June 2006

The NEBLINE, June 2006

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Bio-Fuels Can Help Bridge Energy Gap

Nebraska in Ideal Position to be Supplier of Biofuels

Tom Dorn
UNL Extension Educator

The United States is the world’s largest user of energy, both in terms of total consumption and per capita. Forty percent of our energy currently comes from oil and we import about 60 percent of the oil we consume. With unrest in the Middle East and the hurricane damage to Gulf coast oil platforms last fall, crude oil prices are at all-time high prices. Nebraska is uniquely situated to help the United States answer the question, “What can be done to reduce our dependence on foreign (and domestic) oil?”

Ethanol

One answer is gasoline blended with ethanol. According to the April 12, 2006 Renewable Fuels Association - Ethanol Report, “Nationwide, 97 ethanol biorefineries are in operation with a combined annual capacity of nearly 4.5 billion gallons. Additionally, 33 new biorefineries and nine expansion projects are under construction that will add more than two billion gallons of annual capacity within the next 18 months. These numbers will continue to rise and new groundbreaking events are announced weekly.”

The plants can produce 12 gallons of fuel ethanol annually. Nebraska plants have the secondary advantage of a ready market for the by-products of ethanol production. Distillers grains are used as a protein supplement in our cattle feeding and dairy industry.

By 2007, experts predict Nebraska will have the plant capacity to produce a billion gallons of ethanol annually. Nebraska ethanol plants have the secondary advantage of a ready market for the by-products of ethanol production. Distillers grains are used as a protein supplement in our cattle feeding and dairy industry.

Can the U.S. replace a significant amount of petroleum with biofuels? One country already has. Brazil recognized many years ago, importing petroleum had the potential to cause an imbalance in trade which would eventually be unsustainable. They decided to take advantage of their bountiful land and climate resources and develop bioenergy as a substitute for foreign oil. They led the world in modifying gasoline engines to run on E85 (85 percent ethanol gasoline) and now have vehicles able to run on 100 percent ethanol. Today, Brazil has become essentially energy independent thanks to the development of their ethanol industry.

Twelve percent of the gasoline sold in the U.S. contains some ethanol today. Nationwide about 2.5 percent of the volume of gasoline sold is ethanol. Scientists have begun to develop improved enzymes and yeasts which increase the yield of alcohol produced per bushel of corn or sorghum. These advancements have increased the yield of alcohol from around 2.3 gallons per bushel of corn in the late 1970s to about 2.7 gallons per bushel today—the 17 percent increase. The major improvement in alcohol yield, plus more energy efficient distilling plants and automation which has reduced labor costs has contributed to making ethanol cost competitive at the distributor level with unleaded gasoline.

On August 8, 2005, President Bush signed the Energy Policy Act of 2005 (H.R. 6) into law. This legislation directs the U.S. Environmental Protection Agency to promulgate regulations ensuring applicable volumes of renewable fuel are sold or introduced into commerce in the United States annually. It includes a nationwide renewable fuels standard. This standard will double the use of ethanol and biodiesel by 2012. The target set by the legislation is for 7.5 billion gallons of renewable fuels by 2012.

Cellulosic Ethanol Production

Research is now being conducted on the feasibility of using cellulose as the feedstock for ethanol production. Using cellulose instead of grain as the feedstock will require somewhat different processing and fermenting processes than grain-based alcohol production. Once the mechanical and microbiological processes are perfected, we will be making cellulosic ethanol from corn stalks, switchgrass, wheat straw and other low-value roughages—all found in abundance in Nebraska. The Energy Policy Act creates grant and loan guarantee programs to fund research and development of cellulosic ethanol production. The legislation set a target of 250 million gallons a year of cellulosic derived ethanol be included in the renewable fuels standard by 2013.

Biodiesel

Another biofuel making inroads into the American market is biodiesel. From a modest beginning of 500,000 gallons in 1999, biodiesel production had grown to an estimated 25 million gallons in 2005. There are 30 biodiesel plants currently in production in the U.S. and another 25 plants are under construction.

Biodiesel can be readily made from vegetable oils. The basic chemistry is simple: For every 100 pounds of vegetable oil, 10 pounds of methyl alcohol is added in the presence of a catalyst. This yields 110 pounds of biodiesel (B100) plus 10 pounds of glycerol. Any vegetable oil could be used, but the early research has concentrated mainly on soybean oil for biodiesel production.

Biodiesel blended in any proportion with petroleum diesel can be used in ordinary diesel engines with no modifications. A negative aspect is biodiesel blends have reduced cold flow properties compared to straight petroleum diesel. Cold flow has not been a problem for B2 and B5 blends in the Midwest, but higher percentage blends might result in gelling problems if used during the cold months of the year.

Sulfur in diesel fuel results in sulfate emissions, a major component of smog and a component in acid rain. Prior to 1993, the maximum limit for sulfur in diesel fuel was 5,000 parts per million (ppm). Legislation in 1993 dropped the maximum level to 500 ppm. In 2004, the Environmental Protection Agency wrote new regulations that go into effect in June 2006 that lowers the sulfur content to 15 ppm. This legislation is fully supported by engine manufacturers because sulfur content above this level renders diesel catalysts ineffective and also harms particular tractors and other off-road engines.

Additional information on Bio-Fuels can be found online at http://4h.unl.edu. Call (402) 472-2805 or go to the Nebraska Biofuels website at http://4h.unl.edu.
When to Harvest Bromegrass Hay

You may have heard the story about the lady who always cut the end off a ham before placing it in the roaster pan to cook. When her daughter asked why she did this, the mother admitted she didn’t know the reason, but her mother always did so, therefore, it must serve some purpose. When the girl questioned her grandmother about it, grandma said, “I had to cut the end off, my roaster pan was too small to hold a whole ham.”

I wonder if people decide when to cut bromegrass hay using the same sort of logic. Many people cut bromegrass hay in mid-to-late summer—July, August, even September. The question to ask yourself is: Do people cut their bromegrass hay at this time because it makes the best hay or because it is when they have seen other people cutting their hay?

Cutting bromegrass hay early in mid- to late-summer can have its advantages. Weather damage is less likely because mature hay has lower moisture content when cut and we usually get less rain in July and August than in June. But what does waiting do to the hay?

Bromegrass hay cut in earlier stages of growth and harvested when it is at a low RFV of 100 is mediocre hay, but it is usually easier to handle than hay cut later in the season. The hay is easier to load into the baler machinery to overturn easily. Loaders to handle large bales. When moving round bales out of storage or moving into position, the operator must use ballast to maintain braking ability when using front-end loaders (fluid in the tires, weight, and/or duals) may be necessary to maintain braking ability when using front-end loaders to handle large bales. When moving bales with a tractor, they should be carried as low as possible to keep the center of gravity as low as possible. Top-heavy loads can cause machinery to overturn. When doing so, the operator can be injured or crushing the operator. Bales can weigh up to 2,000 pounds.

Bromegrass cut in late summer has a probe you can check out by the end of the growing season, September 30, the total water used for the household in a year is approximately 91,250 gallons. By way of comparison, a family of four who lived in the same house for a year used 150,000 gallons. It is important to keep well full as the family would use a well to supply their household water needs. For domestic uses. If the family also irrigates a 10,000 square foot garden, this would use 75,000 gallons in a year. This is about 170,000 gallons of water per year. This is one reason why farmers should be cautious about cutting bromegrass hay too late in the season.

Sample Your Hay to Get Accurate Nutrient Analyses

The proper sampling procedure is to probe the bales, cutting across the grain. On square bales, probe the center of the bale from the end (between the twine or wires). On round bales, probe toward the center of the bale from the rounded edge. Then combine all the samples from a cutting into one large sampler to send to the lab. It is important to use a sample of hay that is representative of the hay from the entire field.

When to Harvest Bromegrass Hay

Nutrient concentration varies considerably among forages. Values vary from one forage species to another, one cutting to another throughout the year, the stage of growth when harvested, whether the hay was rained on while in the windrow, etc. The University recommends forage testing as a regular part of your livestock operation. For forage tests to provide an accurate reading of forage quality, the sample must accurately represent the hay. Reaching into a bale and pulling out a hunk of hay will not give you a good sample. Nor will grabbing a single flake of hay. The only effective method to sample long hay is by using a core sampler. If you don’t have one, you can buy one from many ag supply catalogues or forage testing labs. UNL Extension in Lancaster County has a probe you can check out by leaving a deposit which is returned when you bring the probe back.

Once you have a hay probe, collect one core from 15 to 20 bales that came from the same field that you will be putting into the same cutting and mix together to create a sample for analysis. Keep samples from different cuttings separate. The proper sampling procedure is to probe the bales, cutting across the grain. On square bales, probe the center of the bale from the end (between the twine or wires). On round bales, probe toward the center of the bale from the rounded edge. Then combine all the samples from a cutting into one large sampler to send to the lab. If there is decayed or moldy material you will discard or your animals will not eat, do not include it in your sample. That way you will have a sample that is similar to the actual diet of your livestock. By following these sampling techniques, you will get accurate nutrient analyses of your hay and be able to use it more effectively. However, if you plan to sell the hay, you must include this knowable material in your sample to accurately represent all the hay to be sold.

Forage testing can be an effective marketing tool. If you were a hay buyer deciding between two hay sources, you would want the most accurate test possible. If the supplier is honest about the whole where nothing definite is known about the quality, wouldn’t you rather buy the known commodity? Hay tests report various nutrient values such as crude protein, energy values (expressed several ways) and minerals, (calcium, phosphorus, etc.). In addition to reporting specific nutrient values, most labs use the analysis to calculate a rating of overall quality. This is commonly referred to as the relative feed value (RFV). Not everybody needs the high-est quality hay to meet the nutrient requirements of their particular animals, but they need to know what they are getting so they match the hay quality to the species of animal and stage of growth or age (stage of pregnancy, lactating, breeding, etc.)

To understand relative feed values, let’s look at three examples. RFV of 100 is mediocre hay, but it is usually adequate to meet the protein and energy requirements for older dry cows in the middle-one third of pregnancy. RFV of 120–140 is generally suitable for pregnant beef heifers that are still growing and for beef cows about to freshen. RFV of 150 and above is considered dairy quality hay.

Even when the quality of one batch of hay doesn’t meet the nutrient requirement of the animals, the livestock producer may be able to feed two or more forage sources in specific proportions that will provide the nutrient needs of the animals being fed. Alter-nately, one may feed non-forage supplements to balance the protein, energy, and/or mineral needs of the animals providing the hay. Without the hay quality test, it is not possible to accurately develop the rations needed to meet the animal’s nutri-ent needs at least cost.

A half-acre pond, therefore, “consumes” about as much water to fill initially as a family of four would have used for the household in 25 days. If you would require as much water each year to keep full as the family would have used in 6.5 years, I always ask an acreage owner considering a groundwater fed pond, “Is this a sustainable use of our limited groundwater resource in eastern Nebraska?”

Moving Round Hay Bales Can Be Dangerous

Moving hay bales is essential to get feed to livestock, but farmers should be cautious. When taking bales out of storage or moving them with a front-end loader, farmers should always use a clamp to prevent bales from rolling down the arms of the loader and pin-ning or crushing the operator. Bales can weigh up to 2,000 pounds.
Controlling Pests with Home Remedies

Barb Ogg
UNL Extension Educator

Home Remedy, del. A treat- ment or cure for a disease or other ailment that employs certain foods or other common household items. Home remedies may or may not have actual medicinal proper- ties but may be helpful for the disease or ailment in question; many are merely used as a result of tradition or habit or because they are quite effective in inducing the placebo effect. (Wikipedia).

It seems universal for people to have heard about or used a home remedy for pests or con- trol insects. Some examples:

• The lady who used baking powder for ants coming into the house after hearing someone mention it on a radio show and then called the extension office because it wasn’t work- ing. There is no evidence baking powder or baking soda has any deterrent effect against insects.

• The pest control guy who told me you could kill moles and gophers with Wrigley’s Juicy Fruit gum, by putting it in their holes. The theory is the varmints eat the gum which gummed up their intestines (or constipated) them then they died. There is no evidence moles and/or gophers would even eat the gum, nor any adverse effects from it.

• The mom who used mayon- naise on her child’s head to keep ants away. As spring and summer roll around, overwintered ants begin emerging. As they search for food sources, they follow light and heat, so that’s why they enter a house. A re- search study at the University of Miami School debunked several of the home remedies for head lice. The researcher found live lice after infesting children’s hair overnight with mayonnaise, petroleum jelly or olive oil in their hair.

• The homemaker who puts bay leaves, orange peels or sprinkles herbs and spices in cupboards to keep cockroaches away. These herbs and spices don’t repel roaches.

• The person who left them near ant colonies. Four hours after treatment, the California found commercial products containing 8 percent (also known as hedge- apple) extracts showed con- centrated extracts were repel- lent, but not the fruits them- selves. Pyrethrins are natural insecticides produced by some species of the chrysanthemum plants. Flowers either dried and powdered or the oils within the flowers are extracted with solvents. Natural pyrethrins quickly penetrate the insect’s nervous system and, shortly after exposure, the insect cannot move or fly away. But, a “knockdown dose” does not mean a killing dose because enzymes in the insect quickly detoxify the chemical and the insect will recover. To delay the enzyme action and increase the lethal effect of the pyrethrin, another insecticide or synergist is usually used in conjunction with the pyrethrin. Because of the short term nature of pyrethrin, scientists have developed long- lasting chemicals structur- ally similar to pyrethrin, called pyrethroids. These pyrethroids include permethrin and most of the common over-the-counter in- secticides used today.

Other botanical insecticides include:

• Bithionol, dried derris root, used in gardens, food crops and to kill fish in lakes and ponds.

• Sabadilla, the powdered ripe seeds of a South American Lily, used to kill ectoparasites on dogs, cats, rodents and humans.

• Azadirachtin, an insect-growth regulator, derived from the neem tree, interferes with the insect molting hormone ecdysone.

• Limonene is derived from cit- rus peels. It is used to repel or kill mosquitoes, cockroaches, silverfish and some external pests of pets. It is relatively nontoxic.

Using Botanical Insecticides Safely

Some people believe natural insecticides are safer than synthetic. This isn’t necessar- ily true. Nicotine, from tobacco leaves, is a very old and danger- ous “natural” insecticide. Black Leaf 40 was a popular garden product for many years, but its use was curtailed by the EPA, because it was so toxic. The toxicity of each in- secticide is based on the char- acteristics itself. Concentrated insecticides, whether natural or synthetic, can be hazardous to the applicator. Be sure to read and follow label directions for safe use.

More Home Remedies Debunked

It would be great if we could control insects around the house simply by mixing up a few ingredients from the cupboard and sprinkling the concoction around the kitchen. Unfortunately, it just isn’t that easy.

Mint oil. One study conducted at the University of California found commercial products containing 8 percent and 4 percent mint oil did not repel ants. The researcher put pieces of honlys in cups treated with mint oil products and left them out. After treatment, the number of ants on the treated and untreated cups was statisti- cally the same.

• Salt and lemon juice. Vinegar and lemon juice are recommended for all sorts of household cleaning chores, but they aren’t good insecticides. Another study at the University of California showed vinegar and lemon juice were also ineffect- ive at attracting ants.

Bleach (sodium hypochlorite) and ammonia. These household cleaning products may mask ant trails, but there’s no good lasting, residual insectidal effect from their use.

Chalk Line. And finally, a chalk line will not deter ants from coming into a structure.

Protect Stored Winter Clothing from Insect Damage

Barb Ogg
UNL Extension Educator

As spring and summer approach, many people properly store wool clothing and blankets to protect them from insect damage. Carpet beetles and clothes moth larvae are the only insects that can digest keratin, a protein in hair and wool which makes these insects important fabric pests. During the summer, warm conditions are conducive to damage because that’s when these insects are most active. These insects lay their eggs in lit- tle piles and can hide in the folds of clothing hanging in a closet.

Most people think about clothes moth as being the common fabric pests are carpet beetles. Adult carpet beetles are small and black and have tufted antennae. They may be found in adult beetles, but by the larvae, which are small, hairy and carly shaped. Some of these beetle larvae are also found in flour, spices and grain- based food items. Store clothing in air-tight containers such as plastic tubs, plastic sweater boxes. A cedar chest is not air tight and may not repel these insects.

There are two types of repellents used to repel clothes or stored wood products: paradichlorobenzene and naphthalene. Paradichloroben- zene is more effective because it actually kills insects and isn’t just a repellent. It may be neces- sary to replace moth crystals as they disintegrate throughout the storage period.

What Does Work: Boric Acid and Borates

Boric acid is a mineral-based inorganic pesti- cide derived from the element boron. It is relatively nontoxic to people and pets, although people should take care not to inhale it. As an insecticide, boric acid acts as a stomach poison interfering with the insect’s metabolism. The insects also absorb the ex- skeleton and helps to desiccate the insects.

Ant control. Boric acid has been formulated into slow-acting bait products. These are cheap to buy and readily available for home- owners to purchase. The key to using an ant bait successfully is to keep ants from the bait. Place the bait where you see ants don’t. Use insecticides which prevent the ants from taking the bait back to the nest. Leave the bait out as long as you see ants feeding on it. If ants don’t feed on the bait, it won’t work.

For grease ants, a homemade bait using peanut butter, honey and boric acid may work. Try mixing 4 tablespoons peanut butter, 6 tablespoons honey and 3/4 teaspoon boric acid. Remember, if the ants won’t feed on it, the bait won’t work.

Other borate products include:

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Environmental Focus

June 2006

http://lancaster.unl.edu
Getting Past the Nutrition Headlines

Wanda Koszewski
PhD, RD, LMNT
UNL Nutrition Specialist

Recently, a research study was released based on the Women Health Trials. The initial results of the study were reported in all the major media outlets. The basic headline stated eating a low-fat diet did not help prevent certain diseases. The problem was most people did not read the entire study and based their conclusions on the headline alone. Nutrition experts were put on the hot seat and the public began to wonder if they could believe any nutrition information.

The study presented in the article was accurate, but the headline misled readers to believe something that may not necessarily be true. The research presented in the article was only preliminary data and more research needs to be done before any strong conclusions should be made. Another limitation of this research is the participants involved were all postmenopausal women, therefore a low-fat diet may still be beneficial for younger women to follow.

Why does the media jump on reports like this? Nutrition misinformation is unfortunately part of life. A trends study conducted by the American Dietetic Association found that nearly one out of three people ask the media to monitor diets and registered dietitians are consumers’ most valued source of nutrition information. Unfortunately the public’s number one source of nutrition information is the media.

Here are some things to watch out for as you hear or read nutrition reports.

• If the study promises a quick fix, especially quick weight loss.
• It recommends changing the dietary guidelines based on one single study.
• If it makes claims that are too good to be true.
• If it promotes a dietary recommendation that eliminates an entire food group.
• If it lists good and bad foods. All foods can fit into a healthy diet as long as you use moderation, balance and variety.
• If it is based on a study you need to ask yourself, “Does this study really apply to me (gender, age, health condition, etc.)?”
• Does the study use absolute statements, such as “proves” or “causes”? Remember just because two things are associated does not necessarily mean one causes the other.
• Who paid for the study? Could that affect the results?
• If you are unsure, talk to your doctor or a registered dietitian.

Tips for Planned Walks

Here are some tips to help you enjoy and stay with a walking program.

• Begin with a slow pace for about five minutes before you step into the walking pace that you will continue through the rest of the walk. This will allow your muscles to warm up. At the end of your walking time, use a five minute slow down to cool yourself down. Also, stretch your leg muscles as a part of a cool down period.
• Purchase a walking meter (pedometer) to count the number of steps or measure the distance you have gone. Walking meters have the advantage of giving you a tool that measures all of your steps in a day. Clip it on for the entire day and you will record the steps you get in your normal daily activities as well as your planned walk.
• If you don’t wish to use a walking meter, you can go on planned walking according to the clock. Gradually aim for an accumulation of at least 30 minutes of planned walking each day. If you are already close to 30 minutes each day, it’s okay to increase your time beyond 30 minutes.
• Consider making walking arrangements with a friend or a walking group.
• Sout your community for walking paths and other safe places to walk.
• Walk at the time of the day most convenient for you.
• Walking time can be in the morning, mid-day or evening. For some, it will be easier to break up your walking time throughout the day and that is okay, too.
• Think through how you will handle walking when the weather is bad. Check if a nearby school, church, mall or other facility will allow you to walk there during bad weather.
• If walking doesn’t work out for you on one day, pick it up the next day. Keep it fun rather than a chore.

A “Virtual” Walk Through Nebraska

If you can’t visit these Nebraska sites in person, visit http://www.walknebraska.org. This Web site, developed by the University of Nebraska–Lincoln Extension, encourages walkers to complete a “virtual walk” on five different trails in the State of Nebraska. At key points along each trail ‘walkers’ receive helpful tips to learn more about how to take care of themselves nutritionally, how to protect themselves from the sun or how to use their physical activity to their best benefit. As they reach trail milestones, they see notable Nebraska landmarks and learn a little more about this beautiful state.

As you enter this Web site, you will receive instructions for recording your walking activities that will translate into miles that will help you travel along a Nebraska trail of your choosing. As you continue walking each day, you will be able to track your progress on your trail.

The South Platte here at North Platte joins the North Platte just east of North Platte to form the Platte River.
**President’s Notes — Alice’s Analysis**

Alice Doane
FCE Council Chair

This is the end of the school year and we have been going to Millard for two granddaughters choir and band concerts. What fun it is to see how much the bands have improved over the last year.

We have been doing “show and tell” classes for the Hamlow first graders at Wa-terly. They go into the havolof, Ted shares a couple of sheep and the dog works the sheep. We also have one or two different schools in Lincoln where we shear sheep.

Monday, June 26, 7 p.m.

**White clothing, whether it be a shirt, blouse or a pair of cotton pants, always looks nice**

White clothing, whether it be a shirt, blouses or a pair of cotton pants, always looks nice. Be a shirt, blouse or a pair of cotton pants, always looks nice.

**Summer Energy Saving Tips**

This summer save electricity, save money and save the environment by following these energy saving tips.

- Clean or replace your air conditioner filter regularly.
- Turn the air conditioner off when you’re not home.
- If you have central air, raise the thermostat setting on your air conditioner.
- Turn on ceiling fans, rather than air conditioners, to circulate air.
- Close blinds and curtains during the day to keep the heat out.
- Cook outdoors.
- Create natural cooling with shade trees on the west and south sides of your house.
- Reduce heat in your home by opening windows.
- Close blinds and curtains during the day.
- Don’t heat your pool at night and let hot daytime temperatures warm it during the day.
- Keep those fridge and freezer doors closed as much as possible.

**How White are Your White Clothes?**

White clothing, whether it be a shirt, blous or a pair of cotton pants, always looks nice when the garment is new. The challenge is to keep the fresh white look.

Our grandmother used to add chlorine bleach to the water. Adding chlorine bleach today, however, may actually turn those whites into yellow or gray.

Here are some steps to take to keep those whites looking their best.

- Avoid overexposing white clothing to light. Light can break down fluorescent brighteners. A garment left out in the sun to dry may turn yellow, but the back will remain white. Once this happens, the dyeing is usually not recoverable.
- Do not use chlorine bleach on whites, especially rayon, nylon and acetate. Chlorine bleach causes fabric yellowing to break down more rapidly.
- Always pre-soak heavily stained garments to ensure adequate soil removal.
- Use enough detergent and adequate water temperatures.
- Do not overload the washing machine and sort clothes correctly.
- Clothing dinghy gray from soil buildup may be restored with these methods.
- Use the hottest temperature of water acceptable for the fabric. Continuous washing in cold water isn’t the best way to remove soil buildup.
- Air dry fabric rather than hang to dry. Follow the directions on the box for the amount to add.
- Use sufficient amount of detergent.
- Run clothes through a complete wash and rinse cycle.

**Council Meeting June 26**

The next FCE Council meeting will be Monday, June 26, 7 p.m. Helpful Homemakers and Home Service are responsible for the program. Entries for the Heritage Skills Contest should be brought to this meeting. All FCE mem-

**Basket Clubs**

Has your FCE club got their basket or baskets put together for the scholarship fund raffle? The raffle will be held at the Sizzling Summer Sampler. Remember you can choose any theme. Use creativity as to size, shape or even container. Tickets will be sold the evening of July 11 for $1 each or 6 for $5. All the money goes to our FCE Scholarship Fund. Looking forward to seeing you at the Council meeting, June 26 and the Sizzling Summer Sampler on July 11.

**Summer Swimsuits**

Swimsuits take lots of abuse, especially from pools, hot tubs or spas containing chlorine.

- Most swimsuits are made of a blend of nylon and spandex, which lets the suit stretch. Although spandex has good resistance to sunlight damage and deterioration, fabric yellowing may occur with repeated use and exposure.

It is very important to rinse the chlorine out of swimwear after each wearing and at the end of the season.

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**Are You Ready for Sun’s Rays?**

Are you looking forward to those lazy, hazy days of summer? You know those kinds of days, where the sun radiates 90 degree temperatures all day in a cloudless sky. You can expect those days more often if you remember to practice sun safety.

- There are some facts to give you cause to stop and think before running out the door in the summer sun. Skin cancer is increasing faster than any other form of cancer. The American Academy of Dermatology estimates children receive about 80 percent of their lifetime sun exposure before the age of 18. Evidence of long-term sun exposure may appear on the skin 20 or 30 years later. This may be premature skin aging, cataracts and other eye damage and skin cancer. Your skin conditions every sunburn you have ever had, which means the damage builds up year by year. There is no such thing as a "healthy tan." A tan means you have damaged your skin.

Follow these guidelines for a safe summer in the sun.

- Check the ultraviolet (UV) radiation index in your area.
- Wear sunglasses that provide UV protection.
- Wear long-sleeved shirts and a wide-brimmed hat.
- Avoid excessive sun exposure, especially from 10 a.m. to 3 p.m. the hottest part of the day. Seek shade to protect yourself.
- Wear a hat with at least a 3-inch brim for sun protection. A baseball cap only protects the eyes, and not the back of the neck or the ears.
- Wear sunglasses that provide 95 percent or better protection from ultraviolet radiation.
- Protect skin by applying sun-screen with and SPF rating of 15 or more. Apply it 20 to 30 minutes BEFORE heading outdoors so the lotion has time to bind with the skin. Use a daily sunscreen that is broad spectrum (also provides protection from UVA and UVB rays) and reapply every 2 hours or after swimming or drying off.
- Use a broad-spectrum sunblock with SPF 15 or higher. Reapply every 2 hours or after swimming or drying off.

**How to select the right sunblock**

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**FCE News & Events**

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**Programs**

“GURU OR GOURMET: THE SCIENCE OF FOOD”

John Rupnow, UNL Professor of Food Science and Technology

Learn about the science of developing new food items.

“HATS, WOMEN & SONG”

Dorothy Applebee

Wear your favorite hat — old or new.

**How to select the right sunblock**

- Wear a hat with at least a 3-inch brim for sun protection. A baseball cap only protects the eyes, and not the back of the neck or the ears.
- Wear sunglasses that provide 95 percent or better protection from ultraviolet radiation.
- Protect skin by applying sun-screen with and SPF rating of 15 or more. Apply it 20 to 30 minutes BEFORE heading outdoors so the lotion has time to bind with the skin. Use a daily sunscreen that is broad spectrum (also provides protection from UVA and UVB rays) and reapply every 2 hours or after swimming or drying off.
- Use a broad-spectrum sunblock with SPF 15 or higher. Reapply every 2 hours or after swimming or drying off.
In June, bagworm larvae are susceptible to insecticides. Bagworm eggs hatch in early June and young worms will begin to feed on junipers, cedars and arborvitae in eastern Nebraska. Bagworms also occur on various deciduous trees such as birch, crab, plums, linden and conifers. The bags attached to the trees are those left over from last year and are empty, except for the remaining eggs which will hatch in July. The worms are very tiny, probably 3/8 inch in length or less, and each egg is a small protective sack or bag which they construct of silk and plant material. At this stage, the larvae are susceptible to insecticides but after six weeks they will be difficult to control. Suggested materials are Bacillus thuringiensis (Bt), Dipel and Asperthae (Orthene). Carbaryl (Sevin), Permethrin (Fleet) and Malathion. Follow label directions and be sure to spray trees and shrubs thoroughly to penetrate foliage. Good coverage is essential if control is to be effective.

There are four All American Rose Selections Winners for 2006. As usual, one or more of the diverse offerings is sure to suit almost any landscape and gardener. This year’s winners will convince you to plant more roses.

**Bagworms, Look For Them Now!**

**All American Roses for 2006**

Before pouring gasoline into the fuel tank of your lawn mower, garden tiller or small engine, watch for and control blackspot and powdery mildew on rose foliage. Remove old flower heads from annual bedding plants to keep them blooming. Discard chrysanthemum flowers to assure large, beautiful blooms on straight, strong stems. To discard, remove the small side buds along the stems which form in the angles of the leaves. This will allow all of the food reserves to be used for one large flower rather than many smaller ones.

Plant annual flowers in tubs or large containers for the porch or terrace. They root easily from stem cuttings which can be used to highlight a tree, shrub or vine as the main focus point of a garden. Coleus are annuals and will not remain vigorous more than one year. Take cuttings when the plants begin to develop buds on the growing tips. Place cuttings in a rooting medium and mist. When the cuttings have developed roots, they can be planted in a garden, lush landscape or containers.

**Wild Blue Yonder**

Wild Blue Yonder (Eight) is a floribunda rose that was first offered in 1984. This large bush rose is covered with velvety wine-purple, flowers in the summer. Another nice feature is its distinctive fragrance. The scent is a mixture of sweet citrus and rose.

**Tahitian Sunset**

Tahitian Sunset grandiflora rose that is a sight to behold! This is the first lavender blend rose to win a coveted AARS award since 1984. This large bush rose is covered with velvety wine-purple, flowers in the summer. They must have good soil drainage. Poorly drained soils and excessive watering will defoliate most of the foliage. Overwatered plants will be stunted and root rot could occur. Plants should not be allowed to dry out. Coleus grown in containers are more susceptible to drought and should be planted in a very well-drained soil mix that is watered more frequently.

**Care of Coleus**

**Mary Jane Frogge**

**UNL Extension Associate**

**Coleus** are good for use in containers or as a bedding plant.

**Coleus are prized for their colorful foliage which may combine shades of green, yellow, pink, red and maroon.**

New introductions of this popular annual have been selected for increased sun and heat tolerance. Coleus vary from smaller types that will reach only 5 feet tall to tall bushy types of 3 feet. Sprawling types suited for hanging baskets and window planters may spread up to 5 feet or more. Most coleus grow fairly rapidly to their full summer size. They are tender gardeners and must be killed by the first frost.

The brilliant and widely colored varieties of coleus foliage make it a natural for use as a bedding plant and as a color accent. Coleus also grows beautifully in containers, which can be used to highlight patios, porches and garden terraces.

Coleus are highly resistant to serious disease or insect problems when grown outdoors in properly prepared beds or containers. Some pests to watch for include mealy bug and red spider mites. Some disease problems you will want to watch for include stem rot and root rot.

Most coleus grow best in part shade. However, several new cultivars are available that will thrive in full, hot sun. Coleus must have good soil drainage. Poorly drained soils and excessive watering will defoliate most of the foliage. Overwatered plants will be stunted and root rot could occur. Plants should not be allowed to dry out. Coleus grown in containers are more susceptible to drought and should be planted in a very well-drained soil mix that is watered more frequently.

Pinch growing shoots of young plants frequently to encourage and maintain dense foliage. For a mid-summer growth boost, fertilizer in June, July and August with a liquid fertilizer at half the usual dilution. Flower spikes will appear in late summer. Many people dislike their appearance, and if allowed to go to seed the plant will decline. Shear back flowers to extend performance. Since coleus are annuals and will be killed by the first fall frost, you may want to take cuttings of especially prized cultivars. They root easily from stem cuttings that are placed in a container with moist potting soil.

**Rainbow Sorbet**

Rainbow Sorbet is a hybrid tea type rose shines in the garden with its warm, sunny flowers that are orange-yellow in bud and open to a peachy-apricot-pink. The large, 5 inch diameter flowers are packed with petals, about 30, and have a delightful sweet fragrance. Last, but certainly not least, is Wild Blue Yonder, a two-toned lavender blend rose with velvety wine-purple, flowers in the summer.
Some Other Factors To Consider

Don Janssen
UNL Extension Educator

Note: This is the final of a series of articles related to the horticulture program.

Farm community. An active farm community promotes group learning, innovation and cooperation. Quality suppliers of equipment, services and information are more available where there is a “critical mass” of farmers. Nevertheless, isolated farmers can join commodity organizations and take other steps to connect to local and marketing skills.

Isolation. If you are isolated, you must carry larger part and supply inventories and, most significantly, you probably cannot contract as easily for custom farm work. Thus, you must have the ability and equipment to do all of the work yourself. This requires a much higher up-front investment in capital, time, and, in addition, it may be more difficult to attract buyers for the crop.

Labor pool. Many horticultural crops are labor-intensive and must be harvested and marketed in a timely fashion. Access to reliable and productive labor can mean the difference between success and failure. Are you comfortable managing labor? Are you willing/able to supervise and do the additional paperwork involved with having employees? Can you pay for labor before you are paid for your crop?

Access to markets. This factor is crucial for the small farmer who must get a high percentage of the crop dollar to survive.

Summary
Small-farm operators develop economic vitality by:
• Having a passion for what they do.
• Watching their cash-flow cycle.
• Producing crops for small but well-paying markets.
• Utilizing diverse marketing outlets but understanding the costs of low-volume locations.
• Marketing aggressively and creatively.
• Searching out and using information to reduce production and marketing risks.
• Understanding the costs of low-volume locations.
• Marketing aggressively and creatively.
• Locating near a major population center.
• Employing used (versus new) equipment and being able to do at least preventive maintenance on the farm.
• Understanding the costs of labor.
• Using contractors to carry out some capital-intensive parts of the enterprise in the beginning.
• Matching work to the family’s time, desires and abilities.
• Outsourcing services, eliminating the costs of labor.
• Using contractors to carry out some capital-intensive parts of the enterprise in the beginning.

Summer Blooming Perennials

Don Janssen
UNL Extension Educator

After the first flush of early summer blooming perennials, the garden often has a lull during the “dog days of summer.” However, some new, rarely used perennials “dog days of summer.” How about summer blooming perennials, the ground. Woody plants should be watered more deeply and infrequently to promote extensive rooting. New plants require supplemental irrigation at first—consider wa- tering them for several weeks to ensure they get enough water without all the splashing into the air as if you were watering them in the same way. When overwatering, irrigate lightly and frequently to accommodate the new turf plants’ shallow root system.

Maintain irrigation systems by keeping track of the weather and the watering systems. Use empty coffee cans, tuna cans or other containers to measure the amount of water sprinklers put out and adjust the run time so it delivers the required amount. Changing the run time seasonally as plants’ water needs change and subtracting any rainfall.

John Fehn, extension educa- tor says, “Once a month, inspect automatic sprinkler systems. Look for turf growth around the heads of the sprinklers, broken or damaged heads, clogged nozzles and other complications.” Adjust sprinkler heads as plants grow or decorative items such as decks are built and start blocking the spray pattern. Make sure they don’t spray sidewalks or other surfaces water will flow off. When watering on a slope, run sprinklers until there is runoff; then stop. After three hours, water the slope again. Aerating soil in fall or spring increases infiltration.

Don Janssen
UNL Extension Educator

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Smart Watering Techniques
Conserve Water in the Yard

Don Janssen
UNL Extension Educator

With continuing water short- ages, applying simple water conser- vation tips when practices laws that conserve water is beneficial for both home- owners and the environment.

Instead of developing high water bills or allowing laws to be drier and discolored, compromise by reducing the amount of water needed. At this time, the sun is hot and dry, so the temperature is cooler and winds are milder than during the day, so there is less evaporation. Try leaving clippings on the lawn after mowing as a good nutrient source as well as a way to keep moisture in the ground.

Another way to work with nature is to put out large contain- ers to catch rain water for more ef- ficient watering use later. But don’t let water containers sit uncovered long enough that mosquitos use the standing water for a breeding ground.

Conservative moisture by mowing Kentucky bluegrass lawns to 2.5 or 3 inches tall and allow focus lawns to about 3 or 4 inches. Think about reducing the number of fertilizer applications or the amount of fer-tilizer applied so the grasses don’t grow as quickly and thus don’t use as much water. Other options include allowing certain turf, such as Kentucky bluegrass and buffalo grass, to go dormant. When doing this, limit foot traffic and mowing on dormant turf and irrigate it no more than once a week.

Design home landscapes so plants with similar water needs grow side-by- side. According to Roch Gautsoin, Ph.D., turfgrass specialist you should group ornamental plants into low, moderate and high water needs and water them accordingly, tak- ing into consideration the time of year, actual precipitation and weather condi- tions. Also, try to put the plants in places where they’ll grow and use water most efficiently, consid- ering characteristics such as sun and shade, dryness and wetness. Planting native and adapted plants that are drought-resistant decreases the need for supplemental irriga- tion once the plants are established.

Surround garden plants with a 2- to 3-inch layer of mulch to reduce evaporation and weed competition for water. Soils can be amended with compost, manure or leaf mold to improve their water-holding capacity and infiltration of soils as well as plant vigor and health during dry conditions.

Water plants to the bottom of their roots. Determine root depth and water infiltration by stick- ing a screwdriver or soil probe into the ground. When pulled out of the ground, the probe should be moist—not dry or soggy wet. Then try to keep soil moist about 1/2-inch deeper than the deepest living roots or, if the root depth is unknown, 8 or 9 inches into the ground.

Some Other Factors To Consider

Don Janssen
UNL Extension Educator

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Ron Dowding

Lancaster County 4-H is proud to announce Ron Dowding of Bennet as winner of June’s ‘Heart of 4-H Award’ in recognition of outstanding volunteer service.

Ron has volunteered for Lancaster County 4-H for more than 20 years. He was organizational leader of Happy Go Lucky club for many years (in photo, he is wearing a belt buckle presented to him by the club). The club has been one of the larger 4-H clubs in Lancaster County. Ron has served as a county fair 4-H Sheep superintendent, 4-H recruiter, 4-H Council member, livestock VIPS committee member and Extension Board member. He also sponsors several livestock trophies.

Being a 4-H volunteer is a great opportunity to give back to a program that’s been a big part of my life,” says Ron. “From that first rabbit at 8 years old to showing swine, sheep, dairy and beef cattle in Otoe County 4-H, to raising a small back to a program that’s been a big part of my life, says Ron.

4-H is a great way to learn skills that will be useful throughout your lifetime.”

In addition to his work with 4-H, Ron is an extension office. Nominations of co-volunteers welcome.

Current Leaders Training March 23

New leaders, experienced leaders, 4-H members and parents are invited to this leader training on Tuesday, May 23, 9:30 a.m. to 7 p.m. at the Lancaster Extension Education Center. Come and receive information on how to fill out the entry tags, the ins and outs of interview judging, contests and other important county fair information. Preregister by May 22 by calling 441-7190.

Presentation Workshop, June 15

There will be a Presentation Contest workshop on a Sunday, June 15, 1:30 p.m. at the Lancaster Extension Education Center. Attend this workshop to prepare for the Presentation Contest. This workshop will teach youth and volunteers about the three presentation classes, give tips on how to be a great presenter and help with presentation ideas.

Animal ID’s Due June 15

All identification forms for 4-H FFA sheep, goats, swine, breeding beef, bucket calves, dairy cattle and rabbits which will be entered in the Lancaster County Fair will be due by June 15. 4-H members must be entered in the Lancaster County Fair. Any identification forms turned in after June 15 will be charged a late fee.

Nebraska State Fair 4-H Broiler Show

Broilers for the Nebraska State Fair 4-H Broiler Show must be ordered by May 30 from Gage County Extension Office. There is a minimum order of 10 birds per group. Forms can be picked up at extension office or online at http://lancaster.unl.edu/4h.

Preregister by Friday, July 7.

State Horse and Judging Events Due June 1

Hippology and judging entry forms for the State 4-H Horse Exposition at Fonner Park are due to the extension office on Thursday, June 1. Contest entry forms are available at the extension office or online at http://lancaster.unl.edu/4h.

Note: to be eligible for the State 4-H Horse Show All-Around Awards, a 4-H member must compete in either the Horse Judging Contest or the Hippology Contest, or have competed in both contests associated with the 4-H Horse Stampedes.

2006 4-H Horse Judging Clinics

May 31, 8:30 am — Pitzer Ranch, NE. Contact Steve Tscheppe at (402) 376-8707. Preregister by June 8 at (402) 372-8707.

June 8, 9:30 am — Manning Ranch at Whitman, NE. Contact Jay Jenkins at (402) 372-8707. Preregister by June 29, 8:30 a.m. – Pine Ridge Stables at Ashland NE. Contact Monte Stauffer at (402) 444-7804.

Cultural Judging Contest, July 7

The Horticulture Judging Contest will be held Friday, July 7, 10 a.m.—Noon at the Lancaster Extension Education Center. Contest is open to all 4-Hers — need not be enrolled in a horse judging project. Pre-registration is not required. Study material is available from extension, Contact Tracy by June 21 at 441-7190 for more information. Youth choose which of the following portions of the contest to participate in:

• Tree Identification — identify 20 species with proper name and spelling.
• Grass & Weed Identification — identify 20 grass and weed species with proper name and spelling.
• Horticulture Judging Contest — consists of a written test, identification and judging.

Presentations, Contest, July 15 and August 5

Presentations provide 4-H members the opportunity to learn to express themselves clearly and convincingly, organize their ideas and present them in logical order, converse and have confidence in themselves and emphasize the major points through the use of visuals and examples. There are three methods in which 4-Hers may present: (1) presentation using LCD, slide, video or overhead projector; (2) presentation using posters; or (3) multimedia presentation. You choose which date works for you: Friday, July 14 beginning at 1 p.m., or Saturday, Aug. 5 beginning at 8 a.m. Preregister by Friday, July 7, See Fair Book page 35 for complete contest information.

New Horse Rules Book is Available

The new revised 4-H Horse Show and Judging Guide is now available at the extension office.

Salt Creek Wranglers Hold Pre-Districts Practice, May 20 and June 11

The Salt Creek Wranglers are providing a chance to practice for districts within their 4-H district. The show on Saturday, May 20 will highlight the English classes using the district format. The show on Sunday, June 11 will be held using the western classes will be run in the district format. Registration starts 8 a.m. Showtimes on both days and other area horse shows are online at http://lancaster.unl.edu/4h/news.htm.
4-Day Workshops

Advanced Leather
Practise the eight steps of leather craft to make a sample toaster and book mark. Need to have had minimal prior leather work experience. Tools provided, please bring if you have them.

TUE-JUNE 20:23; 10:15AM-12:15PM AGES: 11 & up • FEE: $8 INSTRUCTOR: Jane Kucaur, 4-H volunteer

3-Day Workshops

Theater Arts Adventures
Create characters, make puppets, learn a song, learn to act and more! 

TUE-JUNE 22: 3-5PM AGES: 8-10 • FEE: $5 INSTRUCTOR: Ter Haiva, Extension Assistant

2-Day Workshops

Checkmate
Learn basic tactics of chess and the secrets of good positional play. For beginning and intermediate players.

THUR-FRI, JUNE 22; 3-5PM AGES: 8 & up • FEE: $10 INSTRUCTOR: James Walls, 4-H 4-H Youth Leadership

Perfectly Patriotic
Create a unique quilted wall hanging that will be proud to display. All materials provided. Bring a sewing machine if you have one; otherwise one will be provided.

THUR- FRI, JUNE 22; 12:45-2:45PM AGES: 8 & up • FEE: $7.50 INSTRUCTORS: Kathy Hansen, 4-H Volunteer Megan Working, Extension Staff

WORKSHOP DESCRIPTIONS

1-Day Workshops

M&M, Good Ole' Fashioned Bread Pudding
Learn how to make Grandma’s bread pudding and take home a sample.

TUE-JUNE 20; 8-10AM AGES: 8 & up • FEE: $10 INSTRUCTOR: Evan Kucera, 4-H Volunteer

Fabulous Face Painting
Learn fun techniques of face and body painting. You’ll learn how to paint faces, arms and legs. Lots of glitter will be used so plan to get dirty. When you leave TUE-JUNE 20; 8-10AM AGES: 10 & up • FEE: $10 INSTRUCTOR: Jhoni Kucaur, 4-H volunteer

Paper Bag Apple Pie
Make this amazingly delicious pie you actually bake in a paper bag. 

TUE-JUNE 20; 10:15AM-12:15PM AGES: 9 & up • FEE: $10 INSTRUCTOR: Evan Kucera, 4-H Volunteer

Fun in the Kitchen
It’s easier than it looks to mix and shape bread and rolls. Learn mixing and shaping techniques through this hands-on workshop.

TUE-JUNE 20; 12:45-2:45PM AGES: 8 & up • FEE: $15 INSTRUCTOR: Lorento Bartos, Extension Educator

Patriotic Silk Wreath
Learn from a floral arrangement expert how to make your own beautiful 4th of July silk flower wreath to take home and use now and in years to come. Bring wire cutters and if you have one,请 one pair of scissors.

TUE-JUNE 20; 3-5PM AGES: 8 & up • FEE: $25.50 INSTRUCTOR: Gary Tharnish, Burton Tyler’s Flowers

Etiquette Essentials
Etiquette is an essential life skill! Do you know which fork is for your salad? Can you properly introduce yourself to a stranger? This class will teach you this and more.

TUE-JUNE 21; 8-10AM AGES: 8-13 • FEE: $10.50 INSTRUCTOR: Mary Vanina, Etiquette Specialist

Money, Money, Money
Learn the basics of banking and how to spend and save wisely.

WED, JUNE 21; 10:15AM-12:15PM AGES: 10 & up • FEE: No charge INSTRUCTOR: TierOne Bank, Clocktower Branch

Color Galleria
Learn how to look your best by wearing the right colors.

WED, JUNE 21; 12:45-2:45PM AGES: 8 & up • FEE: $3.50 INSTRUCTOR: Deb Schultz, Extension Intern

Memory Boxes
Create your own personal memory box for all your special keepsake items.

WED, JUNE 21; 12:45-2:45PM AGES: 8 & up • FEE: $8 INSTRUCTOR: Jake Blosser, Full Image Consultant

Aquarius Beads
Boys and girls can learn the basics of making beaded jewelry. This class will teach you the basics of making macrame hemp jewelry. Make more than one piece of jewelry.

WED, JUNE 21; 3-5PM AGES: 8 & up • FEE: $10 INSTRUCTOR: Sara Sutton, Aquarius Beads & Gifts, Inc.

Sensational Summertime Crafts
Create your own personal summertime arts & crafts in this hands-on workshop.

WED, JUNE 21; 3-5PM AGES: 8-12 • FEE: $8 INSTRUCTOR: Jami Rutt, Extension Intern

Baby Sitting Basics
Learn the basics of baby sitting needed to be a responsible and creative babysitter. Focus is on activities, making snacks and toys.

WED, JUNE 21; 3-5PM AGES: 11 & up • FEE: $5 INSTRUCTOR: Lorento Bartos, Extension Educator

Table Setting Fun
Create your own rose-covered votive centerpiece and matching tablecloth while you learn all you need to know to participate in the table setting contest.

THUR, JUNE 22; 12:45-2:45PM AGES: 8 & up • FEE: $3 INSTRUCTOR: Karen Wedding, Extension Staff

Framing Fun
Decorate picture frames using a variety of materials and finishing methods.

THUR, JUNE 22; 12:45-2:45PM AGES: 8 & up • FEE: $4 INSTRUCTOR: Deb Schultz, Extension Intern

Everything Horticulture
If you like to eat plants, plant plants, look at plants, or identify plants this is your class. This will be a two-hour crash course in all things horticulture.

THUR, JUNE 22; 12:45-2:45PM AGES: 8 & up • FEE: $5 INSTRUCTORS: Nebraska Junior Horticulture and Extension Volunteers

Style Revue Workshop
Style Revue will be here soon! Learn new styling procedures and practice your modeling technique.

THUR, JUNE 22; 3-5PM AGES: 8 & up • FEE: No charge INSTRUCTOR: TierOne Bank, Clocktower Branch

No Can’t Resist Fabric
Learn how to design and create your own unique fabric using a resist method. Finished projects available Friday, June 23.

THUR, JUNE 22; 3-5PM AGES: 8 & up • FEE: $3 INSTRUCTORS: Jessica and Jamie Stephenson, 4-H volunteers

Iris Paper Folding
Learn to make adorable cards for friends and family using the simple and unique Iris folding technique.

FRI-JUNE 23; 3-5PM AGES: 10 & up • FEE: $2.50 INSTRUCTOR: Nan Hanigan, 4-H Volunteer

Garbage Getters
Learn about the world of worms and how they turn our garbage into healthy food (called worm compost) for your plants and flowers. Create a worm habitat and take home your very own worm friends.

FRI-JUNE 23; 3-5PM AGES: 8 & up • FEE: $8 INSTRUCTOR: Roberta Sandhontor, Master Gardener

Paws Up!
Bring your cat or dog and attend advanced therapy dogs and learn what they can do for you and your family members.

FRI-JUNE 23; 3-5PM AGES: 8 & up • FEE: $7 INSTRUCTOR: Paws Up! volunteers

2-Day Workshops

AQUARIUM BEADS
AGES: 8 & up • FEE: No charge INSTRUCTOR: Paws Up!

Checkmate
Learn basic tactics of chess and the secrets of good positional play. For beginning and intermediate players.

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Be a 4-H Clover College Volunteer!

Adult and teens volunteers are needed to help during Clover College! No experience needed!

Volunteer for one session or all four days!

If you are interested in this opportunity, contact Tracy Kucaur at 441-7180 or thulm1@unl.edu.

For the current listing of full classes, please go to http://lancaster.unl.edu/4h/programs/clovercollege/

CLOVER COLLEGE REGISTRATION FORM

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 12. Registrations are handled on a “first come” basis and will only be accepted upon receipt of fees. Closers full up quickly — early registration is recommended. Telephone registration not accepted. All fees are nonrefundable unless a class is filled to capacity or canceled. Mail photocopy form if needed.

I do hereby certify that I authorize the above registration.

Parent/Guardian Signature __________________________ Date: __________________

Register below:

Name _______________________ Age ______

Parent(s) Name(s) __________________________

Address ____________________________ City State Zip

Daytime Phone ____________________________ Evening Phone ________________

Special Needs (allergies, etc.) __________________________

Workshop(s) _______ Title ______ Fee ______

I agree to the terms and conditions of this registration form.

I give permission to use my child's name/photograph in publications, news articles, advertisements or Web sites pertaining to 4-H. Yes No

Parent/Guardian Signature __________________________ Date: __________________
Bennet Celebrates Successful Visioning Process

On April 29, the Bennet Community Visioning Process took about six months to complete and the Bennet residents have a lot to be proud of.

The Citizens’ Advisory Committee raised the money to create a banner with the community slogan, Bennet’s future. They also contracted local leaders to organize the Community Visioning Celebration.

The majority of attendees were aware of the visioning process and had participated in Listening Sessions and Town Hall meetings. Some attendees had not known about the visioning process, but enjoyed the opportunity to learn what was going on in the community.

For more information about the Bennet visioning process, visit the Web site at http://lancast.unl.edu/communinity/Bennet.shtml.

When Property with Private Water, Wastewater is Sold, Systems Must be Inspected

By John Chess
Lincoln-Lancaster County Health Department

Effective May 29, 2006, Lancaster County Resolution R-06-0005 and Lincoln Municipal Code 24-42 requires prior to the sale, transfer or conveyance of property upon which an on-site wastewater treatment system and/or on-site water supply system is located, it shall be the duty of the owner to have each system inspected by a Property Transfer Inspector (PTI) and secure a determination letter from the Lincoln-Lancaster County Health Department (LLCHD).

A PTI must hold a valid permit from LLCHD to conduct inspections on the on-site wastewater system and/or the on-site water system. A current list of PTIs is available by contacting the LLCHD.

The PTI will conduct inspections of the on-site wastewater and/or the onsite water system based on the criteria set by the LLCHD. The inspection results will be submitted to the LLCHD along with a $75.00 fee for review and issuance of a determination letter. After reviewing the inspection report, LLCHD will issue one of three letters of determination. They are:

- Denial: This means at the time of inspection the on-site wastewater system and/or the on-site water system found the structure and operational status were in substantial compliance with applicable local and state codes.
- Conditional: This means either one or both of the on-site systems may adversely affect public health. The denial status does not preclude the sale; transfer or conveyance of property. However, if a serious public health violation does exist, LLCHD may take legal steps to make sure the violation is corrected.

Undetermined: This means the system could not be inspected due to weather conditions. The inspection must be completed when the weather conditions are acceptable.

The property code does provide exceptions to the inspection requirement and issuance of the determination letter. Examples of the most common exceptions are:

1) when a determination letter was issued within the past 36 months;
2) a new system installed in the previous 36 months;
3) transfers from spouse to spouse; and
4) transfers between immediate family members.

If you have questions about the property transfer code, contact John Chess at 441-8027 or Doug Smith at 441-8031.

The Nebraska LEAD Program
(LEADERSHIP EDUCATION/ACTION DEVELOPMENT)

Applications are now being accepted for Nebraska LEAD Group XXVI, which begins in the fall of 2006. Thirty highly motivated individuals with demonstrated leadership potential will be selected. Application deadline is June 15.

The Nebraska LEAD Program is specifically designed for both males and females involved in production agriculture or agribusiness, in the general range of 25-50, who are intent on making a difference by providing quality leadership for the future of the industry and agriculture of the state of Nebraska.

For application or re-application materials and/or further information, call the Nebraska LEAD Program at 472-6810 or e-mail aablek1@unl.edu.
Bio-Fuels
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systems necessary to reduce emissions. The standard is being mandated by petroleum refiners as being too costly.

Rotary distributor injection pumps rely on the diesel fuel itself for lubrication. Sulfur compounds in diesel fuel have lubricating properties. The main lubricity problem is these pumps sustain accelerated wear with lower sulfur diesel. Newer pumps built to new standards can handle lower sulfur content, but older models will need lubricity enhancers added to the fuel.

The invention of biodiesel, at the rate of 2 percent (B2), increases fuel lubricity of present day lower-sulfur #1 and #2 diesel to benchmark standards or better. As sulfur content drops to meet the new 2006 standards, older engines would likely benefit from somewhat higher concentrations of biodiesel.

The lubricity characteristics of biodiesel, plus the long-term benefits of replacing a portion of fossil fuel with a renewable source should result in a growing and on-going demand for biodiesel in the future. Statistics show an estimated 45 billion gallons of diesel fuel was used over-the-road trucks in 2001. If all over-the-road truck diesel fuel contained a 2 percent blend of biodiesel (B2), about a billion gallons of petroleum diesel per year would be replaced by biodiesel which, in turn, would reduce our dependence on foreign oil.

Many Nebraska farmers are using B2 in their diesel tractors, combines and pickups. In fact, at least one major farm equipment manufacturer is shipping their tractors with a tank of biodiesel. The number of diesel automobiles is expected to double in the next 20 years. If biodiesel were used not only in trucks and cars but also in diesel electric locomotives, construction equipment, etc., we could further reduce our dependence on foreign oil.

What Does the Future Hold for Biofuel Production in Nebraska?

Nebraska will continue to be a reliable supplier of feed grain and oilseed, as a result of our irrigated crop production. Some of this production is already going into biofuel production and as more biofuel plants go into production, they can be located so as to be assured of a reliable supply of feedstock. Nebraska has a very well-developed transportation infrastructure — truck and rail. Our central location within the country puts us in an ideal position to be a supplier of biofuel to the Midwest region and both coasts.

When cellulotic ethanol production is perfected, Nebraska has millions of acres of grain production which could be utilized for ethanol production.

Finally, we have a thriving livestock industry in the state. I have often said, Nebraska is the Saudi Arabia of fresh water, having two billion of the estimated total 2.98 billion acre-feet of water stored in the High Plains Aquifer. Someday, we also could know the Saudi Arabia of renewable fuels.
**4-H Speech & PSA Contest Winners**

This year was the second year the Lancaster County 4-H Speech and Public Service Announcement (PSA) Contest was split into two events and dates to make it easier for youth to participate in both contests. These are the first 2006 Lancaster County Fair 4-H contests. Waverly Grange and Lancaster County Farm Bureau donated cash awards. The top three winners in each division will go to regions, held May 30 at UNL East Campus. Complete results and photos are online at http://lancaster.unl.edu/4h/Fair

**SENIOR PSA:** Amanda Peterson (1st), Kyle Pedersen (2nd)
**INTERMEDIATE PSA:** Jessica Stephenson (1st), Erica Peterson (2nd), Rachel Pickrel (3rd)
**JUNIOR PSA:** Trenton Craig (1st)
**NOVICE PSA:** Jaime Stephenson (1st), Jacob Pickrel (2nd)

**SENIOR SPEECH:** Amanda Peterson (1st), Catherine Dowd (2nd), Kyle Pedersen (3rd)
**INTERMEDIATE SPEECH:** Caleb Swanson (1st), Jessica Stephenson (2nd), Erica Peterson (3rd)
**JUNIOR SPEECH:** Charles Dowd (1st), Abigail Swan (2nd)

Rabbits ‘R’ Us 4-H Club Donates Aprons

When the 4-H Council discussed purchasing aprons for 4-H’ers working in the 4-H Food Booth at the Lancaster County Fair, members of the Rabbits ‘R’ Us 4-H Club stepped forward with a plan. They volunteered to purchase, decorate and donate 100 aprons to the 4-H Council to be used at the 4-H Food Booth and other approved events, as they arise.

The funds to purchase the aprons came from the club’s main fundraiser, the Dinkbooth and Duck Pond at the Lancaster County Fair. Funds generated from the Dinkbooth and Duck Pond are annually used to do landscaping work at the Lancaster Event Center and other community service projects.

Approximately 15 Rabbits ‘R’ Us club members helped decorate the aprons with the 4-H logo using a fabric resist method. One of the members, Jessica Stephenson, had demonstrated the technique as part of last year’s Presentations Contest. Therefore, Jessica and her sister Jaime, led Rabbits ‘R’ Us members in the process and laundered the aprons after the meeting. They will also be presenting this technique at this year’s Clover College (see page 9). Thanks to the Event Center for providing space for the club to decorate the aprons.

—Submitted by Chris and Jessica Stephenson

**Choose from More than 40 Nebraska 4-H Summer Camps**

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

There are more than 40 camps and trips scheduled in May, June, July and August at the three 4-H camp locations in Nebraska:
- Eastern Nebraska 4-H Center, Gretna
- Nebraska State 4-H Camp, Halsey
- South Central 4-H Center, Alma

Most camps include one to three overnight stays in comfortable cabins. Four camps aimed at youth ages 5-8 are one-day camps — adult chaperones are invited!

Brochures with camp descriptions, registration forms and more information are available online at http://4h.unl.edu/camp or at the extension office. New this year, register online!