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The NEBLINE, July 2010

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When you drive south of Denton on Southwest 98th Street you pass through a range of large hills, most of which are covered with perennial grass pastures and hay meadows. Some of this land has never been tilled. One of the never-tilled remnants of the tallgrass prairies and the only one open to the public can be found at Spring Creek Prairie Audubon Center. The address is 11700 S.W. 100th Street. The entrance to the center is on the east side of the road. If you are coming from the north, the entrance to the property is about a quarter mile south of the county road maintenance yard (two large piles of gravel) at the corner of Southwest 100 Street and Saltillo Road (98th Street jogs over a couple of blocks at this corner).

A crushed rock foot path leads you from the parking lot to the education building, built in 2006. This facility supports the mission of the Spring Creek Prairie Audubon Center by providing educational services, coordinating efforts with regional partners to advocate for prairie preservation, and planting the seeds of a community that cares about their prairie.

There are miles of hiking trails within the 808 acres of land that comprise the Spring Creek Prairie Audubon Center. All but 90 acres of the land have never been plowed and this newly-acquired 90 acres is being converted to native plant species. The center hosts a multitude of wildlife species. The Web site states “Hundreds of species of creatures find areas to breed, forage for food, roost, and winter safely in a variety of habitats on the preserve.” These include 215 species of birds, 30 species of mammals, 51 species of butterflies, and 32 species of Dragonflies/Damselflies.

As I walked on one of the hiking trails on May 26, 2010, I saw and heard at least ten different species of birds and the throaty croak of a couple of bullfrogs in the pond. I also watched a muskrat swim across the pond and disappear into its burrow in the bank.

Wagon ruts from the Nebraska City–Fort Kearny Cutoff can still be seen. Pictured is Gordon Warrick, habitat program manager.

The Audubon Spring Creek Prairie has 808 acres of never-tilled land, miles of trails and an educational building.

Controlled burns reduce invasion by non-native plant species while encouraging native species.

The education building provides educational services. Many programs and events are open to the public, some are aimed at schools.
Use of Copper Compounds to Control Algae in Farm Ponds

Tom Dorn
UNL Extension Educator

Copper has been used for many years as an effective algicide in farm ponds, livestock water tanks, and nurse tanks used by farmers as a source of water for mixing pesticides. This article will discuss the use of copper to control algae in farm ponds.

It is vitally important to accurately identify whether the problem is indeed algae when attempting control measures. I often get calling wanting to know how to kill “algae” in a pond, but after a short conversation, I discover the caller actually has aquatic weeds, not algae. Copper, in the concentrations used in a pond, will have no effect on higher plants and would be a waste of time and money.

The three most common types of algae are single-celled (planktonic) algae, filamentous algae, and higher algae (Chara). Single-celled algae is too small to see individually. They turn the water a uniform green color. Plants most often mistaken for single-celled algae are Duckweed and Water milfoil. These are small multi-celled plants that float on the surface and are pushed from one side of the pond to another by the wind. Common filamentous algae are Sparganium spp. — slimy and green; Chlorophora spp. — cotton mat type; and Pithophora spp. — horseshoe clump type. Nitella spp. and Chara spp. (also called muskgrass) are large green algae anchored to the bottom, but do not extend above the surface. Chara are stem-like, with thin, leaf-like structures; they are often confused with seed plants. When crushed, Chara produces a musky odor. Higher plants often confused with Chara are pond Naiad, and Coontail. See Aquatic Plants and Their Control from Kansas State University, in the reference list below.

According to Managing Iowa Fisheries, Use of Copper Compounds in Aquatic Systems (see reference list below), only one thin line separates effective algae-treatment levels from lethal overdoses to fish. And not all fish are equally tolerant of copper sulfate; for example, the compound is highly toxic to salmonids (trout and salmon). The fact sheet explains when and how to use copper in aquatic systems and which precautions to take before using it.

Copper comes in several readily water soluble forms, the cheapest and most commonly used of which is copper sulfate (copper sulfatepentahydrate). This form is available as either a crystal or a powder and is known as “bluestone” or “powder blue.” When copper sulfate is bought from a commercial manufacturer of copper, the percentage of copper in the formula should be carefully noted. The following dosages assume 25 percent metallic copper.

Several companies market copper in chelated liquid and crystal forms. Chelated copper compounds stay in solution longer than copper sulfate does, tend to control algae better, and seem safer to fish. Chelated copper compounds will have higher initial costs than copper sulfate. Dosage rates of copper compounds depend upon both manufacturer instructions and chemical type (liquid or granular).

Determination of Dosage Rates

Determine dosage rates before using any type of copper treatment. First, measure the total alkalinity, (Not the hardness of your water), in parts per million (ppm), and the pH, since the toxicity of copper to fish increases as the total alkalinity and pH decrease. Dosage rates for copper sulfate are listed below, by alkalinity level:

<table>
<thead>
<tr>
<th>Alkalinity Level</th>
<th>Dosage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–40 ppm</td>
<td>Do not use</td>
</tr>
<tr>
<td>40–60 ppm</td>
<td>0.33 ppm</td>
</tr>
<tr>
<td>60–90 ppm</td>
<td>0.5 ppm</td>
</tr>
<tr>
<td>90–200 ppm</td>
<td>1.0 ppm</td>
</tr>
<tr>
<td>Above 200 ppm</td>
<td>2.0 ppm</td>
</tr>
</tbody>
</table>

The maximum copper sulfate dosage rate is 2.0 ppm. One (1.0) ppm equivalencies are as follows:

- 0.0038 grams per gallon,
- 0.0033 grams per cubic foot,
- 0.00006 pounds per cubic foot,
- 0.100 milligrams per liter, and
- 2.7 pounds per acre-foot.

For example: the maximum dosage rate for a half acre pond with an average depth of 10 feet, would be calculated as follows:

Volume = 0.5 acre x 10 feet = 5 acre-feet
Maximum dosage = 2.7 pounds/acre-foot x 2 ppm = 5.4 pounds per acre-foot.

Maximum pounds of copper sulfate = 5.4 pounds/acre-foot x 5 acres = 27 pounds.

If total alkalinity is less than 40 ppm, copper treatments are not recommended because of the risk to fish. Algae control in waters with high alkalinity levels (greater than 250-300 ppm) can be improved by use of chelated copper compounds.

Copper sulfate in waters with high total alkalinity levels will settle before algae is completely controlled. Alkalinity is variable especially in eastern Nebraska, so if you do not know the concentration, find out before treating with copper.

Sources:

Managing Iowa Fisheries, Use of Copper Compounds in Aquatic Systems — Iowa State University: http://www.extension.iastate.edu/Publications/PM16315.pdf
Aquatic Plants and Their Control — Kansas State University: http://www.ksre.ksu.edu/library/crpsl2/crpsl2_c67f.pdf

The best way to store round hay bales is butted end-to-end in north–south rows on open ground (not next to fences or trees). Avoid storing round bales side-by-side. This creates “valleys” which can collect rain, snow and ice. Could be a Banner Year for Hay

Tips to Maintain Quality During Storage

For 17 years, University of Nebraska–Lincoln Extension has been coordinating a recycling program for plastic agricutural pesticide containers.

All containers must be inspected to make sure they have been properly rinsed, with the caps and labels removed before they can be placed in our trailer. (Paper labels one layer thick may remain on the container.) We will accept all sizes of agricultural pesticide containers, including 50 gallon plastic drums.

Container may be brought to the UNL Extension office in Lancaster County Office, 444 Cherry Creek Road, Lincoln, during business hours 8 a.m.–4:30 p.m. Monday–Friday, EXCEPT from June 22–July 28. Please call ahead at 447-7180 to ensure someone will be available to inspect and accept the containers before you come.

Two remote collection dates have been arranged in cooperation with Farmers Cooperative Company.

The semi-trailer will be manned on Friday, June 25, 9 a.m.–Noon in Waverly at the east elevator on 148th Street and on Friday, July 23, 9 a.m.–Noon in Bennett at the co-op headquarters.

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

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Safe Homes for Seniors
A Program to Rid Homes of Hazardous Waste

If you know a senior citizen who has lifetime accumulation of insecticides, herbicides, and toxic cleaning products and would like to get rid of them, there is a free program that can help.

The Safe Homes for Seniors Program provides free and convenient home assessments and removal of hazardous products for persons in Lancaster County who are age 60 and over. This service is provided by the Aging Partners Home Handyman Program and Lincoln-Lancaster County Health Department.

Bullsnakes are Beneficial

Bullsnakes are one of the largest and most often seen snakes of Nebraska. Members of this species sometimes are called pine snakes or gopher snakes. The Lakota call them “sinte wanglelega.”

If you see a bullsnake, it may vibrate its tail against dry leaves and grass, raise up, flatten its head and make a hissing noise trying to mimic a rattlesnake. At the same time, the bullsnake will try to back away. If these tactics don’t work, the bullsnake may lunge at you. Unfortunately, bullsnakes may do too good a job acting like a rattlesnake and end up being killed by mistake.

Some people believe rattlesnakes and bullsnakes mate and produce offspring with poisonous venom. This isn’t true. Rattlesnakes and bullsnakes cannot mate. These two species of snakes have unique differences. Bullsnakes lay eggs. Rattlesnakes give birth. Bullsnakes have a long lithe body and pointed tail. Rattlesnakes have a chunky body, blunt tail and a rattle. The bullsnake’s head and neck are the same width. The rattlesnake has a large head and narrow neck. Bullsnakes have round pupils and rattle.

Bullsnakes have a chunky body, blunt tail and pointed tail. Rattlesnakes have a long lithe body and a rattle. The young are preyed upon by raptors and skunks. Bullsnakes are not effective for snakes. There are few natural predators of adult bullsnakes. The young are preyed upon by raptors and skunks. Bullsnakes are not considered beneficial. Farmers with free range ducks and chickens should be aware of these snakes are very good at finding and eating eggs. Bullsnakes should not be killed. They are of no danger to humans and eat large numbers of rodents. Bullsnakes are important members of the food chain.

Some people actually allow bullsnakes to increase populations down. But if you want to discouraged bullsnakes from outdoor buildings, focus on controlling rodent populations. Keep vegetation closely mowed around buildings. Remove bushes, shrubs, rocks, boards, and debris on the ground. These all provide habitat for both snakes and rodents. Repellents are not effective for snakes. There are few natural predators of adult bullsnakes. The young are preyed upon by raptors and skunks.

In urban areas like Lincoln, most people versus snake encounters involve harmless garter snakes. Rarely will you stumble upon a bullsnake in town. But if you happen to come across this large snake at lake or park, just give it some space and let it go on its way.

Insect Repellent Locator Web site

In the June 2010 Nebraska Issue of the Nebraska Environmental Focus article discussed the repellents evaluated by the US-EPA and recommended by the Center for Disease Control. The National Pesticide Information Center (NPIC) has created an internet tool to help people select insect repellents best suited for their specific needs. After selecting the target pest (ticks or mosquitoes) and the time outdoors, you will be given a list of repellents that should work for you. Check out this Web site http://pi.ace.orst.edu/repellents/

Devices to Prevent Mosquito Bites

What Works/What Doesn’t

Barb Ogg
UNL Extension Educator

Mosquito larvae require a moist or wet environment to develop. They breed in water, water, water — pools of water, tree holes, discarded tires, and a variety of other artificial receptacles that retain water. The abundance of rainy weather has provided breeding locations in urban and rural areas of eastern Nebraska.

Mosquitoes are annoying when we spend time outdoors. But they also carry diseases, like West Nile virus (WNV), which is currently the most important mosquito vector disease in the U.S. It first appeared in the U.S. in 1999. It is believed 80 percent of people acquiring WNV from the bite of an infected mosquito show no symptoms of the disease. Infrequently, WNV can cause encephalitis or meningitis, which can be serious. From 2001-2009, there were more than 1,100 deaths in the U.S. attributed to WNV. Most of these deaths were people older than 65; most of the rest were people with underlying health problems.

West Nile encephalitis primarily circulates in a bird-mosquito cycle when birds are nesting in spring and early summer. By late June, the mosquitoes begin feeding on humans and other animals. The most capable vector of WNV in Nebraska is Colesius tarsalis, a mosquito found in Nebraska and the western U.S.

The University of Nebraska-Lincoln Extension recommends people use repellents to prevent mosquito bites. For details about repellents, check out the article in last month’s Nebraska, online at http://lancaster.unl.edu/nerline/2010/jun10/page03.pdf.

Instead of using repellents, many people try to make their yard easier to use some sort of device to capture or repel mosquitoes. Unfortunately, not all devices on the market are very effective.

There are three types of devices sold to kill or repel mosquitoes:

- **Mosquito Magnet** — The Mosquito Magnet® device attracts and entrap mosquitoes. It uses propane to produce carbon dioxide to attract mosquitoes. Octenol, another attractant, is recommended to increase the trap catch. But, consumers will find it is a very expensive way to kill mosquitoes — about $350–$500 plus the continual cost of propane and octenol. There have been reports of Mosquito Magnets® being fuzzy and not reliable. Before you buy one, it would make sense to see if you can rent one to see if it works for you.

- **Bug Zappers** — Electrocuting devices, popularly known as “bug zappers,” emit ultraviolet light (UV) which attracts insects. But bug zappers do not discriminate between insects…they only kill insects attracted to UV light. Unfortunately, mosquitoes are not very attracted to UV light and make up less than one percent of the insects killed by these devices.

- **Ultrasonic Devices** — High-frequency ultrasonic devices are advertised to repel mosquitoes. Most of these ultrasonic mosquito repelling devices are battery operated, portable and sold in wristband, belt clip-on, table-top, or in keychain-style models. Studies show ultrasonic devices do not prevent mosquito bites. They do not cause mosquitoes to flee from the sound.

FOR MORE INFORMATION
The Amphibians and Reptiles of Nebraska Web site at http://snrs.unl.edu/herpmag can help you identify Nebraska’s amphibians and reptiles and learn general information about them.
Barbecue and Food Safety

Cooking outdoors was once only a summer activity shared with family and friends. Now more than half of Americans say they are cooking outdoors year round. So whether the snow is blowing or the sun is shining brightly, it’s important to follow food safety guidelines to prevent harmful bacteria from multiplying and causing foodborne illness. Use these simple guidelines for grilling food safely.

From the Store: Home First

1. When shopping, buy cold food like meat and poultry last, right before checkout. Separate raw meat and poultry from other food in your shopping cart. To prevent cross-contamination — which can happen when raw meat or poultry juices drip on other food — put packages of raw meat and poultry into plastic bags.

2. Plan to drive directly home from the grocery store. You may want to take a cooler with ice for perishables. Always refrigerate perishable food within 2 hours. Refrigerate or freeze any leftovers promptly in shallow containers.

3. When using a cooler, keep it out of the direct sun by placing it in the shade or shelter. Avoid opening the lid too often, which lets cold air out and warm air in. Pack beverages in one cooler and perishables in a separate cooler.

Keep Cold Food Cold

1. Keep meat and poultry refrigerated until ready to use. Only take out the meat and poultry that will immediately be placed on the grill.

2. When using a cooler, keep it out of the direct sun by placing it in the shade or shelter. Avoid opening the lid too often, which lets cold air out and warm air in. Pack beverages in one cooler and perishables in a separate cooler.

Keep Everything Clean

1. Be sure there is plenty of clean utensils and platters. To prevent foodborne illness, don’t use the same platter and utensils for raw and cooked meat and poultry. Harmful bacteria present in raw meat and poultry and their juices can contaminate cooked food.

2. If you’re eating away from home, find out if there’s a source of clean water. If not, bring water and their juices can contaminate food. Harmful bacteria can’t grow in water, so drink plenty of clean water. If not, bring water and use it to wash your hands after handling raw meat or poultry. Any harmful bacteria present in the raw meat juices could contaminate safely cooked food.

3. In hot weather (above 90°F), food should never sit out for more than 2 hours (1 hour if temperatures are above 90°F).

Foods labeled “Vegetarian” contain no meat, but this might mislead some people to think they are healthier because a certain fat or protein is lower in calories and sodium. Some of the vegetarian foods are high in fats, calories, and sodium, especially when they are cooked with cheese sauces. 3. Foods labeled “Fat Free/Low Fat” are not always low in calories. There may be no significant difference in calories between low fat and regular foods. It is a common misconception to think that fat free or low fat foods are significantly lower in fat.

Stretch Your Food Dollar by Reading Nutrition Labels

Nutrition Facts

Serving Size 1 cup (226g)
Servings Per Container 2

Amount Per Serving
Calories 250 Calories from Fat 110

Total Fat 10g 16%
Saturated Fat 3g 15%

Cholesterol 150mg 50%
Sodium 470mg 20%
Total Carbohydrate 31g 10%

Dietary Fiber 5g 2%
Sugars 7g

Protein 3g

Vitamin A 4%
Vitamin C 2%

Calcium 20%

Iron 8%

Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Sample label for Macaroni & Cheese

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>250</td>
</tr>
<tr>
<td>Fat</td>
<td>10g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>3g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>150mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>470mg</td>
</tr>
<tr>
<td>Carbohydrate</td>
<td>31g</td>
</tr>
<tr>
<td>Fiber</td>
<td>5g</td>
</tr>
<tr>
<td>Calcium</td>
<td>20%</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>4%</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>2%</td>
</tr>
</tbody>
</table>

A Quick Guide to Reading the Nutrition Facts Label

1. First, look at the serving size and servings per container which are listed at the top of the label.

2. Determine the amount of energy and nutrients you will get from each serving.

3. Check the right side of the nutrition facts label which shows the percent daily value for most of the nutrients listed on the left side. Percent daily values are based on a 2,000 calorie diet. • Aim for 5% or less in total fat, saturated fat, cholesterol, and sodium • Aim for 20% or more in vitamins, minerals, and fiber

4. Try to check the bottom section of the nutrition facts label which is called the footnote. The footnote states the recommendations for total fat, saturated fat, cholesterol, sodium, total carbohydrates, and dietary fiber for a 2,000 and 2,500 calorie diet.

5. Remember to look at the ingredients in the food product which are located below the nutrition facts label. These ingredients are listed by weight in descending order.

Common Misconceptions About Food Packaging

There are many misconceptions about food packaging which may cause you to spend more money assuming these foods are healthier and more nutritious. Reading the nutrition facts of the selected food item is the only way to determine the nutrition content information. Pay attention to the following common mistakes beliefs about food products.

1. Foods labeled “Organic” are not necessarily more nutritious and healthier than conventional food packages. According to United States Department of Agriculture (USDA), there is not enough evidence to support the claim that organic foods are significantly healthier and more nutritious than conventional foods. The “USDA Organic” label refers to the way farmers grow and process the products not to the nutrition contents.

2. Foods labeled “Vegetarian” contain no meat, but this might mislead some people to think they are healthier because a certain fat or protein is lower in calories and sodium. Some of the vegetarian foods are high in fats, calories, and sodium, especially when they are cooked with cheese sauces.

3. Foods labeled “Fat Free/Low Fat” are not always low in calories. There may be no significant difference in calories between low fat and regular foods. It is a common misconception to think that fat free or low fat foods are significantly lower in fat.
Healthy Indoor Air: Prevent Mold and Mildew Growth

Healthy indoor air is important. Often indoor air is more polluted because most particulates are generated within the living space. Mold and mildew in the home generate spores that become airborne. Moisture or a high humidity level is required for mold growth. Common places mold grows are:

- walls, floors, carpeting
- on stored materials in damp basements and crawl spaces
- bathrooms without exhaust fans
- laundry areas where dryers are not vented outside or clothes are hung to dry
- homes with new construction materials
- homes where there have been spills, leaks, or other water damage
- homes with a humidifier or an unvented combustion heater is used
- mold thrives on organic material, such as natural fibers (cotton), paper, wood, and leather. Prevention temperatures, generally 77–86°F. Mold also requires moisture. Moisture required for mold growth can come from water leaks, high relative humidity, and condensation. Relative humidity levels above 70 percent seem optimal for mold spore growth. Even at low relative humidity levels spores can be released into the air. Oxygen is also required for mold to grow.

Mold can be detected by the musty odor and it is visible on surfaces. Mold can be found wherever moisture or relative humidity levels are high. It may appear in any room in the house. To prevent mold growth; keep it clean; keep it dry; reduce and remove moisture sources when needed; and increase air movement and light.

Mold prevention tip: keep kill and reduce mold growth on hard surfaces. Products claiming to be disinfectants, must be registered with the Environmental Protection Agency and have an EPA registration number on the product label. Always read and follow label directions. It is important to choose a product that disinfects and is appropriate for the material being treated. Chlorine bleach is an effective and inexpensive disinfectant. Use bleach that is 5.25 percent sodium hypochlorite. A chlorine releasing material used for disinfection. Always test before using. Thoroughly clean washable surfaces with a detergent solution before disinfecting. The general recommendation for disinfecting some hard surfaces is a solution of one cup bleach to a gallon of water. The area should be kept wet with the bleach solution for at least 10–15 minutes to kill or reduce mold. On porous surfaces such as wood, the bleach solution should be reapplied to keep the surface wet for the required time. Chlorine, phenolic, pine oil, and quaternary ammonia or ammonium chloride compounds are four commonly used disinfectants. Pine oil and phenolic disinfectants can be used on most textiles. Ventilation is the best way to avoid mold. Reduce moisture and the humidity level and increase ventilation, air circulation, and cleaning. Fix leaks and drainage. When making new purchases, choose products that have antimicrobial additives to guard against mold, mildew, fungal, and bacterial organisms.

Summer Safety Tips

The 4th of July and summer are a time for travel, picnics, water sports, ball games, and other fun activities. With families busy lifestyles, we many times are in a hurry to get to or complete an activity and forget to take the time to be safe. The 4th of July is a time when picnics and fireworks are a favorite activity. The National Safety Council on Fireworks Safety offers the following safety tips to remember during your celebrations.

- A responsible adult should supervise all fireworks clear area away from buildings and vehicles.
- Never carry fireworks in your pocket or shoot them in metal or glass containers.
- Light them one at a time then move back quickly.
- Don’t experiment with homemade fireworks.
- Observe local laws and use common sense.
- Sparklers, fountains, and other items many states allow for use by consumers are not appropriate when a large crowd is present.
- If attending a community display, leave your own fireworks at home. There will be plenty of excitement provided by the display.
- In addition to these safety tips, it is important to:
  - Be a defensive driver when traveling. Keep your eyes on the road and never drink and drive.
  - Be sure to store and serve food properly especially when picnicking in hot weather.
  - Use safety when barbecuing. Be sure all coals are completely out before leaving the area.
  - Keep a bucket of water handy in case of fire or malfunction of fireworks.
  - Take precautions to protect yourself and children from sun exposure.
  - When hiking or doing outside activities watch for poisonous plants.
  - Take precaution to protect against insect bites and stings.
  - Make sure children are superviced around water.

Summer time activities will be fun and enjoyable if everyone takes precautions to be safe.
There is Still Time to Control Bagworms in Early July

Mary Jane Frogge  
UNL Extension Associate

Bagworm larvae hatched in early June, and have been feeding on plant material for nearly a month. They are about half of their mature size and may be hard to see in leafy plant material. Take a walk through your landscape and check all your landscape plants, especially spruce and junipers. If you find an outbreak of bagworms, chemical control may be needed. Bacillus thuringiensis is available at nurseries and garden centers as Dipel or Thuricide. Other insecticides currently labeled for bagworm control include acephate, carbaryl, cyfluthrin, malathion and permethrin. Affected plants must be thoroughly covered with the insecticide so the insects ingest it as they are feeding. Be sure to read and follow all label directions.

If you have a large infestation in your evergreen trees or shrubs, do not delay in controlling the bagworms. Feeding by mature caterpillars slows in August before pupation into adults, so chemical control in late summer and fall is not effective. By that time your valuable landscape plants are already severely damaged by the maturing bagworms.

FOR MORE INFORMATION  
A YouTube video is online at http://lancaster.unl.edu/hort/bagworms.shtml and a color brochure is available on the website and at the extension office.

Blue Flowers for the Garden

Mary Jane Frogge  
UNL Extension Associate

Virginia bluebells  
(Mertensia virginica) — This woodland flower blooms in the spring. This perennial has nodding clusters of blue bell shaped flowers. It grows best in shady areas of the garden. The plants grow from 1–2 feet tall and spread approximately a foot. They go dormant in summer, so like them near hostas or other perennials that cover the space later. Virginia bluebells are cold hardy in USDA zones 3–9.

Blue corydalis  
(Corydalis flexuosa) — This is a wonderful woodland plant that thrives in shade and moist soil, but also grows in full sun. The flowers bloom in neat clumps in mid- to late spring. The plant has a lovely fernlike foliage. Blue corydalis is a perennial and hardy in USDA zones 5–8.

Heartleaf brunnera  
(Brunnera macrophylla) — This spring bloomer prefers moist, shady areas. The leaves are heart shaped and the flowers are light blue. It will grow from 12–15 inches high with a 15 inch spread. Brunnera is cold hardy in USDA zones 3–8. Crested iris  
(Iris cristata) — This little iris is native to North America. It prefers part shade and well drained soil. Clumps of crested iris grow 3–6 inches tall. Crested iris is cold hardy in USDA zones 3–8.

Balloon flower  
(Platycodon grandiflorus) — This reliable perennial emerges in late spring and blooms all summer. Bell shaped flowers open from balloon shaped buds. It grows best in moist well drained soil. Plants reach a mature height of about 2 feet.

Mandevilla

Mary Jane Frogge  
UNL Extension Associate

Mandevilla is known for its showy flowers and there are about 100 species of this tropical woody vine. Most species overwinter only in the tropical South. In Nebraska they can be treated as annuals or grown indoors. They can be brought indoors before the first freeze and treated as a houseplant during the winter months. In the spring, mandevilla can be placed outside after the threat of freezing weather has passed. Mandevilla is great trellised in containers or in hanging baskets.

Indoors, mandevillas need bright indirect sunlight. Provide night temperatures of 60–65°F and day temperatures above 70°F. Plant in a mixture of equal parts peat moss, potting mix and sand. In spring and summer, fertilize every two weeks.

Outdoors, grow mandevillas in partial shade. They need rich, well-drained soil. Provide a frame, trellis or large basket for support. Pinch young plants to induce bushiness.

Since 45–50°F is the minimum temperature that can be tolerated by mandevilla, plants should be moved indoors for the winter. Before bringing them indoors, examine them carefully for pests. Look under the leaves and on the plant stems for insects and their eggs. Remove any diseased or dead leaves by hand. Insect infested plants can be doused with a forceful spray of water to dislodge the pests, or you can use insecticidal soaps or other appropriate insecticides labeled for use on your plant. The most common pests are mealybugs, scale, whiteflies, and spider mites.

Move the plants to a lighted area where the temperature is above 55°F. Reduce the frequency of watering to coincide with the plant’s rest periods induced by the cooler temperatures and reduced light.

In late winter or early spring before growth begins, prune by removing old, crowded stems and shortening others. Even if mandevilla is pruned almost to the ground, it will bloom the same summer on the new shoots, which develop from the base of the plants.
Livestock, and wildlife. The losses poisonous or injurious to man, noxious weeds are directly with pasture and crops, reducing state, it may be declared noxious.

The Director of Agriculture determines which plants are to be deemed as "noxious" and the control measures to be used in preventing their spread.

Nebraskans are encouraged to report any noxious weed infestations to their county weed control authority. County weed superintendents and weed inspectors are available to help identify noxious weeds and to assist with proper control recommendations.

For more information on Nebraska’s noxious weed program, contact your local county weed control superintendent. In Lancaster County, call the Lancaster County Weed Control Authority at 441-7817.

Nebraska has nine plants designated as Noxious weeds (pictured below).

Source: Nebraska Department of Agriculture, Lancaster County Weed Control Authority, The Nebraska Weed Control Association

Most herbs can be cut and used fresh throughout the growing season. They can also be harvested, dried, and stored for use during the winter months.

Many herbs, such as sage, rosemary, and basil, are harvested for their leaves. Three herbs should be harvested when the flowers are about to open. The oils in the leaves which give each herb its distinctive flavor and aroma are at their maximum levels at this stage of growth.

Remove approximately 1/3 of the current year’s growth on perennial herbs. Annual herbs can be cut back more severely.

Make the cuts on annuals approximately 4–6 inches above the soil surface. The annuals can be cut at ground level when harvesting in the fall before the first frost. Most annual and perennial herbs can be harvested in midsummer and again in the fall.

Herbs should be harvested in the early morning, after the dew has evaporated and before the sun becomes too hot. After harvesting, rinse the herbs in cool water. Shake off excess water and place them on paper toweling to dry for a few minutes.

Air drying is the most popular method used to dry herbs. To dry whole branches or stems, gather 8–12 stems in a bunch. Tie the ends of the stems together and hang each bunch upside down in a warm (70–80°F) dry area. Don’t dry the herbs in direct sunlight. The herbs should be dry in 2–4 weeks. When thoroughly dry, the leaves dry thoroughly flat. Crush or crumble the leaves and store in airtight jars in a cool, dry place.

Another way to air dry herbs is to place them on a drying tray. A simple drying tray consists of fine mesh screen or cheesecloth attached to a wooden frame. A small window screen also works well. Place blocks under the corners of the drying tray to insure good air circulation. Place a single layer of leaves or branches on the drying surface and keep the herbs in a warm, dry area until they are thoroughly dry.

A gas or electric oven can also be used to dry herbs. To oven dry, spread a layer of leaves or stems on a cookie sheet or shallow baking pan. Place the herbs in a warm oven (up to 180°F) for 3–4 hours. Leave the door open and stir the herbs periodically until they are thoroughly dry.

Herbs can also be dried in a microwave oven. Place the herbs on a paper toweling and cover with a second sheet. Set the microwave control on high and dry the herbs for 1–3 minutes. (This drying method requires experimentation to determine the exact drying time.) Then remove the herbs and let them cool.

Some herbs, such as dill, coriander, and car- ander, are valued for their seed. The seedheads should be harvested just before they turn brown so the seeds don’t fall off while cutting. Cut off the entire head and place in a paper bag. Then place the bags in a warm, dry area. After drying, shake the seeds loose into the bag. Remove any chaff by pouring from one container to another outside in a gentle wind.

**Herbs for Now and The Future**

**Herbal Festival**

A day to enjoy the tastes, smells, and beauty of herbs, and learn more about how they can enrich your life.

**Saturday, July 24, 9 a.m.–2:30 p.m.**

**Pioneers Park Nature Center**

- 9:00  -  Check-in and herbal refreshments
- 9:30  -  Workshops: Simply Dill — Judy a la Carte  
  Herbs: Flavor, Medicine, or Both? — Pat Mettler
- 10:45  -  Workshops: Herbal Fans of the Middle East — Mgeeza Reska:  
  Lovely Lavender: Grow It! Wear It! Eat It! — Suzi Kelley
- 11:50  -  Workshops: The New Herb Garden — Becky Seth
- 12:30  -  Lunch and Break
- 1:15  -  Workshops: Simply Herbs — Judy a la Carte  
  Creating a Container Herb Garden — Luann Frink
- 1:55  -  Herb Garden Tours — Becky Seth

$35/person. Participants register for one of the two workshops in each time period. Workshops are limited and will be filled on a first-come, first-served basis.

Made possible by the Dooly Family, Cheyenne Foundation and the Friends of Pioneers Park Nature Center.
Many Schedule Changes

Many 4-H & FFA activities have been shifted one day or to an entirely new time. Please see Fair Book for complete schedule. Changes include:

• Static exhibit check-in — Tuesday, Aug. 3, 4–8 p.m.
• Static exhibit judging and interview judging — Wednesday, Aug. 4
• Livestock entries received — Monday, Aug. 9–11 a.m.
• Horse show pre-briefing/cleaning and decorating stalls — Monday, Aug. 2, 6–9:30 p.m.
• Cleaning and decorating horse stalls — Tuesday, Aug. 3, begins Noon
• No horses before Tuesday, Aug. 3 at 5 p.m.!
• All livestock animals — check-in and weigh-in Thursday, Aug. 5, in the morning; animals must be in stalls by Noon
• Style Revue — Thursday, Aug. 5, 7 p.m.
• Table Setting Contest — Friday, Aug. 6, 5–6 p.m.
• Clover Kids Show & Tell — Sunday, Aug. 8, 1 p.m.

New in 4-H at Fair

See the Fair Book for detailed information about each of the following:

• There are new statewide “Express Yourself” exhibits which relate to the new communications curriculum, “Picking Up the Pieces,” “Putting It Together,” and “The Perfect Fit.” Unit 2 and 3 exhibits are eligible for the State Fair.

• There are no longer State Fair entries for Banners and Posters categories. They will remain in the 4-H Fair. Most of the new Express Yourself classes are similar to older project classes (i.e. 4-H Advertisement Flyer and Electronic Etiquette). There are new project areas that still have state-fair eligible project classes that relate to specific projects.

• There are new statewide “Power of Winds” exhibits which relate to the new manual “Wind Energy.” Units 2 and 3 are eligible for the State Fair.

• Power Mechanics — miscellaneous engineering exhibits have been added (for example lawn mower engine, restored car, restored motorcycle, lawn mower overhaul, etc.)

• Houseplants have replaced Horticulture Container Plants.

• Style Revue now has a class for Clothing Level 1 "May One Buy One". Some of the new Express Yourself classes are similar to older project classes (i.e. 4-H Advertisement Flyer and Electronic Etiquette). There are new project areas that still have state-fair eligible project classes that relate to specific projects.

• Lego house has been added to the Rabbits Speciality Show.

• Lancaster County Born and Raised Breeding Beef is a new class (in addition to Lancaster County Born and Raised Market Beef).

• Marketing Swine is now up to the exhibitor — such a club leader or parent(s) — should assist 4-H members in entering exhibits.

• Rabbit exhibits have been added after the Rabbit Speciality Show.

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• Rabbit exhibits have been added after the Rabbit Speciality Show.

Animals Due July 6

All 4-H & FFA county fair animal entry forms are due to extension by Tuesday, July 6, 4:30 p.m. or post-marked by July 6. No late entries will be accepted!

Livestock Entry Form MUST be completed for each exhibitor entering livestock (beef, dairy, backyard calf, goats, sheep, swine). Bedding fees ($6/head) for beef, dairy and bucket calves are being collected with entry forms — bedding for other animals must be purchased at the fair. Entry forms are available at the extension office or online at http://lancaster.unl.edu/4h/Fair.

Livestock Clinics

4-H/FFA is offering several livestock clinics:

• Sheep Fitting Clinic: Thursday, Aug. 5, 2–3 p.m.
• Swine Fitting Clinic: Thursday, Aug. 5, 3–4 p.m.
• Cattle Fitting Clinic: Thursday, Aug. 5, 3–4 p.m. (followed by the Cattle Fitting Contest)

Dairy Clinic: Friday, Aug. 6, 10 a.m.

4-H/FFA Livestock Auction — Bonus needed

It is with great excitement to announce the Lancaster County Livestock Booster Club has taken the leadership and organized a livestock auction for this year’s fair. There will be a buyer meet and greet on Sunday, Aug. 8, 5:30 p.m. in the east arena of Pavilion 3 with the auction starting at 6 p.m. Proceeds will fund 4-H and FFA member’s future projects and career goals. A portion of all proceeds will be set aside to start a scholarship program open to all 4-H and FFA members in Lancaster County and another portion will be used to pay additional premiums to breeding animals.

To ensure this auction will be a success, we ask you to contact anyone you know who could be a potential buyer or donor and invite them to the auction. To obtain more information, call Scott Heinrich, Auction Committee Chair at 540-0597.

Livestock Booster Club Holding Raffle

4-H and FFA members will be selling raffle tickets to help build a base for the Lancaster County fair livestock auction. Raffle tickets will sell for $5 each with the grand prizes being a Kawasaki ATV and a big screen TV. A limited number of tickets will be sold — so buy yours soon! Contact a 4-H or FFA member or stop at the extension office to purchase tickets. Your support is greatly appreciated.

Clothing Level 1 Pattern Suggestions

Contact Trayce for a list of the Clothing Level 1 pattern suggestions or look online at http://lancaster.unl.edu/4h/fair.

Quilt Quest Class Addition

A quilted “accessory” will be allowed in Quilt Quest class 40. It will now read: Class 40, Wearable Art - Quilted clothing or accessory. Must have a recognizable amount of quilting. May include fabric manipulation. Quilting must be done by 4-H/FFA member. Attachcard.

Volunteers Needed

Adults and youth are needed to help during the Lancaster County Fair. If you can help, please contact the extension office at 441-7180. Help is especially needed in the following areas:

• During judging of static exhibits on Wednesday, Aug. 4 in Lincoln Room
• Teen tour guides are needed for Fair Fun Day for children groups on Friday, Aug. 6 at 9:30 a.m. and 1 p.m.

Food Booth Training, July 29

The 4-H food booth at the county fair is the primary fundraiser for Lancaster County 4-H Council. This year, the 4-H Corner Stop will be back at its former location in the Lancaster Room! 4-H Council asks clubs to help by staffing a 3–4 hour shift at the Clover Kitchen. See back page for more information. ALL food booth volunteers are STRONGLY ENCOURAGED to attend the training on Thursday, July 29, 6–7 p.m. at the Lancaster Event Center, Lincoln Room. Learn about food safety, customer service, and volunteer responsibilities.

Static Exhibit Check-In

Tuesday, Aug. 3, 4–8 p.m.

Static exhibits do not prereregister, but MUST be physically checked in during Static Exhibit Check-in on Tuesday, Aug. 3 between 4–8 p.m. at the Lancaster Event Center, Lincoln Room. An adult — such as a club leader or parent(s) — should assist 4-H members in entering exhibits. All entry tags, additional information, recipe cards, data tags, etc. MUST be attached at this time.

Interview Judging, Aug. 4

Interview judging is Wednesday, Aug. 4 starting at 9 a.m. in the Lincoln Room. 4-Hers have the opportunity to talk to judges about their fair exhibits and share their trials and lessons they learned. 4-Hers also learn what the judge looks for and how to improve skills. 4-Hers may interview judge ONE exhibit in your county fair exhibit area. Refer to page 15 of the Fair Book for project areas which have interview judging. Members, parents or leaders can call the extension office at 441-7180 to sign up members for a five-minute time slot — preregister between July 6 and 30. If slots are still available, may sign up during Static Exhibit Check-in on Tuesday, Aug. 3, 4–8 p.m.

Clover Kids Show & Tell, Aug. 8

All Clover Kids, youth age 5-7 by January 1, 2010, are invited to show & tell their 4-H exhibits at the Lancaster County Fair, Sunday, Aug. 8, starting at 1 p.m.

Clover Kids Show & Tell is held in the Lincoln Room at the Lancaster Event Center. Youth are also invited to do Dry Goods or Art show at this time. See page 10 of the Fair Book for more information. To register, call 441-7180 by July 30, or sign up at the static exhibit area Tuesday, Aug. 3, 4–8 p.m.
4-H Produce Market on Saturdays

This summer, a 4-H produce market will open on Saturdays from 12–2 p.m. at the parking lot of Tractor Supply Company (TSC) located at 9000 Amber Hill Ct., Lincoln. If you are a 4-H member and have fresh produce to sell, contact Leia Noel at 435-0857 or Tracy Kuhl at 444-7180 for more information.

Donated Sewing Machine to go to a 4-H'er

This is the second year that Kath Conroy, a 4-H clothing superintendent, is graciously donating a brand new Bernette sewing machine to one Lancaster County 4-H youth. All 4-H youth who would like to be considered to receive this brand new sewing machine should submit a paper describing the clothing projects they have done in the past and plan to do in the future as well as why they think they should be the one youth to receive it. All papers should be sent to Tracy Kuhl, Lancaster Extension Education Center, 444 Cherry creek Road., Ste. A, Lincoln, NE 68528 by June 30.

Ak-Sar-Ben's 4-H Livestock

Exposition Entries Due Aug. 9

The 83rd Ak-Sar-Ben 4-H Youth Livestock Exposition will be held Sept. 23–26 at the Qwest Center in Omaha. The Ak-Sar-Ben 4-H Horse Show will be held Sept. 18–19 at the Lancaster Extension Center in Lancaster. Categories of this 4-H only competition are dairy, feed, halter, breeding, beef, market broilers, meat goats, market lamb, market swine, and horse. Exhibitors must be at least 10 years of age by Jan. 1. Registrants are due to extension staff by Monday, Aug. 9 (may turn in at the Lancaster County Super Fair). For more information, entry forms and the reserve schedule, go to http://lancaster.unl.edu/4h/.
4-H Interns Assist During Summer

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

- **Karen Clinch** assists Tracy Kulin with Clover College, county fair static exhibits, and contests. Karen is a 5th year student at UNL majoring in Secondary Education with an endorsement in mathematics. This is her first summer as a 4-H intern though she has been assisting part-time since September. She was a 4-H member in Lancaster County for 10 years.

- **Melisa McDonald** assists Marty Cruickshank with the horse, poultry, and rabbit areas. Melisa is a sophomore at UNL majoring in Animal Science and Spanish. This is her first summer as a 4-H intern. She was a 4-H horse project member when she lived in Virginia and Hawaii.

- **Cole Meador** assists Deanna Karmazin with the livestock areas. Cole is a senior at UNL majoring in Agricultural Education and this is his first summer as a 4-H intern. He was a 4-H member in Douglas/Sarpy counties for 10 years.

Pollution Prevention Intern

The Partners in Pollution Prevention (P3) program is a 12-week internship program which is part of a University of Nebraska-Lincoln biological systems engineering class. This summer, P3 intern John Ward is working at UNL Extension in Lancaster County. Originally from Omaha, he is a senior at UNL majoring in Civil Engineering. As part of his P3 internship, he will visit small businesses to conduct waste assessments, research, and provide a detailed report on how to save on operating costs and conserve resources. John will also work to raise awareness of pollution prevention practices through community education. More information about the P3 program is online at www.p3.unl.edu.

Tips to Trim Vacation Costs: Travel, Lodging and Meals

**Vacation season is in full swing. Gas prices continue to fluctuate and motels/hotels become swamped with family travelers overextending their bank accounts to enjoy a few relaxing days together. But overextending on the family vacation doesn’t have to be a forgone conclusion. Setting a budget and planning ahead can ensure this year’s summer vacation won’t cost you for years to come.**

**Travel**

Travel costs can be reduced by searching online for last minute deals available for Amtrak and airfares. These options don’t lend themselves to planning a budget, but in certain cases they provide a better low-price option.

Considering renting a vehicle that gets better gas mileage than the family minivan. The rental cost will have to be balanced with the gas money saved, but for long trips this can be a money-saving option. Rents also save wear and tear on the family vehicle and may reduce repair costs in the long run.

Staying close to home is another way to save on travel expenses. Nebraska’s Division of Travel and Tourism at www.visitnebraska.gov has suggestions for all types of fun family vacations that don’t require traveling long distances over state lines.

**Lodging**

Over-priced and overbooked motel can be avoided by adventurous families who don’t mind camping. Camping is a great way to get children outdoors and interested in nature. Activities like fishing, hiking, canoeing, and swimming are enjoyable, low-cost activities that add variety to the camping experience.

Considering renting or renting equipment to defray the cost.

If camping is out of the question, look for lodging that offers incentive packages. Some hotels and motels offer free meals for children, fuel cards, and discounts on admission for local vacation venues. If these attractions are already on the agenda then the incentive programs can add up to real savings.

**Source:** Kathy Prochaska-Cue, Ph.D., UNL family economist

**Nebraska State Fair Volunteer Opportunities**

**August 27 – September 6, 2010**

**What We Do**

State fair volunteers provide support during the fair and during the move-in days immediately prior to the fair. Each volunteer shift will be four hours in duration. The option to sign up for multiple shifts is encouraged! However, shifts cannot overlap or be counted as two at one time. Free fair gate admission will be provided for your daily commitment. Volunteer opportunities are available for all special skills and preferences.

A comprehensive, mandatory training program will be held for all volunteers. The state fair wants to ensure that you are fully comfortable and knowledgeable regarding your volunteer duties. Volunteers will learn about their respective job duties and the fair. During the training sessions, volunteers also receive their official state fair volunteer shirt to wear during the fair.

**Volunteer Benefits**

- Free fair gate admission for your daily commitment.
- Parking in a restricted and convenient parking area during the fair.
- Volunteers who make a commitment of 24+ hours receive two single admission passes to be used at the volunteer’s leisure, plus a volunteer service provider lapel pin.
- Access to Volunteer Headquarters throughout the fair — whether you are working or not. Come in, take a load off, have a snack and relax!
- Receive a FREE official volunteer souvenir shirt each year you volunteer.
- And last but not least, enjoy the fellowship of a great group of people!

**Contact for Volunteer Opportunities**

- **Phone:** 1-888-866-8660
- **Email:** volunteer@nebraska.gov
- **Website:** www.statelinefair.org
Nutrition Labels

continued from page 4

in calories than regular food packages.

4. A food that is labeled as "high in" may not be as high as you think it is for a specific nutrient. Likewise for other nutrient claims. The Food and Drug Administration only requires that a food meet the following criteria to list these nutrient claims:

"High in ..." — provides 20% or more of the DV of a specified nutrient per serving.

"Good Source of ..." — provides at least 10% of the DV of a particular vitamin or nutrient per serving.

"Reduced" — provide less than 25% of a particular nutrient per serving.

"Low calorie" — provide less than 40 calories per serving.

5. Nutritionally, there is no difference between "name" brands versus generic brand of the same food item. They are often made and in most cases have the same designated nutrient per serving. The generic brands tend to be cheaper and in most cases have the same taste as the "name" brands.

6. It may take some time to get used to reading labels and quickly comparing products, but with the skills you gain you practice makes perfect. The more practice you get reading food labels, the better you can become in using them as a tool to plan your healthy, balanced diet.

4-H District Speech & PSA Contest Results

Fourteen Lancaster County 4-H’ers participated in the Southeast District Speech and Public Service Announcement (PSA) Contest. District Contest winners in the senior division in Speech and PSA advance to the State Contest which will be held during the Nebraska State Fair. Congratulations to all the participants! The following youth earned purples in their division – the top five in each division received medals.

Senior Speech — Jessica Stephenson (medal), Caleb Swanson (medal)
Intermediate Speech — Anne Greff, Molly Noley, Jaime Stephenson
Junior Speech — Sophia Swanson (medal), Alyssa Catt
Senior PSA — Rachel Pickrell (medal), Jessica Stephenson (medal)
Intermediate PSA — Victoria Gorza (medal)
Junior PSA — Julia Stephenson (medal)

Explore the Science of Life

University of Nebraska–Lincoln
College of Agricultural Sciences and Natural Resources

• Preparing students for careers in everything from animals to plants, soils to climate, golf to business, mechanization to leadership, food to forensic science
• Scholarship and loan opportunities
• One-on-one faculty mentoring and research opportunities
• Internships with major companies and organizations

University of Nebraska–Lincoln Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the United States Department of Agriculture.

University of Nebraska–Lincoln Extension in Lancaster County

444 Cherry Creek Road, Suite A
Lincoln, NE 68528-1507
(402) 441-7180
http://lancaster.unl.edu
E-mail: lancaster@unl.edu • Fax: 441-7148

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The Nebline

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University of Nebraska–Lincoln Extension challenges Nebraskans to take the 100 Gallon Challenge! Pledge to increase water efficiency by making changes in your home and landscape. It’s easy to save water by following the tips listed here. An online version of the 100 Gallon Challenge at http://water.unl.edu will automatically calculate your water savings based on the steps you pledge to take.

Why Water Efficiency is Important

Water efficiency is important whether your water comes from a public water source or a private well. Our public water supply infrastructure is aging. The same is true for the public wastewater infrastructure by which used water is carried away, treated, and returned to the environment. In addition, many private well and onsite wastewater treatment systems are aging, and some might not be in compliance with current standards designed to protect human health and the environment.

Water efficiency can reduce the stress on public and private water and wastewater treatment systems. In some cases, large scale efficiency might increase the life of public water or wastewater infrastructure, and reduce the need for additional or new infrastructure.

Outdoor Water Saving Tips

No Cost/Easy to Do:
- Water only between 4 and 8 am to reduce evaporation and interference from wind. (40-70 gallons per week)
- Adjust irrigation sprinklers to prevent spraying the street, sidewalk, and other non pervious surfaces. (30-50 gallons per week)
- Reduce each lawn irrigation cycle by 2 minutes (50-90 gallons per week)
- Use a bucket of soapy water to wash your car, using a hose only for rinsing. Use a self closing nozzle to make it easier. (30-70 gallons per week)
- Use a broom instead of a hose to clean driveways and sidewalks. (20-40 gallons per week)

Low Cost/Some Time & Effort Required:
- Repair leaks in hoses, valves, and sprinkler heads. (10-50 gallons per week)
- Replace a portion of your lawn with drought tolerant perennials and ground covers. (30-50 gallons per week)

Moderate Cost/Some Time & Effort Required:
- Install drip irrigation for flowers, fruit, and vegetables (50-70 gallons per week)
- Install a “smart irrigation” controller that shuts the irrigation system down when it rains (60-100 gallons per week)
- Replace a portion of your lawn with drought tolerant perennials and ground covers. (30-50 gallons per week)

Estimated gallons saved per week. Savings assumes traditional watering pattern and a traditional watering pattern of one inch per week in April, May, September, and October, 1-1/4” in June, and 1/2” inch in July and August, applied in equal amounts twice a week.

Indoor Water Saving Tips

No or Low Cost/ Easy to Do:
- Not use the toilet as a wastebasket; use trash can for waste other than sanitary waste. @ ____ times per week (1.6 gallons per time)
- Install aerator on faucet @ ____ faucets (35 gallons per faucet per week)
- Turn off water while brushing teeth @ ____ brushings per week (4 gallons per brush)
- Not rinse dishes before putting them in the dishwasher @ ____ loads per week (5 gallons per load)
- Fill the bathtub only 1/2 full while bathing @ ____ baths per week (18 gallons per bath)

Moderate Cost/Some Time and Effort Required:
- Replace showerhead with water-saving model @ ____ 4-minute showers per week (20 gallons per load)
- Install a “smart irrigation” controller that shuts the irrigation system down when it rains (60-100 gallons per week)
- Fix leaking toilet valve @ ____ # toilets (154 gallons per toilet per week)

Higher Cost/Some Time and Effort Required:
- Replace toilet with low-flush model @ ____ flushes per week (2 gallons per flush)
- Install drip irrigation for flowers, fruit, and vegetables (50-70 gallons per week)
- Install a “smart irrigation” controller that shuts the irrigation system down when it rains (60-100 gallons per week)
- Install aerator on faucet @ ____ faucets (35 gallons per faucet per week)
- Turn off water while brushing teeth @ ____ brushings per week (4 gallons per brush)
- Not rinse dishes before putting them in the dishwasher @ ____ loads per week (5 gallons per load)
- Fill the bathtub only 1/2 full while bathing @ ____ baths per week (18 gallons per bath)

Water is a valuable natural resource. Water efficiency is important whether your water comes from a public water source or a private well. Our public water supply infrastructure is aging. The same is true for the public wastewater infrastructure by which used water is carried away, treated, and returned to the environment.

Water efficiency can reduce the stress on public and private water and wastewater treatment systems. In some cases, large scale efficiency might increase the life of public water or wastewater infrastructure, and reduce the need for additional or new infrastructure.

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- Use a bucket of soapy water to wash your car, using a hose only for rinsing. Use a self-closing nozzle to make it easier. (30-70 gallons per week)
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Low Cost/ Some Time & Effort Required:
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- Fix leaking toilet valve @ ____ toilets (154 gallons per toilet per week)

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- Fill the bathtub only 1/2 full while bathing @ ____ baths per week (18 gallons per bath)

Make It With Wool Contest

The Make It With Wool Contest offers both youth and adults the opportunity to promote the beauty and versatility of wool fabric and yarn. Personal creations in sewing, knitting, crocheting, spinning, and weaving of wool fabric or yarn is encouraged. Categories and ages for this contest are: Preteen, 12 & under; Junior, 13-16; Senior, 17-24; Adult, 25 & over; and Made for Others. There is no district contest this year. There will be only a state contest held in Lexington on Saturday, Nov. 20. For more information, call Tracy at 441-7180.

Volunteer at 4-H Corner Stop

Help Raise Money for 4-H and Have Fun!

The 4-H Corner Stop concession stand at the county fair is Lancaster County 4-H Council’s primary fundraiser. A non-profit organization, 4-H Council financially supports several 4-H programs and activities such as: Achievement Night, College and camp scholarships, Support for state and national contest registrations, 4-H promotional activities.

4-H Council asks clubs to help by staffing a 3-4 hour shift at the 4-H Corner Stop. At any given time, 3-5 youth (age 9 & up) are needed with 2 adults supervising. Youth gain practical experience handling food safely and counting change. They also gain life skills, such as responsibility, critical thinking, and social skills.

Choose a Shift

<table>
<thead>
<tr>
<th>Days</th>
<th>Shifts each day</th>
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</thead>
<tbody>
<tr>
<td>Wednesday</td>
<td>8:30–11:30 a.m., 11:15 a.m.–3:15 p.m. or close</td>
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<tr>
<td>Thursday</td>
<td>8:00–11:45 a.m., 11:30 a.m.–3:15 p.m., 3:00–6:45 p.m., 6:30–9:30 p.m.</td>
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<tr>
<td>Friday</td>
<td>8:00–11:45 a.m., 11:30 a.m.–3:15 p.m., 3:00–6:45 p.m., 6:30–9:30 p.m.</td>
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<tr>
<td>Saturday</td>
<td>8:00–11:45 a.m., 11:30 a.m.–3:15 p.m., 3:00–6:45 p.m., 6:30–9:30 p.m.</td>
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<tr>
<td>Sunday</td>
<td>8:00–11:45 a.m., 11:30 a.m.–3:15 p.m., 3:00–6:45 p.m., 6:30–9:30 p.m.</td>
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</tbody>
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To Sign Up

Return postcard by June 15 to Lynnette Nelson or email dinkelso@windstream.net – confirmation of schedule will be sent to participating groups. Call Lynnette with any changes at 796-2686. Find a replacement if you or your club are unable to work at the designated time.

The Nebraska–Lincoln Water Monitoring Program encourages Nebraskans to take the 100 Gallon Challenge! Pledge to increase water efficiency by making changes in your home and landscape. It’s easy to save water by following the tips listed here. An online version of the 100 Gallon Challenge at http://water.unl.edu will automatically calculate your water savings based on the steps you pledge to take.