster County, City of Lincoln, Lancaster County, Building Strong Families Foundation, and the Woods Charitable Fund. The work is made possible by the commitment and dedication of community volunteers.

For Free Tax Assistance Sites outside of Lincoln, call 1-877-659-7870.

What to Bring to Have Your Taxes Prepared

- 1099s for interest, dividends, unemployment, government services for residents who earn low to moderate incomes.
- Carna Pfeil, President
- Debbora Day, Vice President
- John Chess, Secretary/Treasurer

**University of Nebraska-Lincoln students have provided free tax preparation service for the past three years. Dr. Linda Moody, assistant director of Student Involvement, says, “Our students gain real world experience through this volunteer opportunity. It helps accounting majors get internships.”**

In 2008, UNL student volunteers prepared 385 tax returns which generated $623,000, including $225,000 of Earned Income Tax Credit. The 26 students volunteered 5,200 hours to help low and moderate income families electronically file their returns. Those receiving refunds have said they plan to pay off bills, repair a car or pay their mortgage. Benjamin Schuerman, a senior accounting major from Hallam has served in the military. In addition to preparing general tax returns, he helps military families prepare tax returns.

This is his second year as an EITC volunteer. “I like to see the smiles on their faces when I tell them how much money they will be receiving,” says Ben. He adds, “It’s also good work experience.”

Free packing and childcare is also provided at the UNL sites. UNL students are also providing expertise six times at Everett and McPhee Elementary Schools and Carol Yoakum Community Center, where UNL interpretation services are provided.

To learn more, go to http://involved.unl.edu/eitc or call 472-4254.

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National Youth Horse Symposium in Lincoln, March 27–29

The University of Nebraska–Lincoln Extension will host the American Youth Horse Council’s 2009 National Horse Leaders Symposium in Lincoln on March 27–29. The event will boast more than two-dozen international and nationally respected teachers assembled to share their keys to successful youth horse programming. Presentations will be aimed at adult Leaders of Youth Horse Programs, Industry Professionals and Teen Leaders. Separate Teen Leader activities will bring youth representing all disciplines and horse breeds together to learn team building, ethics and network. A preconference tour of the area will include horse farms of many disciplines. Applications and additional brochures can be found at http://www.animalscience.unl.edu/extension/equine.html. More information on the symposium can be found at http://www.nebyh.com/symposium.htm.

Fair Books Due to be Mailed by Mid-March

The 2009 Lancaster County Fair will be Aug. 5–9 at the Lancaster Event Center. Fair Books will be mailed to all 4-H families and previous Open Class exhibitors by mid-March. The 4-H portions of the Fair Book will be available online at http://lancaster.unl.edu/4h and Open Class portions will be at www.superfair.org.

Horse Expo, March 13–15

Nebraska’s largest equine trade show and educational extravaganza will be held March 13-15 at the Lancaster Event Center. Featuredclinicians include Richard Frake, Rob McNabb and Qanne Oma. Rossi who is a connoisseur of educated dancing horses, or Haute d’Ecole (high school) horses. For more information and schedule, go to www.nebraskahorseconul.org.

4-H Volunteer Training Available to Check Out on DVD

This year’s “Winter Warm-Up” 4-H volunteer training will be available via DVDs. Topics include: “Communicating with Families”; Livestock Lestock Meetings”; Importance of 4-H Volunteers,” “It’s Just Rocket Science,” “State Fair Update” or “Investing in Youth.” View one or all topics. Contact Tracy at 441-7180 to check out a DVD.

New in the 4-H areas this year are:

- Horse Hunter Show
- Hunter/Jumper/Working Hunter Show
- Llama/Alpaca Show
- Meat Goat Show
- Swine Breeding Gilt class and a Babe Contest

More information about 4-H changes will be published in upcoming NEBRAS.
### Embryology

**Embryology continued from page 1**

The lights are dimmed and students and teachers eagerly wait to see what’s going on inside each egg. By using a special light, students and teachers can see inside the egg for the first time. For everyone in the room, this is one of the most exciting moments of the entire project.

At the end of the incubation period, about 21 days, the students watch for any signs of “pipping” (when the chick uses its egg tooth to break or chip through the shell). Once the eggs start to pip, the students anxiously check the incubator throughout the day. Fortunately, most of the chicks will hatch just fine if they have pipped.

The newly-hatched chicks stay in the classroom where the students learn how to care for them. Children enjoy the chicks so much, they sometimes choose to stay in from recess or come to school early just to be with the new babies. After a couple of days, the chicks are picked up by extension staff and given to local farmers.

For more information on 4-H Embryology in Lancaster County, Nebraska, visit http://lancaster.unl.edu/4h/embryology

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### Embryology Web Site Gets Worldwide Attention

The 4-H Embryology Web site at http://lancaster.unl.edu/4h/embryology has gotten a lot of national and international attention.

Many educational sites have featured 4-H Embryology and 4-H EGG Cam, including: Mother Goose Time Preschool, goCyber Camp™, EarthCam Top Ten, SciLinks, American Library Association’s Great Sites for Kids, Kim Komando Radio Show and more.

4-H EGG Cam photo resources have also been included in books by Hobby Farms, the National Science Resource Center (managed by the Smithsonian Institution and the National Academies) and even a Baby Einstein book. One photo researcher used photos in an interactive exhibit at the Science and Technology Museum in Al-Khobar, Saudi Arabia.

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### Exploring Career Options at Big Red Academic Camps

The 2009 Big Red Summer Academic Camps are a chance for high school youth to spend time investigating an interest or potential career, explore the UNL campus, meet people from across the state and have lots of fun. Held in June, Big Red Summer Academic Camps features 13 career exploration camps hosted by Nebraska 4-H and UNL faculty members. The camps are residence camps held on the University of Nebraska–Lincoln campus. Housing and food are provided.

After spending several fun-filled days exploring a specific topic such as movie-making or food molecular biology, youth showcase their work at a special “capsule event” which family members are invited to attend. Brochures and registration forms are available at http://bigredcams.unl.edu or at the extension office.

For more information, call 472-2805. 4-H members are encouraged to apply for a scholarship — application is on the Web site.

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### 4-H Summer Camps & Trips

4-H Summer Camps & Trips are open to all youth ages 5–19 — need not be in 4-H. Specializing in leadership development and team building, 4-H summer camps create positive memories which last a lifetime.

With three unique Nebraska locations at Halsey, Gنشر and Alma, there are more than 40 camps ranging from half day to four days/three nights. Some camp sessions offer a range of activities while others focus on a specific theme. Most camps include one to four overnight stays in comfortable cabins. Six camps aimed at youth ages 5–8 are one-day camps and adult chaperones are invited.

UNL Extension, through its 4-H Youth Development Program, has been operating 4-H Camps for over 40 years. The 4-H camps and centers all meet over 300 standards established by the American Camping Association.

Since the Eastern Nebraska 4-H Camp near Gنشر is closest to Lincoln, many Lancaster County youth attend camps there; however, local youth also attend camps at the other two locations.

2009 4-H Summer Camp brochures have complete information and registration forms — available online at http://4h.unl.edu/camp or at the extension office.

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### Save 10% on 4-H Camps by Registering Before April 1!

For the most recent map, visit http://www.drought.unl.edu/droughtmap/index.php?

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### U.S. Drought Monitor Map

As of Feb. 3, Lancaster County was not in drought conditions.

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### Camp Counselors Needed

**Camp Counselors Needed**

Youth ages 15–19 years are needed to volunteer to help children have the best summer of their lives while camping at Nebraska 4-H Camps and Centers. Camp Counselors develop leadership skills, self-confidence and independence! They meet friends which will last a lifetime, experience excitement, challenges and have FUN! You may apply to be a counselor at a variety of camps offered during the months of June, July and August. Information and application are available online at http://4h.unl.edu/camp/staff/counseling.htm or contact Tracy at 441-7180. Applications are due March 13. Applications received after the deadline may be accepted until all positions are filled. The 4-H Council will reimburse Lancaster County youth the cost of the training. For LPS students who are still in school during the training, camps will work around your school schedule.

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### Cabin Mentors Needed

**Cabin Mentors Needed**

Cabin Mentors age 17 and older are needed at the 4-H Camps. Mentors have the opportunity to gain the skills and experience necessary for a future 4-H summer program staff position and provide overall night time cabin supervision. They support and mentor camp counselors and campers in meeting their responsibilities. They help develop a “team” atmosphere in their cabin and program group. Information and application are available online at http://4h.unl.edu/camp/staff/mentors.htm or contact Tracy at 441-7180. Applications are due March 13. Applications received after the deadline may be accepted until all positions are filled.

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### Save $50 by registering before April 1!

Save $50 on 4-H Summer Camps by registering before April 1!