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The NEBLINE, May 2010

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Groundwater is vital to Nebraska, so it merits taking a closer look at this important resource. UNL Research Hydrogeologist James Goeke provides an insight into Nebraska’s abundant groundwater resources. Goeke reports Nebraska has over two billion acre-feet of recoverable groundwater in the High Plains Aquifer.

Groundwater resources are in balance when recharge is equal to withdrawals. Goeke reminds us recharge from precipitation is the source of most of our ground-water. The thickness of and types of sediments in the unsaturated zone determine how long it takes recharge from precipitation to reach our ground-water reservoirs. Depending on local conditions it might take days, months, or years for recharge to reach the water table. Withdrawals go toward irrigation, domestic (drinking water) use, power generation, manufacturing, and other various uses.

Groundwater quality must be considered in addition to quantity. Although groundwater was once thought to be protected by layers of rock and soil, we now know groundwater is vulnerable to many types of contamination. Contaminants can enter groundwater from landfills, fertilizers and pesticides, sewage, animal waste, fuel storage tanks, and many other sources. In addition, some contaminants are introduced to groundwater from naturally occurring sources, such as the rock and minerals that make up an aquifer. Once groundwater becomes contaminated, clean-up is difficult, if not impossible, and expensive. It is clear good management presents the best opportunity to preserve groundwater resources.

Agriculture is the leading consumer of water. While figures can vary slightly with individual studies and by year, a 2005 USGS report indicated up to 90 percent of the groundwater consumed in the state is for irrigation. According to a 2007 Census of Agriculture report, Nebraska ranks first nationally with about 8.5 million irrigated acres. UNL Irrigation and Water Resources Specialist Derrel Martin reports most of those irrigated acres receive groundwater, followed by acres receiving commingled ground and surface water. Martin goes on to say over 90,000 active irrigation wells have been in operation, with the highest density in the Central Platte Valley where over 16 irrigation wells have been installed per square mile of land. This density reflects the availability of groundwater, the suitability of the land for irrigation, and the need for irrigation to meet crop water requirements. Corn is grown on 70 percent of the land irrigated for crops, followed by soybeans on 19 percent.

While groundwater used for human consumption and personal hygiene is low, it is vital to all Nebraskans. Water is second to oxygen as being essential for life. People can survive days, weeks, or even longer without food, but only a few days without water. Therefore, a safe and adequate drinking water supply for all Nebraskan residents is essential.

About 80 percent of Nebraska’s population consumes drinking water obtained from groundwater sources. Only five Nebraska public water systems obtain their water from surface water including Beaver Lake, Blair, Cedar-Knox Rural Water District, Chadron, and Metropolitan Utilities District (MUD). MUD, which serves the Omaha metro area, currently operates three drinking water plants; only one of these obtains its water from a surface water source. An additional 14 public water systems purchase their water from these five.

Groundwater’s influence on Nebraska’s surface water flows must also be considered. In the publication “Surface Water and Groundwater Relationships in Nebraska” Goeke states, on the average since 1950, 1.7 million acre feet of surface water flow into Nebraska and 8.9 million acre feet flow out. He goes on to say it has been estimated that groundwater makes up to 10 to 20 percent of the flow of the Big Blue, Little Blue, and Republican Rivers and 50 to 90 percent of the flow of the Platte, Loup, Elkhorn, and Niobrara Rivers. The difference in contribution is a reflection of more overland runoff from the fine textured soils in the Blue and Republican drainages and less overland runoff and much more groundwater contributions from the coarse textured sandy soils of the Platte, Loup, Elkhorn, and Niobrara drainages.

What challenges do we face regarding our groundwater resources? We must ensure the continued availability of groundwater for its many uses. We must work toward ensuring a groundwater supply of adequate quantity and quality to meet our needs today and in the future. In this challenge, all Nebraskans share a responsibility for making wise management choices.

For more information, contact Sharon Skipton, UNL Extension Water Quality Educator, now.
Fertilizing Grass Pastures and Haylands

By Tom Dorn
UNL Extension Educator

Pastures are important to many livestock producers in Nebraska, but production from many pastures is low. Research shows fertilizing, weed control, and rotational grazing increases grass production from pastures, resulting in greater livestock production.

Fertilizing and controlling weeds on haylands also increases production. Since more nutrients are removed from a field when it is harvested as hay than when it is pastured, even more attention needs to be paid to fertilization for haylands than pastures.

In addition to increasing grass production, fertilizing can improve forage quality. On-the-farm demonstrations show fertilizing increases the amount of beef produced per acre, even in a dry year. This increased production is primarily a result of added carrying capacity, rather than an increase in average daily gain.

Nitrogen Management On Grasslands

Apply nitrogen (N) fertilizer yearly to grass pastures and haylands to maximize production. Nitrogen makes grasses beauteous and protein. It also improves the vigor of grass plants, which can thicken stands and reduce weed invasion. When adequate soil moisture is present, economical rates of nitrogen can more than double forage production.

Note fertilization with nitrogen is most economical where weeds have been controlled and additional grass growth is needed for livestock. If additional forage can be purchased or pasture rented at a lower cost than fertilizer, these alternatives may be better choices than applying fertilizer to the pasture. Naturally, if you fertilize to increase production but do not need the extra forage, fertilization will not be an economically-sound practice.

Nitrogen fertilizer applied just prior to the period of most rapid grass growth assures the applied nitrogen is available to the plants.

Fertilizing Cool-Season Grasses

For cool-season grasses, such as smooth bromes, maximum growth occurs in mid- to late-spring. These grasses grow very little in July and August. Growth resumes on cool-season grasses in late-August and September if soil moisture is adequate and temperatures are favorable. Fall growth, however, is only a small portion of the total growth for the entire growing season.

Nitrogen can be applied in either fall or spring on cool-season grasses. The risk of losing applied nitrogen by either leaching or run-off is reduced if it is applied in early spring. Therefore, spring applications are preferred. Some people will apply two applications of nitrogen, this practice is known as split application of nitrogen. Split applications of nitrogen for production of cool-season grasses under dryland conditions are useful only when more than 100 lbs of nitrogen per acre are to be applied during the growing season and good growing conditions are anticipated during September and October.

Fertilizing Warm-Season Grasses

Apply fertilizer in mid- to late-May to pastures and hay lands containing warm-season grasses, such as Switchgrass, Indiangrass, Big Bluestem, and Little blue stem. Do not fertilize warm-season grasses in early spring. Early spring application increases the risk of leaching nitrogen fertilizer below the rootzone and it will stimulate growth of cool-season species that compete with the warm-season grass species. Begin fertilizer application in mid-May in southern Nebraska and delay until late-May in the northern portion of the state.

Fertilizing Mixed Grass Pastures

Some pastures and haylands contain a mixture of both cool- and warm-season grasses. Fertilizing these pastures with nitrogen in early spring stimulates the cool-season grasses which crowd out any warm-season grasses present. To maintain warm-season grasses in such a mixture, fertilize in late-May. It also may be necessary to apply herbicides or conduct prescribed burns to suppress the cool-season grasses.

Liquid and dry forms of nitrogen fertilizer are equally effective for increasing pasture production when certain precautions are taken. Do not apply urea nitrogen to pasture or haylands on high pH calcareous soils when air temperatures are above 85°F. Nitrogen fertilization from ammonia volatilization can be high under these conditions. Since urea supplies more than half the nitrogen in 28% liquid N (urea ammonium nitrate), be aware of the potential for volatilization losses from this nitrogen source, as well. Pasture production is highly dependent on rainfall, so nitrogen recommendations are adjusted accordingly. Suggested application rates for nitrogen are shown in Table 1. The lower rates listed are the minimum amounts recommended for average conditions and management situations. Even in years when summer rainfall is below normal, the use of 80 lbs of nitrogen per acre usually will increase production economically on pastures and haylands in central and northeastern Nebraska.

Phosphorus Fertilizer On Pastures And Haylands

In addition to nitrogen, phosphorus fertilizer is needed on many pastures in Nebraska. Research in eastern and northeastern Nebraska shows the combination of nitrogen and phosphorus frequently produces higher yields than the application of either nutrient alone. Phosphorus recommendations are based on the availability of phosphorus in the soil as measured by a soil test. Phosphorus recommendations for grasslands are listed in Table II. If legumes make up one-fourth or more of the stand, apply 30 percent more phosphorus than for grass alone. Phosphate fertilizers can be applied with the nitrogen in either spring or fall.

Repeated applications of phosphate fertilizers may increase the levels of available phosphorus in the soil. When soil phosphorus levels are in the high range, phosphate application can be eliminated at soil test levels fall below the high range. When grasslands are used as hay lands, soil sample more frequently. Phosphorus may be needed to apply more often, since removal of nutrients will be greater than on grazed land.

Other Nutrients

Results of studies conducted throughout eastern and northeastern Nebraska indicate applying potash, sulfur, and zinc does not improve pasture production. There is a small possibility some pastures and grasslands on sandy soils may require sulfur. This need for sulfur, however, has not yet been demonstrated in research trials.

Nitrogen recommendations can be found in NebGuide (G1977) “Fertilizing Grass Pastures and Hayland.” It also assumes your grazing management will efficiently harvest this extra growth.

Tips for Making Pasture Fertilizing Pay

With nitrogen fertilizer costing about 40 cents per pound this spring, you may be asking whether it pays to fertilize pasture.

Our Nebraska research shows you get about one pound of additional calf or yearling gain for every pound of nitrogen fertilizer applied. However, this fertilization rule-of-thumb assumes the current cost of nitrogen and it is based on general recommendations, which are based on the potential amount of extra grass growth expected. This is affected mostly by moisture. (These recommendations can be found in NebGuide (G1977) “Fertilizing Grass Pastures and Hayland.”) It also assumes your grazing management will efficiently harvest this extra growth.

If you fertilize pasture in spring and then let animals graze continuously on one pasture throughout the season, much of the extra growth is wasted. They trample, manure, foul, bed down on, and simply refuse to eat much of the grass. Eventually, less than one-third of the extra grass ends up inside your livestock.

Get Your Money’s Worth

To make fertilizing pasture pay, manage grazing so much of what you grow actually gets eaten.

• Subdivide pastures with cross-fences and control when and where your animals graze.
• Give animals access to no more than one-fourth, and preferably less, of your pasture at a time.

• Grazing off about one-half of the growth before moving to another subdivision.
• If your pastures aren’t already subdivided into at least four sections, your fertilizer dollar might be better spent on developing more cross-fences and watering sites.

Follow these suggestions and more of your pasture growth will be eaten, and more profits will come from fertiliz- er and pastures.

—Bruce Anderson
UNL Extension Forage Specialist

TABLE I. NITROGEN RECOMMENDATIONS FOR PASTURES AND HAYLANDS IN NEBRASKA

<table>
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<th>Pasture</th>
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<tr>
<td>I</td>
<td>80-120</td>
<td>100-150</td>
<td>60-90</td>
<td>75-100</td>
</tr>
<tr>
<td>II</td>
<td>50-80</td>
<td>60-90</td>
<td>40-75</td>
<td>50-80</td>
</tr>
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</table>

*Use the higher rate when a full profile of subsoil moisture is present.

TABLE II. PHOSPHORUS RECOMMENDATIONS FOR GRASSLANDS IN NEBRASKA

| Relative Index Value | Soil Test Levels Brady & Kurz # 1 Olsen P (Na HCO₃) Phosphorus Rate |
|---------------------|----------------------|------------------|------------------|------------------|
|                     | ppm                  | lbs P₂O₅/Acre    |
| Very Low            | 0-5                  | 0-3              | 40               |
| Low                 | 6-15                 | 4-7              | 20               |
| Medium              | 16-25                | 8-14             | 10               |
| High                | 25+                  | 15+              | 0                |


Nitrogen can be applied in either liquid and dry forms of nitrogen fertilizer applied. However, this fertilization rule-of-thumb assumes the current cost of nitrogen and it is based on general recommendations, which are based on the potential amount of extra grass growth expected. This is affected mostly by moisture. (These recommendations can be found in NebGuide (G1977) “Fertilizing Grass Pastures and Hayland.”) It also assumes your grazing management will efficiently harvest this extra growth.

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Best Management for Pests Found in and Around the Home

If you call our office about a wildlife or insect pest problem, you will be encouraged to use Integrated Pest Management techniques even though we may not use those specific terms. What is Integrated Pest Management? Integrated Pest Management, or IPM, is a method used to control pests in an environmentally-responsible manner.

IPM practices include monitoring, managing pests effectively, protecting natural enemies, and, when needed, the use of pesticides. Instead of treating large areas of your home and property for pests that don’t really need treating, you target the pests. This reduces pesticide use, focuses control efforts on the problem pest and its location. In the end, you save time and money.

Pests need food, water, and shelter to survive and breed. If you get rid of those requirements, pests will not survive or will go to somewhere else.

1. Excluding a pest, learning about its life cycle and behavior is an important part of IPM. This knowledge helps you manage pests effectively. Your local extension office and/or pest control professional can help you learn more about pests found in your area and offer suggestions for control.

It’s easy to begin using an IPM approach to monitor and control pests in and around your home:

1. Exclusion: Keeping your home in good repair is always important. Caulk around windows and other openings, patch holes, and make sure weatherstripping is secure. You'll make it harder for pests to find their way in and you’ll save on energy bills.

If a colony of bats is residing in your home, you won't seal bats inside the structure on a warm evening or seal exit/entry points during the winter. Bats may leave smudges of oil around the opening, called rubmarks, you may be able to see.

If you monitor for pests, and can also be a waste properly. Piles of clutter can create breeding sites for pests.

Traps: There are a variety of traps for mammals (mole traps, live traps) and for insects (pheromone traps, sticky traps). These traps can be used to determine what kind of pest you have and help you exterminate the pest, and can also be a way to help reduce populations.

4. Traps: Identify your pests, learn about the type of pests you have, you can determine how best to control it. Contact your local extension office or pest control professional for assistance in identifying pests. Many pests are considered accidental invaders. Accidental invaders wander in and can’t live and breed in your home. Insecticides are usually not recommended. Other pests may need to be controlled with insecticides, but there may be low-toxic options to help resolve the issue. Bats are just one example of a low-toxic option that may work as well, or better, than traditional pesticides in certain situations.

And remember, IPM can be used anywhere — wherever pests are found: homes, apartment buildings, schools, farms or acreages, hospitals, restaurants, golf courses, and more. For more information on pests found in this area, visit http://lancaster.unl.edu/pest

Source: xExtension, EPN & University of Massachusetts.

Barb Ogg
UNL Extension Educator

This past year, we had more phone calls about bats than other years. We don’t exactly know why. Many calls came last year, other years we had more.

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Source: xExtension, EPN & University of Massachusetts.
Cooking for Large Groups: Keep Hot Foods Hot and Cold Foods Cold

Spring is a time many of us may be preparing food for larger groups of people, such as for showers, wedding receptions, graduation parties, and other events. Avoid inviting a foodborne illness to the happy occasion. Here are some tips on keeping food at safe temperatures from Cooking for Groups: A Volunteer’s Guide to Food Safety, a publication of the USDA Food Safety and Inspection Service. For additional information from this booklet, visit http://www.fsis.usda.gov/Fact_Sheets/Cooking_for_Groups/index.asp

When You Shop
Buy cold foods last. Plan to drive directly home from the grocery store. You may want to take a cooler with ice or frozen gel packs for perishables. Always refrigerate perishable foods within two hours. Refrigerate within one hour when the temperature is above 90°F.

When You Store Food
Make sure the temperature in the refrigerator is 40°F or below and 0°F or below in the freezer. Check these temperatures with an appliance thermometer. Refrigerate or freeze perishables, prepared foods, and leftovers within two hours (one hour when the temperature is above 90°F) of shopping or preparing. Place raw meat, poultry, and seafood in containers in the refrigerator, to prevent their juices from dripping on other foods. Raw juices may contain harmful bacteria.

Danger Zone
Bacteria multiplies rapidly between 40 and 140°F. To keep food out of this “Danger Zone,” keep cold food cold and hot food hot. Keep food cold in the refrigerator, in coolers, or on the serving line on ice. Keep hot food in the oven, in heated chafing dishes, or in preheated steam tables, warming trays, and/or slow cookers.

Never leave perishable foods, such as meat, poultry, eggs, and casseroles in the “Danger Zone” over two hours; one hour in temperatures above 90°F.

When You Cook
Use a food thermometer to check the internal temperature of meat, poultry, casseroles, and other foods. Check the temperature in several places to make sure the food is fully heated. Wash the thermometer with hot, soapy water after use.

When You Chill Food
• Place food in the refrigerator.
• Don’t overfill the refrigerator. Cool air must circulate to keep food safe.
• Divide food and place in shallow containers. Slice roast beef or ham and layer in containers for serving.
• Divide turkey into smaller portions or slices and refrigerate. Remove stuffing from cavity before refrigeration.
• Place soups or stews in shallow containers. To cool quickly, place in water ice bath and stir.
• Cover and label cooked foods. Include the preparation date on the label.

When You Transport Food
Keep cold food cold. Place cold food in a cooler with a cold source such as ice or frozen gel packs. Use plenty of ice or frozen gel packs. Keep an appliance thermometer in the cooler. Cold food should be held at 40°F or below.

Hot food should be kept hot at or above 140°F. Wrap well and place in an insulated container.

When You Reheat Food
Heat cooked, commercially vacuum-packed, ready-to-eat foods, such as hams and roasts, to 140°F. Foods cooked ahead and cooled should be reheated to at least 165°F.

Reheat leftovers thoroughly to at least 165°F. Reheat sauces, soups, and gravies to a boil. In Oven — Place food in oven set no lower than 325°F. The food should reach at least 165°F on a food thermometer when done.

In Microwave — Stir, cover, and rotate fully cooked food for even heating. Allow standing time. Heat food until it reaches at least 165°F throughout.

In Slow Cooker, Steam Tables or Chafing Dishes — Not Recommended — Reheating leftovers in slow cookers, steam tables, or chafing dishes is not recommended because foods may stay in the “Danger Zone”, between 40 and 140°F, too long. Bacteria multiplies rapidly at these temperatures.

When You Keep Food Cold
Store food in refrigerator at 40°F or below. If there is not enough room in the refrigerator, place food in coolers with ice, or frozen gel packs. Always keep cold food cold.

When You Serve Food
Use clean containers and utensils to store and serve food. Do not use a plate that previously held raw meat, poultry, or seafood unless the plate has first been washed in hot, soapy water. When a dish is empty or nearly empty, replace with a fresh container of food, removing the previous container.

Here is a guide for the most popular cuts of pork:

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<th>Tip</th>
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Pork Chops with Apples and Stuffing

6 boneless pork loin chops, ¾-inch thick
6 apples, ½-inch
1 package (6 oz) stuffing mix for chicken

Heat oven to 375°F. Use cooking spray or oil on bottom of 9 x 13 inch baking dish and place chops in dish. Core and slice apples on top of chops. Prepare stuffing according to package directions. Spoon on top of apples. Cover with foil and bake 40 minutes or until chops are done (160°F), removing foil after 30 minutes.

BBQ Pork for Sandwiches

3 pounds boneless pork ribs
1 can (14 oz) beef broth
1 bottle barbecue sauce

Place the boneless pork ribs into a slow cooker and pour a can of beef broth over top. Cook on High for 4 hours or until meat shrinks easily. Remove meat and shred with two forks. Transfer pork to a large saucepan, add barbecue sauce and cook on medium heat for 15-20 minutes or until the sauce is cooked into the pork and extra liquid has cooked away.

$stretch Your Food Dollar With Easy Pork Dishes

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**Presidential’s View — Irene’s Items**

Irene Colborn  
FCE Council Chair

My FCE club, Helpful Homemakers, has been together for many years. When we first met, we had meetings in the daytime with our little ones under foot. You prepared to entertain the group in our homes by cleaning windows, etc. We reminisced and laughed about it now. Somehow, spring cleaning doesn’t have the same importance as we have gotten older, or at least to me. I don’t do windows much anymore! I hope you have a great spring. I am hoping some of you attended the District Meeting at Wahoo. Live today, because tomorrow is not promised.

**FCE News & Events**

**FCE Scholarship Applications Due May 1**

A $400 scholarship provided by the Lancaster County FCE Council is available for a graduate of a high school in Lancaster County or a permanent resident of Lancaster county majoring in Family and Consumer Science or a health occupation. This is open to full-time students beginning their sophomore, junior or senior year of college in the fall of 2010 or who have completed two quarters of study in a vocational school. Applications are due May 1 in the extension office.

**Sizzling Summer Sampler**

Mark your calendar for our annual Sizzling Summer Sampler Thursday, July 8, 6 p.m. for at the Lancaster Extension Education Center. An evening of fun with a salad supper is being planned. We are asking our FCE clubs and members to provide baskets to be raffled off to support our FCE Scholarship. Details of the evening will be announced in the next Nextsing. This evening is open to everyone not just FCE members.

**Living Well — More Than a Cookbook**

Members of the National Extension Association of Family and Consumer Sciences (NEAFCS) have developed and illustrated a book containing delicious, time-tested recipes from across the nation. Also included is a “Recipes for Living” chapter containing research-based information on Healthy Lifestyles, Living Green, Home Safety, Financial Management, Care of Textiles, and Etiquette.

“Today, the critical emphasis on safe, affordable food and a healthy, nutritious diet is evident in every aspect of American life,” said Colleen Heffernan, Administrator Cooperative State Research, Education, and Extension Service. “NEAFCS members have had an extraordinary impact on advancing not only sound nutritional practices, but on sound practices in all aspects of healthful living.”

**Keep It Cold**

Place cold food in containers on ice. Hold cold foods at or above 40°F.

**Keep It Hot**

- Immediately refrigerate or replace ice frequently.
- Steam tables, warming trays, and/or a health occupation. This is evident in every aspect of healthful living.”

**Bag**

- The handy little vacuum great for quick crumb pickup can be a nesting place for germs if you leave food particles sitting in the bag. When you’re finished cleaning up, open the vacuum, remove the dirt receptacle and dump the crumbs in the trash. Brush off the filter to remove any additional food particles.

**Caregivers Get a Break Through Nebraska Respite Network**

Sometimes caregivers need a temporary break from caregiving so they can come back refreshed and ready to provide good care again. The Nebraska Respite Network helps caregivers find providers and funds to pay for providers to come into the home, take care of an individual with special needs, and give the primary caregiver a temporary break.

**Who Needs Respite Service?**

- Ongoing, continuous caregivers
- Spouses who care for partners with disabilities
- Parents of adults with disabilities
- Adult children caring for siblings with disabilities
- Parents of children with disabilities
- Adult children caring for parents with disabilities
- And more...

**Respite Could Mean...**

- A break
- A chance to get away
- A chance to shop
- A chance to spend time with other family members
- A chance to recharge batteries
- Time to take care of personal business
- Time to get medical care

In 1999, the Nebraska Legislature created the Nebraska Respite Network through the Department of Health & Human Services (HHS). The purpose of the Nebraska Respite Network is to provide a statewide system for the coordination of respite services serving all ages (across the life span). The NWCA in Lincoln provides this coordination for Southeast Nebraska. The Southeast Respite Coordinator recruits and matches individuals interested in providing respite services to families in crisis, foster parents, care givers of adults with Alzheimer’s, children with disabilities, or frail elderly.

To find out if you or someone you believe needs respite services, call Southeast Respite Coordinator Janelle Clifton at 434-3494 ext. 141 or email at jclifton@ywcalincoln.org.

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**KEEP IT HOT**

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Hand Picking Bagworms
An Effective Control

If you have noticed small bagworm infestations in your landscape, hand picking can be an effective control measure. Take a walk through your landscape and check all your landscape plants, especially spray and junipers. You have just a few weeks left to hand pick bagworms from your plant material. Bagworm caterpillars will start emerging from the bags the end of May through early June.

After picking the bagworms from your plant material, place them in a bag and put the sealed bag in the trash. If you have large plant material, place them in a bag and put through early June.

If you would like more information on bagworms, go to http://lancaster.unl.edu

The Nebraska Arbor Day Project is called the Arbor Day Tree Program. It was created to promote the planting of trees in Nebraska. The Arbor Day Project is a 10 year cooperative initiative to raise public awareness of the value of trees, reverse the decline of Nebraska's tree and forest resources, and improve the health and sustainability of trees and forests across our state for future generations. The primary goal of ReTree Nebraska is to work in partnership with people across Nebraska to foster the proper planting and maintenance of one million new trees by 2017.

As residents of the Arbor Day state, Nebraskans recognize the value of trees. Forests foster economic development by supporting businesses, creating jobs, and generating rural and urban income. Trees clean the air, extend the life of roads, save tax dollars by reducing the need for expensive "hard" infrastructure, and reduce heating and cooling costs. In fact, properly placed trees can reduce cooling costs by up to 25 percent. Trees preserve "The Good Life" in Nebraska by creating more livable communities situated in a predominantly agricultural landscape.

Nebraska's community tree resources have steadily declined in recent decades. A combination of severe weather events like the 1991 freeze, 1997 snowstorm, 2007 ice storm, tornados and high winds, chronic drought, poor planting practices, poor pruning practices, poor species selection, poor pruning practices, the rapid spread of emerald ash borer (EAB), and a preponderance of older trees nearing or past their average life span have severely reduced the number of trees in our communities across the state. Trends gleaned from more than 200 community tree inventories conducted by the Nebraska Forest Service since 1977 showed that the state has lost approximately one-half of its community tree resource since the late 1970s. Fewer community trees mean fewer benefits and a reduced quality of life in our towns and cities.

In addition to recent tree losses, an invasive pest called emerald ash borer (EAB) has the very real potential to kill most of the state's ash trees, resulting in a potential loss of 25 percent, or more, of the existing community forest resource in many communities. This canopy loss equates to approximately 2.2 million ash trees with an estimated value of $120.8 million annually. Ultimately, the total costs for removing and replacing urban ash trees killed by (EAB) in Nebraska could reach $1.65 billion. Most experts agree it is not a matter of if EAB will arrive in Nebraska, but rather when. When it arrives, the state will endure catastrophic losses not only in our community forests, but in conservation plantings and native forests as well.

When replanting trees, it is important to diversify. The trees being promoted for 2010 are pictured here.

To receive updates about ReTree Nebraska, as well as tree tips, sign up for a free electronic list serve. Email retreenebraska@unl.edu with your e-mail address and first and last name to join.

Source: Nebraska Forest Service

Important to Diversify When Replanting

ReTree Nebraska is a 10 year cooperative initiative to raise public awareness of the value of trees, reverse the decline of Nebraska's tree and forest resources, and improve the health and sustainability of trees and forests across our state for future generations. The primary goal of ReTree Nebraska is to work in partnership with people across Nebraska to foster the proper planting and maintenance of one million new trees by 2017.

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Source: Nebraska Forest Service
Trees dead from pine wilt should be removed now to help prevent the disease from spreading to nearby trees, says a Nebraska Forest Service expert.

Because trees infected with pine wilt die from the disease, it is important to take steps to prevent its spread. "Removing dead trees is one of the best ways we have of preventing pine wilt's spread," said Laurie Stepanek, Nebraska Forest Service forest health assistant.

Pine wilt is caused by a microscopic, worm-like organism called the pinewood nematode. These nematodes live in pines and are carried from tree to tree by insects called pine sawyer beetles. Once inside the tree, the nematode disrupts the flow of sap, causing the tree to turn brown and die.

The pine sawyer beetle is active from May through September. If trees dying of pine wilt are discovered during the fall and winter, the deadline for safely removing and destroying them is the first of May. Trees that die while the beetle is active should be removed within a month of the tree's death to prevent the beetles from re-emerging and spreading the disease to new trees. Once removed, trees should be disposed of by chipping, burning or burying to ensure beetles in the wood are killed. Chipped trees can safely be used as mulch in gardens or around trees, even pines. Because mulch resting against a tree's trunk can trap moisture and lead to decay and diseases, mulch should be kept several inches away from the trunk.

Additionally, research shows a slight risk of pine wilt spreading through infected mulch that comes in contact with trunk wounds on Scotch pine. Keeping the mulch away from the tree's trunk can help prevent this. Approximately 95 percent of the pines killed are Scotch pines, but Austrian pines occasionally are killed from the disease as well. While trees stressed by drought are slightly more susceptible to pine wilt, it easily can kill healthy trees, Stepanek said.

Ponderosa pine, eastern white pine, and spruce, fir, and juniper are resistant to pine wilt.

Pine wilt is very common in southeast Nebraska and is spreading to the west and north. The leading edge along which many trees are beginning to die extends from Holdrege in the west and Norfolk in the north.

Outside Nebraska pine wilt is a problem in Iowa, Kansas, Missouri, and Illinois. Source: The Nebraska Forest Service

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Many Nebraska windbreaks have one thing in common; they are showing their age. However, renovation practices can be applied to increase their effectiveness and extend their useful life.

The most common problem with older windbreaks in Nebraska is their condition, typified by dead or dying trees, crowded and stunted trees, or possibly diseased trees. Most older windbreaks need some form of renovation, which usually involves improvement cuts. Renovation may entail thinning trees to increase health and vigor or removing rows of dead/dying trees and replacing with new plantings.

Generally, foresters discourage the removal of entire windbreaks that may be in various stages of decline. Most old windbreaks can be renovated to maintain or enhance their effectiveness in protecting humans, livestock, crops, and buildings. The locations where the shelter-belts were planted, 25 or more years ago, are generally still the best locations.

Major causes of decline in Nebraska windbreaks are neglect (such as break-down of protective fencing); abuse from grazing; drought; and over-maturity of the trees. Improper herbicide use and lack of insect/disease control are other contributing factors.

Windbreak renovation can be expensive, particularly if heavy equipment is needed or the trees need to be removed. However, cost-share programs are available to help defray renovation costs.

Source: Dennis Adams, Nebraska Forest Service

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Barley Straw Can Control Algae Growth

Tadd Barrow
UNL Extension Educator

Algae comprise a critical component of a pond's food chain and can color the water green or brown. However, uncontrolled growth can lead to nuisance surface scums, poor water quality, noxious odors, and an overall reduction in the pond's recreational and aesthetic value.

Excessive levels of algae often occur when nutrients, especially phosphorus, are abundant. After taking steps to reduce the amount of phosphorus entering a pond, control algae growth directly. While it can have varying effects upon algae control, it is relatively cost effective and an environmentally acceptable way to control algae in ponds, so it is a technique worth considering. In Nebraska, barley straw should be applied in mid-to late-April to control summer growth.

As the straw decomposes in the pond, it releases a chemical which inhibits algal growth. The effectiveness of barley straw is dependent upon complete decomposition and release of the growth inhibiting chemical. When water temperatures are below 50°F, it takes approximately six to eight weeks for the straw to produce enough growth inhibiting chemical to effectively control the algae. However, it only takes one to two weeks when water temperatures are above 68°F. Once the straw produces sufficient amounts of the chemical, it is likely to control algae for about four to six months.

The amount of straw required to control algal growth depends on the surface area of the pond. The recommended rate for ponds with a history of algal problems is approximately 225 pounds of barley straw per acre or 0.8 ounces of straw per 10 square feet of surface area. Lower doses can be tried, but should not fall below 90 pounds of straw per acre or 0.3 ounces per 10 square feet. In lakes that contain a lot of sediment, apply 450 pounds per acre or 1.3 ounces per 10 square feet.

The decomposition of straw requires oxygen and applying excessive amounts of straw could reduce oxygen content of the water to levels that stress or kill fish.

Bales must be broken apart, otherwise there will be inadequate water movement through the straw, which inhibits decomposition and chemical release. Loose straw should be placed in some form of netting or loose woven sacks, such as an onion sack. Place nets equidistant from other nearby nets and the shore. The placement of nets does not need to be exact, but practical considerations must be considered. On small ponds where only one net of straw is required, place the net in the middle of the pond.

Use floats to suspend the straw filled netting in the upper three to four feet of the pond. The straw loses its effectiveness if it sinks below this depth. Floats should be inserted inside the netting at the same time the netting is filled with straw. Then anchor into place using rope attached to bricks or concrete filled buckets.

Water movement near the surface area will keep the straw well oxygenated and distribute the growth inhibiting chemical throughout the upper portion of the pond. This ensures that the chemical is applied where the majority of the algae are growing and away from the bottom sediments which will inactivate the chemical.
Lancaster County 4-H is proud to announce Kath Conroy as winner of May’s “Heads or Tails” Award in recognition of outstanding volunteer service.

4-H volunteers for more than 15 years, Kath has been a club leader, a super-intendent of 4-H Clothing at the Lancaster County Fair, presented workshops on clothing and helped with Pillow Party and Jammoboree sewing workshops. She has continued to volunteer with 4-H long after her own children went through the program. Last year, she donated a sewing machine to a 4-H youth. “I like being a 4-H volunteer because I like working with youth. Nothing is more rewarding than seeing those big smiles saying I did it myself!” says Kath. “My favorite experience as a 4-H volunteer was taking my club to the extension office for a practice session on modeling and we were a bit late. I rushed my girls into the room and five minutes later we realized it wasn’t modeling but the Life Skills competition! I talked the girls into doing it as long as we were there, and several did the competition in later years.”

Congratulations to Kath. Volunteers like her are indeed the heart of 4-H!

Nominate your favorite 4-H volunteer by submitting the form available online at http://lancaster.unl.edu/4h or at the extension office. Nominations of co-volunteers welcome.

4-H/FFA Sheep Weigh-In, May 6

4-H/FFA members planning to exhibit market sheep need to have their lambs officially tagged and weighed by June 15. County-wide sheep weigh-in day has been set for Thursday, May 6, 8-6 p.m. at the Lancaster Event Center - Pavilion 2.

4-H/FFA Livestock Training Clinic, May 8

All 4-H & FFA livestock exhibitors are invited to attend the free 2010 Livestock Show Training Clinic on Saturday, May 8, 9 a.m.-2 p.m. at the Lancaster Event Center – Pavilion 1 (note this new time). Experts in the field will be giving live animal demonstrations and will focus on showing, fitting, nutrition and management of cattle, swine, sheep and goats. A free lunch will be sponsored by Southeast Nebraska FAPM Co-op. Pre-registration is required. To sign up, contact Deanna at 441-7180 or donu@441-7180.

4-H/FFA Livestock Quality Assurance Training, May 11

All 4-H & FFA members wanting to exhibit market animals at the county or state fair must be quality assurance certified. Our country training will be held on Tuesday, May 11 at 6:30 p.m. at the Lancaster Extension Education Center. To register, please call Deanna at 441-7180 by Friday, May 7.

Furniture Painting Workshop, May 20

All 4-H volunteers are invited to participate in a furniture painting workshop on Thursday, May 20, from 9 a.m. to 3 p.m. at the Lancaster Extension Education Center. Bring a small piece of furniture to repaint red, white, and blue. Lunch will be provided. Mail $20 registration by May 14 to Janet Hanna at University of Nebraska–Lincoln Extension in Garfield, Loop & Wheeler Counties, PO 638, Burwell, NE 68823.

Lancaster County Horse VIPS to Host a Pre-District Show/ Clinic/ Fundraiser, June 5

To help everyone prepare for districts and state, the Lancaster County 4-H Horse VIPS Committee is hosting a special pre-districts show/clinic/fundraiser on Saturday, June 5 at the Lancaster Event Center - Pavilion 3, beginning at 9 a.m. All counties are welcome.

The show will follow the district format and all age groups — elementary, junior and senior — can participate in the English Pleasure and Equitation, the Western Pleasure and Horsemanship. All age groups can compete for prizes in a Hippology Contest. This will be an excellent opportunity for all 4-H riders to practice for districts. It will also be a great opportunity for elementary age riders to experience the district format even if they aren’t yet old enough to compete at state. Depending on size of the classes and show — if there is time, the judge will be able to do a little teaching/comments at the end of each class. Reining, poles, and barrels are included in the show but are available to junior and seniors only. Horses may be shown off the trailer. Stalls are also available. Anyone wishing to use a stall will need to call the Lancaster Event Center at 441-6454 to make arrangements before the show. This is a fundraiser for Horse VIPS, so there will be one time office charge of $5 and a $3 charge per class. Pre-registration is not required but must be done by May 21.

Concessions will be available onsite. Show flyer is available at http://lancaster.unl.edu/4h and at the extension office. For more information call Marty at 441-7180.

Life Challenge Contests

County-Level Senior, May 22

4-H Life Challenge judging contests help youth learn more about issues related to family and consumer science (FCS). Contests are open to all 4-H’ers, need not be enrolled in a specific project. Contact Tracy at 441-7180 for more information.

County-level Senior Life Challenge (ages 12 and up) is scheduled for Saturday, May 22, 9 a.m. at the Lancaster Extension Education Center. Preregister by May 21 by calling 441-7180. Contest questions will be based on the following 4-H curriculum areas: food and nutrition, child development, design and wardrobe.

Statewide FCS Life Challenge (for ages 12 and up) will be held Monday, June 28 and Tuesday, June 14 from 6 p.m. to 8 p.m. at the Lancaster Event Center - Pavilion 3. To participate, please contact Tracy at 441-7180 by June 26. Information is on line at https://seal.unl.edu/category/fcs-life-challenge/.

County-level Junior Life Challenge (for ages 6–11) will be held Saturday, June 26 at 9 a.m. at the Lancaster Extension Education Center. Preregister by July 9 by calling 441-7180. Contact Karen Clinch for study packets.

4-H Clover Challenge, June 2

Sign up now for the 2010 Clover Challenge! This head-to-head competition with 4-H’ers ages 12 to 18 from across the state is similar to a quiz bowl. The challenge consists of a series of multiple choice questions based on family finance, health, foods, clothing, and home environment. If you would like to participate in the challenge on Wednesday, June 2 at 10 a.m. at the Lancaster Extension Education Center, contact Tracy at 441-7180 by May 14.

4-H/FFA Animal Id’s and DNA Due June 15

All 4-H/FFA sheep, goats, swine, breeding beef, bucket calves, feeder calves, dairy cattle, and rabbits which will be entered in the 4-H or FFA this year are due to extension by June 15. Animal Id forms are available online at http://lancaster.unl.edu/4h/Fair and the extension office. If you plan on showing market hogs, feeder calves at state fair or Ak-Sar-Ben, you will need to have DNA collected by this deadline also.

4-H Bicycle Safety Contest, June 26

This year’s 4-H Bicycle Safety Contest will be held BEFORE the county fair on Saturday, June 26, 9 a.m. at the Lancaster Extension Education Center. MUST preregister by June 22 by calling 441-7180 (there is no entry form). Late registrations not accepted. See Fair Book p. 12.
Four days of "hands-on" workshops full of fun and learning! Youth attending workshops that overlap the lunch period should bring a sack lunch. Food will not be available (unless otherwise stated in the workshop description). If you have questions, contact Tracy Kulm at 441-7160.

**2-Day Workshops**

**Outdoor Cooking** Everything tastes better when cooked "hands-on" over the campfire. First-timers get first chance at cooking. TUE, JUNE 15, 10:15-12:15PM AGES 8 & up • FEE $5 INSTRUCTOR: Soni Cochran, Extension Associate

**Style Revue** Style Revue at county fair will be an eye-opener. Learn about this fun workshop and learn styling principles and practice your modeling. TUE, JUNE 15, 12:45-2:45PM AGES 8 & up • FEE $5 INSTRUCTOR: Marty Cruickshank, Extension Associate

**Rags to Rugs** Bring 5 lbs of uncut, old denim, mattress pads, cotton, crumpled newspaper. No polyester, no sweaters. Bring sewing machines, including a filled bobbin, scissors, and a fabric ruler, and sewing machine thread. Bring scissors, sewing pins, 2-Day Workshops 6-7AM AGES 6 & up • FEE $25 ROCKETS...COUNTDOWN TO ROCKETS...COUNTDOWN TO 8-10AM AGES 8 & up • FEE $35 INSTRUCTOR: Ron Sueng, 4-H Volunteer

**3-Day Workshop**

**Decoupage Details** Decorate your own storage box by recycling magazines. Bring old magazines and your imagination! THU, JUNE 17, 10:15-12:15PM AGES 10 & up • FEE $5 INSTRUCTOR: Cole Meador, Extension Intern

**Terrific Table Setting** Learn the basic skills needed to be a successful caterer. All equipment provided. THU, JUNE 17, 12:45-2:45PM AGES 4 & up • FEE $3 INSTRUCTOR: Jeff Rawlinson, Nebraska Game and Parks

**A-Maize-ing Corn** Have an a-maize-ing time learning about this amazing plant. Bring samples they have made. THU, JUNE 17, 12:45-2:45PM AGES 4 & up • FEE $5 INSTRUCTOR: Kathy Hansen, 4-H Volunteer

**Fantastic First Aid** Have fun while learning practical first aid skills. WED, JUNE 16, 12:45-2:45PM AGES 8 & up • FEE $5 INSTRUCTOR: Jennifer Smith, 4-H Volunteer, Extension Intern

**Sew your own perfect purse. Bring your own pattern or use one we provide. Bring your bike and helmet! WED, JUNE 16, 10:15-12:15PM AGES 8 & up • FEE $5 INSTRUCTOR: Karen Clinch, Extension Intern

**Campfire Crafts, Crafts, Crafts** Celebrate crafts as you create your own campfire hands-on workshop. TUE, JUNE 15, 12:45-2:45PM AGES 8 & up • FEE $5 INSTRUCTOR: Dick Turpin, 4-H Volunteer

**Awesome Aprons** Sew your own perfect purse. Bring your own pattern or use one we provide. Bring your bike and helmet! WED, JUNE 16, 10:15-12:15PM AGES 8 & up • FEE $5 INSTRUCTOR: Karen Clinch, Extension Intern

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Many myths surround spring severe weather, but knowing all of the facts about safety and preparation can save lives.

**Be Prepared**

The first thing a family can do to prevent harm is buy a weather radio. A weather radio costs roughly the same as a family of four going to see a movie. Instead of using a phone or looking outside, find out about severe weather through a weather radio.

When traveling in a car during severe weather, make sure to listen to the radio. Take out the CD, the MP3 player or turn on an FM station to a local AM station covering the weather going on in the area.

Make a photocopy of everything on paper of value in a home or business. This may include safe insurance information, car information, licenses, passports or other forms. Keep those copies stored in a safe location, preferably away from home. Surviving severe weather is important, but returning to normal life will be much easier with backup copies.

Families should also have a communication plan set in place. Relatives or friends could overload authorities’ phone lines trying to find out if their loved ones are safe. Designate a relative to be the head of a “communication tree.” That person can find out information about family in the disaster and let relatives and friends know about their condition.

Families need to have plans in place for safety areas and meeting places during a storm. Kids home alone on school days need to know a meeting place and designated tornado shelter in their home. Children have died from panicking during a storm and not knowing a safe place to take cover.

**Watch vs. Warning**

People should know the difference between a warning and a watch. A watch is telling citizens to just watch out for the hazard, to be more aware of the weather. A warning means something is happening now and everyone near should seek shelter and safety.

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**Lightening**

Many myths surround lightening from severe thunderstorms.

Many people believe no phones are safe during an electrical storm. Phones on land lines are not safe because charges can travel through them. However, cell phones are safe.

Get inside immediately after hearing thunder during a storm. A house, car, or well-enclosed picnic area in parks are good options. If caught outside, crouch to the ground, don’t lie on it. Lying on the ground puts the heart closer to the ground, which increases the chance of an electrical charge reaching the heart and stopping it.

Don’t hide under a tree. Trees stand high from the ground and a charge can run through them. If a person’s hair begins standing up, it means static electricity is in the air and he or she should find cover immediately. However, don’t run. Running in a storm increases static electricity that attracts lightening.

Another huge myth is visibly seeing the sun or being outside rain will mean lightening won’t strike close. Lightening can strike more than 15 miles away from the storm. A “bolt in the blue” occurs when lightening strikes out the side of a storm system. These are some of the most common lightning fatalities. In fact, lightning is more dangerous than tornadoes. Lighting is the number one severe weather killer.

Many people think a human body will hold the charge from a lightning strike, but that is not true. The person struck needs CPR immediately. He or she may just need a few chest pumps to get the heart going again, but if you don’t, the person could be dead by the time paramedics arrive. Paramedics can talk a person through CPR over the phone.

**Tornadoes**

Tornadoes have their share of myths as well, though many are disappearing. Bathrooms aren’t safe to stay in if they are connected to an exterior wall. Also, it doesn’t matter if a window is opened or closed during a tornado. Windows will be damaged either way, though if closed, they could prevent debris from coming inside.

Staying safe under overpasses is a common misconception. They are not safe from storms and traffic safety would be a concern as well.

Many people believe if a tornado approached from the southwest, it would be safer to stay in the southwest corner of the home. They think it would blow the house over to the northeast, so the southwest side is the safer choice. The center of the home, preferably in a basement, is the safest point.

Source: Ken Dewey, Ph.D., UNE extension climatologist

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**From Recipe to Reality Seminar, June 4**

The University of Nebraska–Lincoln Food Processing Center offers one-day seminars for individuals interested in exploring the idea of starting a food manufacturing business. The one-day From Recipe to Reality seminar is the first in a series of food business courses. It is specifically designed to provide entrepreneurs with an understanding of the key issues they will need to consider when starting a food business.

From Recipe to Reality provides an overview of key issues involved in developing a food manufacturing business. Seminar topics address important questions every entrepreneur should consider:

- Marketing and sales
- Product and process development
- Food regulatory issues and agencies
- Packaging and labeling
- Pricing and cost analysis
- Product introduction and sales
- Promotional material packages
- Food safety and sanitation
- Business structure

Upcoming seminars held in Lincoln at UNL East Campus are: Friday, June 4, Friday, Aug. 20, and Saturday, Aug. 21. Registration is required and space is limited. There is a fee. To register, contact Jill Gifford at 472-2819 or jgifford1@unl.edu.
April
24 4-H Dog Clinic, Lancaster Event Center - Exhibit Hall .......... 9 a.m.–3 p.m.
30–May 1 Strengthening Family Treasures: Daughter/Mother Camp, Eastern Nebraska 4-H Center near Gretna .......... 5 p.m.–5 p.m.

May
1 4-H Camp Scholarship Entries Due to Extension
2 Family & Community Education (FCE) Scholarship Applications Due
3 AARP Driver Safety Course ....................................................... 8 a.m.–12 noon
4 4-H Horse Level Testing, Lancaster Event Center – Pavilion 3 .......... 6–6 p.m.
5 4-H Council Meeting ................................................................. 7 p.m.
6 4-H/FFA Sheep Weigh-In, Lancaster Event Center – Pavilion 2 .......... 6–9 p.m.
7 4-H/FFA Livestock Training Clinic, Lancaster Event Center – Pavilion 1 ....................................................... 9 a.m.–2 p.m.
8 Composting Demonstration, Pioneers Park Nature Center’s Backyard Composting Demonstration Area .......... 9:30 a.m.–11:30 a.m.
9 Lancaster County deadline for 4-H District/State Horse Show Entries, ID, Level Tests
10 4-H/FFA Quality Assurance Training ............................................. 6 p.m.
11 4-H Pre-Fair Leader Training ....................................................... 9:30 a.m. & 6:30 p.m.
12 Extension Board Meeting ........................................................ 8 a.m.
13 4-H Furniture Workshop Painting ............................................. 9 a.m.–3 p.m.
14 Parents Forever........................................................................ 5:30–9 p.m.
15 4-H Life Challenge Contest - County-Level Senior Division .......... 9 a.m.
16 Guardian/Conservator Training ............................................... 1:30–4:30 p.m.
17 4-H Horse Seminar: Worming, Rabies, Body Condition, and Feeding ....................................................... 6:30–9 p.m.

Wildlife Habitat Evaluation Program
The Wildlife Habitat Evaluation Program is a fun and challenging outdoor adventure where youth age 8–18 learn about wildlife, conservation, and management. The statewide contest will be held June 20–22 at Fort Robinson State Park, Crawford. Junior (age 12–15) and senior (age 14–18) division teams (individual participation possible) compete in the contest. The novice group (ages 8–11) does not compete, but learns about wildlife through fun educational activities and games. Please indicate intention to participate by May 28. June 10 is the last day to register by mail. Cost is $17.50 for participants and $42.50 for non-participants. For more information or to register, go to http://lancaster.unl.edu/4h or contact Marty Garry at 441-7180.

Meet 4-H Teen Council
The Lancaster County 4-H Teen Council is a leadership organization for youth in grades 7–12. Members are involved in several leadership activities such as organizing the annual 4th & 5th Grade Lock-In and the Cookie Eating Contest and Ice Cream Social at the Lancaster County Fair. Teens also participate in community service projects. Twenty-eight Lancaster County 4-H youth are part of 4-H Teen Council this year.

Officers are:
• President — Ellen Muehling
• Vice President — Jeff Cassel
• Secretary — Jessica Stephenson
• Treasurer — Spencer Farley
• Historians — Sadie Hammond and Britni Waller
• Adult Advisor — Marilyn Schepers

Meetings are held the second Sunday of each month at 3 p.m. at the Lancaster Extension Education Center. New members are always welcome! For more information or to join, contact Tracy Kuhl at kuhltn@unl.edu or 441-7180.

CLOVER COLLEGE REGISTRATION FORM
SEE PAGE 9 FOR CLOVER COLLEGE WORKSHOP INFORMATION
For current class availability, go to http://lancaster.unl.edu/4h/programs/clovercollege To register, complete the registration form (one person per form) and return with payment (make check payable to Lancaster County Extension). Registrations must be received by June 11. Registrations are handled on a "first come" basis and will only be accepted upon receipt of fees. Telephone registration not accepted. All fees are nonrefundable unless a class is filled to capacity or canceled. May photocopy this form if needed. Assume your registration is confirmed unless you contact us about filled classes.

Registration opens April 26 for currently enrolled 4-H members. Registration opens May 3 for non-4-H members.

To youth currently enrolled in 4-H? y n
Name ____________________________ Age ___
Parents Name(s) ____________________________
Address ______________________________________________________________________________
City ____________________________ State ____________________________ Zip
Daytime Phone ____________________________ E-mail ____________________________
Special Needs (allergies, etc.) __________________________________________________________
Workshop(s) Title Fee Title Fee Title Fee
T Title Fee Title Fee Title Fee
Use additional sheet of paper if needed
Total ____________________________ y n
Parent/Guardian Signature ____________________________ Date ____________

E-mail Notifications
Sign up at http://lancaster.unl.edu/nebline to be notified by e-mail when a New Item is posted online.

Mail Subscriptions
Subscriptions to The Nebline via mail are free to Lancaster County residents. There is an annual mailing handling fee to addresses in zip codes other than 68528, 68603, 68017 and 68065.
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Phone ____________________________

Mail to: UNL Extension in Lancaster County
444 Cherry Creek Road, Suite A • Lincoln, NE 68528-1507

We will only use your phone number in case there is a problem with your mailing address.
Spring Rabbit Show Gives Youth Jump Start on Rabbit Project

Many Lancaster County 4-H’ers enrolled in the rabbit project entered a total 104 rabbits and one cavy in the recent 4-H Spring Rabbit Show. The Lancaster County 4-H Rabbit VIPS Committee helped organize the show. This was a good opportunity for youth to learn and practice their showmanship. Showmanship winners were: Cassie Meyers, Ivy Dearmont, and Kaiya Green. Sam Schuster and Hopper won the first ever Rabbit Race. A Rabbit Quiz was also held. The clinic raised $184 which will go toward educational shows/clinics and trophies for the Lancaster County Super Fair 4-H Rabbit Show. More photos are online at http://lancaster.unl.edu/4h/.

3,000 5th Graders Attend 15th Annual earth wellness festival

Approximately 3,000 Lancaster County fifth graders from 45 schools attended the 15th anniversary earth wellness festival (ewf) on March 29 and 30 at Southeast Community College. Students discovered and explored the relationships and interdependency of land, water, air, and living resources through hands-on activities. Classrooms attending the festival received pre-festival learning kits in October.

More than 200 volunteers, area educators, environmentalists, and government representatives make this educational experience possible. The festival is organized by 10 local agencies, including University of Nebraska–Lincoln Extension in Lancaster County. More photos from this year’s festival are online at http://lancaster.unl.edu/ewf.

Ag Awareness Festival Teaches 4th Graders About Agriculture

Nearly 400 fourth graders from Lincoln area schools attended the Ag Awareness Festival held on April 7 and 8 at the Lancaster Event Center. Students gained a greater understanding of agriculture and how it impacts their daily lives. Students rotate between the following 10 interactive stations: Nebraska Ag Production Across the State, Grain Products, Farming Technology, Swine, Horse, Dairy Production, Ruminant Nutrition, Dairy Calves, Beef Production, and Hay & Forages.

The Ag Awareness Coalition, led by University of Nebraska–Lincoln Extension, organizes the festival with the help of agriculture businesses, commodity associations and food industry companies. This is the 10th year the festival has been held in Lincoln.