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The NEBLINE, May 2001

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Crop Genetic Engineering - 101

Tom Dorn
Extension Educator

Every plant is made up of millions of cells. Each one of those cells contains a complete copy of the genetic information necessary for the plant to survive. This genetic information is found in the nucleus of each cell on structures called chromosomes. Chromosomes are composed of DNA which is wrapped around proteins to provide stability. Chromosomes are responsible for carrying the genetic information from one generation to the next.

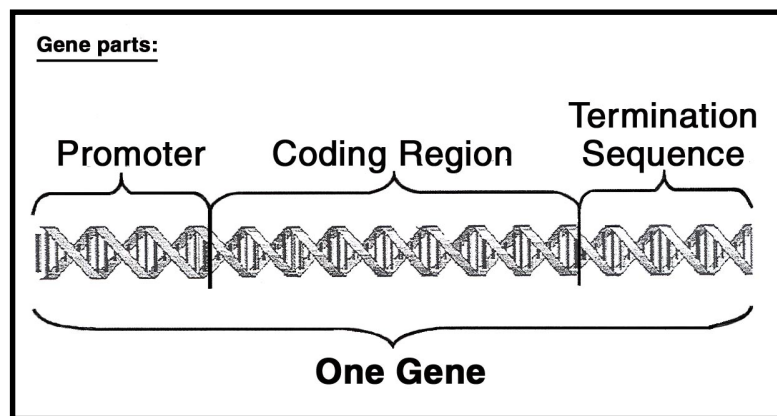
DNA is the molecule that contains the genetic information in a special code. The code is made from smaller molecules called nucleotides. The four nucleotides used in DNA are thymine, adenine, guanine, and cytosine, which are abbreviated as T, A, G, and C respectively. Different combinations of the nucleotides are bonded together in a long chain to form a single strand of DNA. DNA is actually a double-stranded molecule, meaning it contains not just one, but two nucleotide strands bound together forming a double helix. (Picture a ladder that has been twisted around its long axis like a cork screw. This shape would be a double helix.)

Genes are shorter sequences of DNA (about 2000 to 3000 nucleotide pairs long) that are each located at a particular place on a chromosome. Each gene contains the information the cell uses to build one

specific enzyme or other type of protein.

A plant has about 100,000 different genes to control all of its functions. Although every gene is found in every cell of a plant, only a subset of genes are active, or "turned-on" at a particular time in a particular cell. Some genes are expressed all of the time.

makeup of a plant (or any other organism) and how relatively few amino acids can be combined to make every protein necessary for an organism to survive, grow, and reproduce if one considers written language. For example, there are only 26 letters in the English alphabet, but hundreds of thousands of



Some are only expressed for a short time in the development of a cell. Some genes are turned on at a high level, and some are turned on at a low level.

Certain mechanisms within the cell "read" the genetic information contained on the plant's genes that are "turned on" and use that information to construct proteins. Proteins are made up of smaller building blocks called amino acids. There are relatively few amino acids but there are thousands of different proteins, each different protein being made up of amino acids that are put together in a certain sequence.

It might be easier to understand how only four nucleotides can encode the entire genetic

words can be made from those 26 letters when put together in various combinations.

Through processes at work within certain structures in the plant's cells, amino acids are produced and stored in the cytoplasm (interior space) of the cell. Amino acids in the cytoplasm are available for protein construction. Meanwhile other mechanisms are reading the genetic code on the DNA and transferring the information to special structures in the cell called ribosomes where the proteins will be assembled. Using the genetic coding as the template, amino acids are gathered from the cytoplasm and strung together in a precise order, making proteins.

As stated above, each gene is made up of strings of nucleotide pairs (usually between 2000 and 3000 nucleotide pairs long). Within these strings, each gene contains three distinct regions. 1) The promoter region tells the gene when to turn itself on. 2) The a coding region is the part of the gene that contains the genetic "template" that directs the making of proteins. 3) The termination sequence indicates the end of a particular gene sequence. When the protein making mechanism finds the termination sequence it stops stringing amino acids together and the protein is finished.

Scientists have learned to take a gene that exists somewhere in nature (in a plant, an animal or a microbe) that has the coding for a particular protein and insert that gene into a plant that they wish to modify. If successful, they can modify the genetic makeup of an existing plant so it has all the characteristics of the naturally occurring parent but also has the ability to make the new protein. The new gene becomes an integral part of the DNA of the plant and is carried forward through succeeding generations.

This process usually involves replacing the promoter region on the introduced gene with a promoter (taken from another naturally occurring organism) that will be active in the plant and allow the gene to be "turned on" at the appropriate times within the plant cell. The

See **GENETIC** on page 11

StarLink Corn—What is All the Fuss About?

Many years ago, scientists discovered that a naturally occurring soil bacteria called *Bacillus thuringiensis* (Bt) contained a gene that makes a crystalline (Cry) protein that when ingested by insects from the insect order Lepidoptera, would bind to sites in the insect's mid-gut, paralyze the gut, and kill the insect. This protein was quite specific. It was only toxic to that specific order of insect and was not toxic to other types of insects nor was it toxic to animals (mammals or birds or fish).

Formulations containing Bt bacteria spores, or the Cry protein extracted from Bt bacteria, have been sold and

used by commercial vegetable growers and home gardeners for many years as an environmentally friendly and non-toxic method to control cabbage loopers, corn borer, and related insects. Humans and other mammals are not affected by Bt because the Cry protein is very quickly broken down by the acidic environment of the human stomach and, therefore, does not pose a threat.

Scientists and plant breeders saw the potential benefit of incorporating the gene that codes for the production of the Cry

protein into corn plants. Each plant would then be able to produce its own protection against attack by corn borer, corn earworm, and similar insects. This was seen as a huge advantage and a much safer and more environmentally friendly alternative to the practice of spraying corn plants with insecticides for corn borer control.

Not only does the use of insecticide carry with it some risk of pollution and some risk of exposure to the pesticide by

farmers and agricultural workers, but insecticides usually kill a fairly broad spectrum of insects, both harmful and beneficial. Insecticide sprays only provide short term protection because the insecticides are designed to break down in the environment over the course of a few days to a week or so, whereas a genetically engineered plant would produce the Bt Cry protein over the full growing season.

The Bt gene has been incorporated into corn plants through genetic engineering. The concern over StarLink™, versus other Bt corn varieties results from the discovery and use of

See **CORN** on page 11

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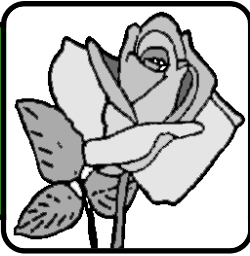


Community Focus
—page 10

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Cooperative Extension in Lancaster County
444 Cherry Creek Road • Suite A
Lincoln, Nebraska 68528-1507

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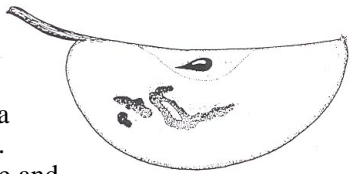


Horticulture

Think About Apple Maggot Control Now

The adult of the apple maggot is a fly similar to the housefly, but smaller. The larvae feed on the fruit and cause the fruit to rot. They then drop to the soil to pupate during the winter months. The control of the apple maggot must be directed at the adult fly. This control should occur between the time the adults emerge and the time they lay their eggs. Sanitation helps reduce the number of flies. Pick up the fallen apples and dispose of them. Weekly spraying with an insecticide is an effective control. The spray schedule should begin mid- to late-June and continue through August.

To tell when the flies begin to emerge, coat a red, plastic ball with a sticky substance, such as Tanglefoot. Hang the apple look-a-like in the tree and check it daily. (MJM)



Mulches

Mulches in the home landscape not only conserve moisture, modify soil temperatures and control weeds but also may be used to make landscapes more attractive and usable. Many types of material, organic or inorganic, may be used as mulch.

Organic mulches may break down in one season or less, or persist for several seasons. Those that persist for more than one growing season are more useful around permanent plants.

Inorganic mulches such as gravel, crushed stone or some manufactured products are not

as beneficial to plants as the organic mulches, such as wood chips, bark, compost, grass clippings, or shredded leaves.

Though not generally considered mulches, some low growing ground cover plants produce many of the same beneficial effects as mulch.

Mulches should not be considered as fertilizer. Most of them release some nutrients as they decompose, but the fertilizer value is very small compared to the physical effects. Where mulches are needed, use them for the mulch value and add fertilizer, as needed. (MJM)

Three All-America Rose Selections Winners for 2001

Each All-America Rose Selections (AARS) winner was evaluated for 15 traits including disease resistance, hardiness, color and novelty in gardens across the United States for two years. Only truly exceptional roses are awarded AARS honors. The three winners for 2001 were judged to be the best overall.

Glowing Peace

Named after its grandparent Peace, the world's most renowned rose, Glowing Peace has some big shoes to fill. Sure to become a focal point of any garden, Glowing Peace combines timeless beauty with modern novelty. Large, round buds open to reveal full, three-inch blooms featuring

golden yellow and cantaloupe orange blended petals. Deep, glossy green foliage serves as a backdrop for the blooms and gives way to a burgundy fall color. Glowing Peace, a round, bushy grandiflora, grows to four-feet by



Glowing Peace

Marmalade Skies

Sun Sprinkles

three-feet and is resistant to disease. The rose exhibits a light tea fragrance completing a package that stands out in any garden and commands attention.

Sun Sprinkles

Sun Sprinkles is only the fifth miniature ever to win AARS honors and the first since 1993. Its blazing, yellow blooms add life to any landscape. A shining example of disease resistance, Sun

Sprinkles produces bright yellow blooms set against a backdrop of petite, dark green, glossy foliage. Its high, pointed

oval buds spiral open to reveal two-inch, petite, double blooms with a moderate spicy fragrance with overtones of musk.

Upright and rounded, Sun Sprinkles will grow 18 to 24 inches tall. Miniatures are among the most versatile of rose classes, ideal for lining walkways, growing in containers, accenting formal rose beds.

Marmalade Skies

Brilliant tangerine orange blooms engulf Marmalade Skies from beginning to end of the blooming season. Healthy, olive green, satiny foliage provides the perfect backdrop for the constant show of color. The floribunda produces clusters of five to eight blooms on each strong stem. Oblong buds open to reveal three-inch double blooms. This compact, round plant grows three-feet by three-feet, making it the perfect rose for a hedge or a stellar addition to any existing rose bed. (MJM)

Perennials with Unique Flowers

Home gardeners can choose from many species and varieties of perennials. Perennials differ in growth habit, size, leaf shape, and other characteristics.

Sometimes what sets one perennial apart is its interesting flower. Below is a list of perennials with unusual flowers. For interesting late spring bloom, try Columbine (*Aquilegia* hybrids). The foliage is blue-green and softly hairy. The flower is composed of five petals and five sepals. The petals have backward projecting spurs. The sepals are shorter than the petals and may be the same color or a contrasting color. Colors for the sepals and petals include red, pink, yellow, blue, white, and purple. This plant grows one- to three-feet tall by one foot wide. It prefers full sun to partial shade and well-drained soil.

Old-fashioned Bleeding Heart (*Dicentra spectabilis*) has blue-green foliage. Flowers hang down from arching stems in late spring to early summer. The outer petals are rose-red with reflexed tips. The inner petals are white. Bleeding heart gets its name from the flowers that resemble pink broken hearts. This plant grows two to three feet with a graceful arching effect and a rounded growth habit. Bleeding heart performs best in well-drained, moist soils in partial shade.

Sea Holly (*Eryngium amethystinum*) has rigid, deeply cut, spiny, silvery foliage. The blue flowers appear in heads that are 1/2-inch to 3/4-inch in diameter. Long, spear-like bracts surround the heads. Blooms appear in midsummer. Sea Holly prefers full sun and sandy, dry areas. This perennial is tolerant of dry, sunny conditions and infertile soils. It can be used as a single specimen or in groups of

three. Sea Holly can also be used as a dried flower.

To add bright colors to the perennial garden, incorporate specimen plantings of Red-Hot Poker (*Kniphofia* hybrids). The foliage is linear or sword-shaped, and gray-green with rough edges. Tubular flowers appear massed in the top six to ten inches of the flower scape in the summer. Flower colors include red, yellow, coral/orange, and combinations. The plant has a mature height of two to four feet and a width of three feet. Red-hot poker prefers a site with full sun and well-drained soil. Avoid planting this perennial in heavy, wet soils. The flowers can be used as cut flowers. Mulch heavily in winter.

Beebalm (*Monarda didyma*) has foliage that is aromatic and stems that are square. Two- to three-inch, tubular flowers occur in dense heads from late spring to summer. Deadheading promotes new blooms. This plant grows to a height of two to four feet with a spread of three feet. Beebalm prefers full sun and good soil moisture. If beebalm is to be used in the perennial bed, divide plants every two to three years as it spreads rapidly. Beebalm can be used in naturalized areas and to attract bees and butterflies.

For late summer bloom, try Obedient Plant (*Physostegia virginiana*). The spear-like, serrated leaves are green in the growing season. The stems are square. The flowers appear in spikes spaced in four vertical rows. Flower colors include rose, purple, and white. The plant grows to a height of two to four feet and a width of three feet. The ideal site includes sun to partial shade and moist soils. Because of its height, staking may be required. The Obedient

Plant spreads vigorously. The Obedient Plant requires little or no fertilizer. Heavy fertilization promotes rampant growth and increases the plant's invasive tendencies. Obedient Plant is heat tolerant. The bloom may be used as a cut flower. Obedient Plant gets its name from the ability of individual flowers to be twisted on the stem and then remain as arranged.

Balloon Flower (*Platycodon grandiflorus*) has serrated, dark green leaves that are one to three inches long with short petioles. The saucer-shaped flowers appear in summer in lavender, blue, pink, and white. Several double-flowering varieties are available. The plant has two- to three-foot upright growth. Balloon Flower prefers sun to part shade and well-drained soil. The plant does well as a cut flower, in rock gardens and in perennial beds.

For the perennial border, try Pincushion Flower (*Scabiosa caucasica*). For three to four weeks in the summer, light blue or pink, flattened flower heads appear on long stems. Cultivars such as 'Butterfly Blue' and 'Pink Mist' can bloom for two months. The flower head consists of an outer ring of flattened petals and a tufted, cushion-like center. The shape of the flower gives pincushion flower its name. Plants are 1 1/2- to 2-feet tall and 1 1/2-feet wide with a rounded growth habit. Full sun and well-drained, fertile soil are necessary for optimum growth. To promote flowering, spent blooms should be removed. For the best effect, plant this perennial in the perennial bed in groups of three or more. In addition, the blooms can be used as cut flowers. (MJM)

Horticulture information center

NUFACTS
24 hours a day, 7 days a week
1-800-832-5441; or
441-7188 in the Lincoln area



To listen to a NUFACTS information center message, call the number above on a touch-tone phone, then enter a three-digit number listed below. Call 441-7180 to receive a brochure with all the NUFACTS message topics. (MJM)

- NUFACTS
- 111 Tree Borer Insects
- 112 Euonymus Scale
- 125 Needle Blight of Pines
- 126 Pine Sawfly
- 128 Iron Chlorosis of Pin Oak
- 130 New Trees and Shrubs Care
- 131 Pine Tip Blight
- 142 Bagworms
- 173 Rose Fertilizing
- 182 Seeding a Lawn
- 185 Sodding a Lawn
- 188 Lawn Renovation
- 199 Fertilizing Lawns
- 265 Vegetable Transplants
- 266 Composting
- 267 Water Management
- 272 Cutworm Control
- 278 Vegetable Pest Control
- 290 Weed Control in Garden
- 292 Rabbit Control in Garden

It's Springtime: Watch for Signs of Termites

Barb Ogg
Extension Educator

When you are doing chores around the house this spring, keep an eye out for signs of termites. Termite activity increases during the springtime as temperatures warm up.

Like all insects, termites are cold-blooded animals and activity slows greatly when temperatures are cold. Unless they enter a structure below the frost line, termites are less active during Nebraska winters. But, when temperatures warm up in the spring, hungry termites are looking for food—which could be your house. Be on the lookout for:

—Mud tubes. To keep from becoming dehydrated, termites build and travel through mud tubes that are about the size of a pencil. If you break the tubes open, you may find light-colored worker termites. These innocent-looking insects are the ones that take small bites out of your house. Watch for mud tubes on the side of foundations, inside basement walls and where wood is close to the soil. Check for mud tubes if you are doing repair work; homeowners sometimes find mud tubes in wall voids while doing remodeling projects.

—Swarming termites. In the spring, some of the termites in a healthy colony develop wings and fly off to start new colonies. Swarming termites are dark brown to black, have two pairs of nearly equal-sized wings, and are weak flyers. Termites that swarm in the house is a cause for real concern, because it means that worker termites have found a way into the house.

—Termite damage is often hidden because termites prefer to stay inside the wood or wall void. Damaged wood can often be penetrated with a screwdriver or an icepick, revealing mud tubes lining the damaged wood. Tapping damaged wood with the handle of a screwdriver may produce a "hollow" sound.

—Pinholes in drywall or wallpaper. Termites in the wall void sometimes chew through drywall to search for new sources of wood. When they reach the light and dry air, they stop and plug the tiny hole with mud.

Places to particularly look for termite activity include wooden constructions in basement and crawl spaces, wood sills, joists, support posts, basement window frames.

What should you do if you find termite activity? **DO NOT PANIC!** Termites damage wood slowly; it takes from three to eight years for significant damage to result from a termite infestation in Nebraska.

Many people want to treat the termite infestation themselves to save money. But, because of the expertise needed to treat properly, homeowners should work with a termite control professional.

Do not be pressured into making a quick decision about purchasing a termite control service; the time spent gathering information can save you

hundreds, even thousands of dollars and will help you make more informed decisions.

To become more informed about termites, come to a workshop, "Everything Homeowners Need to Know about Termites and Termite Control." University Extension Educators, Barb Ogg, Dennis Ferraro and Pesticide Education Specialist, Clyde Ogg, will discuss termite biology and behavior, home inspection tips,

differences between barrier and bait treatments, and how treatments should be done for best termite control. Tim Creger, pesticide program manager of the Nebraska Department of Agriculture will discuss why it is important for homeowners to read and understand termiticide labels.

This workshop will be held at the following five Nebraska locations:

May 10, Columbus, Agriculture Park Exhibit Hall; 822 15th Street; 6:30 - 9:30 p.m.,

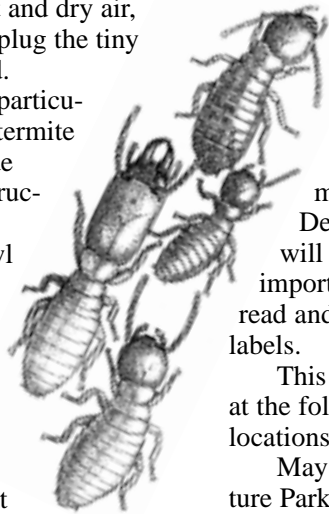
May 15, Omaha, Douglas County Extension Office; 8015 W. Center; 6:30 - 9:30 p.m.,

May 17, Auburn, 4-H Building, 7 - 10 p.m.,

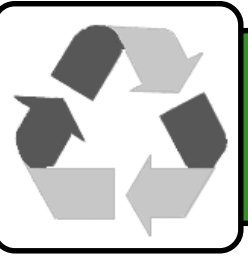
May 22, Lincoln, Lancaster Extension Education Center, 444 Cherrycreek Road; 6:30 - 9:30 p.m.,

May 24, Hastings, Adams County Fairgrounds, Activities Building, North Conference Room; 6:30 - 9:30 p.m.

There is a \$20 registration fee for this workshop. In addition to training, participants will receive up-to-date reference materials. (BPO)



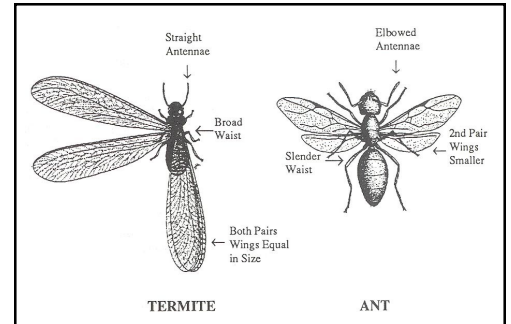
Environmental Focus



Don't Confuse Winged Termites With Ants

To the untrained eye, winged termites look a little like winged ants. To add to the confusion, termites and ants both swarm during the springtime. If you see a critter that you are unsure of, bring it to the Lancaster County Extension Office weekdays from

8 a.m. to 4:30 p.m. Our diagnostic services are free, and we can provide management tips for just about any pest problem that you bring to us. For those of you who have brought specimens to our office in the past, we have a new diagnostic lab with more space. We have a new digital microscope that will allow us to capture microscopic images for use on our webpage and the future NebLine articles. We hope that this state-of-the-art equipment and better facilities will help us serve you better. (BPO)



We Love the Birds, But Sometimes They Drive Us Crazy!

Springtime is when birds are preoccupied with mating, nest building, and rearing young. Along with these activities, some species have a variety of behaviors that seem to be odd, annoying, or even frightening.

"Why are woodpeckers beating on my house?"

"I have birds repeatedly banging into my window. Why are they doing this? Will they hurt themselves?"

"Swallows have been trying to build a mud nest above our door. How do we discourage them?"

"Grackles are putting droppings in my bird bath (swimming pool). Why?"

"Blue jays and swallows have been attacking our cat and have swooped down on us! Why are they doing this? How can we protect ourselves from these dive-bombing birds?"

"My children found a baby bird that fell from a nest. Will the parents abandon the bird now that we've touched it?"

Call the extension office at 441-7180 to get your free copy of Springtime Bird FAQ's (Fact sheet 266) for answers to all of these bird behavior questions. Or visit us on-line at <http://lancaster.unl.edu/enviro/pest/bug.htm> (SC)

Insects, Spiders, Mice and More

Use the office web site to get the information you need on pests and wildlife found in and around homes in Lancaster County. You have access to reliable information 24 hours a day/seven days a week. Visit <http://lancaster.unl.edu/enviro/pest/bug.htm>



- ants
- antlions
- aquatic insects
- bats
- beavers
- bees and wasp
- beetles and bugs
- birds
- centipedes and millipedes
- cockroaches
- crickets
- earthworms
- fabric pests
- fleas
- flies, gnats, and mosquitos
- grasshoppers
- insects as food

- insects in firewood
- human lice
- mice and rats
- moles
- pantry pests
- pest proofing
- sowbugs and pillbugs
- rabbits
- snakes, turtles, frogs, and lizards
- springtails
- squirrels
- termites
- ticks and Lyme disease
- voles
- wildlife damage and disease
- woodchucks (SC)



Reminder!!

Household Hazardous Waste Collection for Lancaster County Residents

Friday, May 18, Hickman, Second and Main; 3-6 p.m.

Saturday, May 19, Goodyear Tire and Rubber, 4021 N. 56 Street; 9 a.m.-3 p.m.

Questions? Contact the Lincoln-Lancaster County Health Department (441-8040). (BPO)



Farm Views

Controlling Volunteer StarLink™ corn

While Aventis has pulled the genetically modified hybrid, StarLink™, from the market and is no longer available for planting, the potential for



complications continue this year in fields exposed to the genetic trait in 2000.

Corn harvest is never 100 percent efficient and kernels left in a field may emerge the following spring as volunteer corn. Since the StarLink™ trait is passed on in seed, each volunteer corn plant in 2001 resulting from planting StarLink™ seed corn in 2000, has a 75 percent chance of containing the trait. The StarLink™ trait is also transmitted by pollen so a non StarLink™ field in 2000 produced adjacent to a StarLink™ field would likely contain the StarLink™ trait as a result of pollination from the StarLink™ field. Bottom line, any field where StarLink™ corn was planted in 2000 or adjacent to a field where StarLink™ corn was produced in 2000, very likely will contain volunteer StarLink™ corn in 2001. FDA tolerance for the StarLink™ trait in corn for human consumption is zero. This means corn from fields with either of the 2000 StarLink™ exposures described will, in all likelihood, not be acceptable for human food use under the current zero tolerance and will need to be marketed as such.

Producers have several options for controlling volunteer StarLink™ corn ranging from crop selection to cultural practices and chemical control.

Crop Selection

In a field where StarLink™ was planted in 2000, the first and most important recommendation would be to not plant corn, but rather to plant a crop not intended for human consumption. Volunteer corn is impossible to distinguish from the intended hybrid and there are no strategies that provide 100 percent control of volunteer corn, the level required to achieve zero contamination.

Soybean is an ideal row crop to plant where volunteer StarLink™ corn is a problem because: 1) several very effective herbicides are available for volunteer corn (including StarLink™) control in soybean, and 2) volunteer corn is readily spotted in soybean and escapes can be manually removed, if necessary.

While not recommended, if corn is planted in fields which were exposed to StarLink™ in 2000, make certain the crop does not reach human food channels.

Cultural Practices

No-till and ridge-till systems aid in the control of volunteer corn. Tillage “plants” volunteer corn ears and kernels. Under no-till, a smaller percentage of volunteer corn kernels will germinate compared to a tilled seedbed. A ridge-till system which uses a “ridge-clearing” device can move most of the volunteer corn kernels from the ridge (new corn row) and deposit them between the rows where the resulting volunteer corn can be controlled with a cultivator. The ridge-clearing device must be adjusted to scrape surface soil (at least one inch) off the ridge in order to effectively move corn kernels to the inter-row area. Both no-till and ridge-till reduce volunteer corn establishment reducing the task of controlling the remaining volunteer corn.

Chemical Control

Volunteer corn often occurs in clumps as a result of ears remaining from the previous crop. Effectiveness of soil-applied herbicides in high density clumps is reduced due to “competition” between individual plants for the herbicide. Post emergence herbicide effectiveness is reduced in high plant density clumps of corn because one plant shields another resulting in inadequate herbicide coverage. As a result, complete control of volunteer corn is unlikely from a single



soil-applied or post-emergence herbicide application. A follow up operation will be required to control survivors.

This article will not cover the specifics of individual herbicides. Consult product labels for application rates, additives, volunteer corn growth stages, and crop rotation restrictions.

Soybean

Several herbicides can effectively control volunteer

Question	BSE (Mad Cow)	Foot & Mouth Disease (FMD)
What is this disease?	BSE is an abnormality in proteins called prions. These prions attack and cause severe damage to the central nervous system.	FMD is an extremely contagious viral disease of cloven-hoofed animals such as cattle, pigs, and sheep.
Is it a threat to humans?	There is a possible link between BSE in animals and variant-Creutzfeldt-Jakob Disease (vCJD), in humans; vCJD can be fatal.	NO, FMD does not impact human health or food safety.
Is it a threat to animals?	BSE is eventually fatal to animals.	The disease is not commonly fatal, but causes extreme production losses in affected herds.
How is it transmitted?	BSE is believed to spread through the consumption of nervous system tissue. Animals or humans would have to eat nervous system tissue to contract BSE.	This virus is easily transmitted through direct contact between animals or indirectly through the movement of contaminated vehicles, shoes, clothing, or food. It can also be transmitted through meat and dairy products.
How is it identified?	There is no test to examine for BSE except through slaughter of the animal and examination of their brain.	Clinical signs of the disease include lameness, excessive salivation, reluctance to eat, abortion, and blister-like erosions on the mouth and feet.
How is it treated?	There is no treatment for BSE.	There is a vaccine, but it's limited supply, an inability of scientists and veterinarians to differ between the disease and the vaccine, and meat export restrictions make slaughter the most viable option.
Is it in the U.S.A.?	NEVER. BSE has never been found in the United States or North America.	The last outbreak of FMD in the United States was in 1929. Since that time it has remained a foreign animal disease. The disease occurs regularly in some countries in Africa, the Middle East, and South America.
What is being done to prevent this diseases arrival in the U.S.?	The United States has taken active steps to prevent the introduction of infected cattle or contaminated feeds by banning animal importation from BSE infected countries. It is also illegal in the United States to feed cattle rendered products containing ruminant-derived proteins.	The United States continuously maintains an active program to prevent the introduction of FMD into the U.S. cattle herd. These efforts have been strengthened since the outbreak in Europe. The USDA has added additional staff to increase surveillance at international airports, and livestock producers are asked to limit travel to foreign countries and limit foreign visitors on their operations.

For more information on BSE and FMD, please contact Lance Cummins-Brown, extension educator, at 402-441-7180 or e-mail him at lbrown4@unl.edu. (LCB)

corn in soybeans. The post-emergence herbicides Assure, Extreme, Fusilade, Fusion, Poast Plus, Roundup, Select, Touchdown, and other brands of glyphosate all provide excellent activity. Roundup Ready soybean is required, if Roundup, Touchdown, Extreme, or any other brand of glyphosate is used. Raptor applied post emergence will provide moderate control of volunteer StarLink™ corn. Pursuit + Scepter applied post emergence will suppress volunteer

StarLink™ corn. Best results occur if applications are made when the volunteer corn is 6 to 12 inches tall. Soil applied Command, Scepter and Treflan would provide some suppression of volunteer StarLink™ but are



not nearly as effective as the post emergence herbicides mentioned.

Corn

Unless a government agency raises the tolerance level for the StarLink™ trait in corn for human food, it is not realistic to expect to achieve sufficient control of volunteer Star Link™ corn in fields exposed to StarLink™ in 2000. If the tolerance level for the StarLink™ trait is increased (a

See CONTROLLING on page 11

Strategic Mowing Helps Lawns Grow Healthfully



Your lawn needs your help to stay carefree. Mowing properly is a simple thing homeowners can do to maintain a healthy, beautiful lawn.

First, cut grass to a lower height in spring and fall, and raise the cut during summer. Mowing lower in the spring allows for soil warming, promotes early growth and stimulates turf density. Raising the height just before and during summer enhances stress resistance. Mowing lower again in the fall promotes lawn density.

Closer mowing allows grass to green up faster in the spring. More sunlight can reach lower areas of the lawn to stimulate growth, and dead foliage leftover from winter can be easily removed. The green growth

underneath becomes exposed and the lawn appears greener sooner.

However, continuing to mow short through the spring might encourage weeds, like crabgrass, to develop. If you want an early spring green lawn, cut the grass short for the first two mowing cycles. Then cut the grass at its normal height, two inches for bluegrass and three inches for fescue, to control crabgrass and other weeds. The biggest problem with this first strategy is forgetting to raise the mowing height again. Low mowing too far into spring can result in a weaker root system in the summer.

Second, mow at the high end of the recommended range for a lawn species throughout the growing season. This will promote a deep root system. The downside to this approach is turf density isn't stimulated. Mowing lower, even if only in April and October, can make a big difference in turf development.

While these strategies can produce attractive turf, don't overlook basic mowing principles. Follow the one-third rule: remove no more than one-third of the turf's leaf material at one time. Mow lawns at least once a week in high growth periods like

April, May, and October.

Sharp mower blades make for a cleaner cut surface that will both heal faster and be more aesthetically pleasing. Sharpen mower blades every ten hours of use, or one to three times a season.

Next, recycle grass clippings. It's an easy way to promote healthy turfgrass without generating landfill waste.

Lawn clippings can return valuable nutrients and organic material to the turfgrass system. Much of the nitrogen taken up by turfgrass plants goes to make new shoot material, and ends up in mowed clippings. Removing these clippings permanently removes the nitrogen from the system.

Recycling doesn't reduce a lawn's fertilizer requirement, but up to 25 percent more fertilizer is required to get similar growth responses. Clippings decompose quickly and evenly into the lawn. They don't contribute to thatch buildup, as was previously thought. Just remember to follow the one third rule to make recycling most effective.

SOURCE: Roch Gaussoin, Ph.D., turf specialist, NU/IANR. (DJ)

Healthy Tomatoes Result of Planning, Care

Caring for tomato plants doesn't end with planting.

Fertilizing is key to raising healthy tomato plants. During planting, use up to two or three pounds of high-phosphorus fertilizer per 100 square feet of land. Continue to add a teaspoon of fertilizer once or twice a month, depending on the soil's fertility, which can be determined by a soil analysis. Be careful not to over fertilize, because too much fertilizer results in more foliage than fruit.

Although it's a chore many people put off, tomato cages should be set up while plants are small. Inexpensive cages can be made from concrete reinforcing wire, available at home centers or lumber yards. The wire comes in rolls 50- to 150-foot long and five-foot wide so the cages are tall enough for large indeterminate tomato cultivars. Using heavy-duty wire cutters, cut the wire five-foot long to make cages approximately 18 inches in diameter. Form a circle with the wire and bend the ends to hold the cage together. Although the cage rusts quickly, the wire is sturdy and may last 30 years or more. Two electric fence posts woven through the wire and pounded into the ground will hold the cages steady in almost

any Nebraska wind.

To prevent the branches from growing out the openings in the cage, wrap nylon tulle, available at fabric stores, around the cage and fasten with clothes pins. This forces the plant to grow upward, and by doing so, one doesn't have to repeatedly reposition the branches, which often causes breakage. Once the plant has filled most of the cage, remove the netting and store for



the next growing season.

Some gardeners prefer to stake their tomato plants instead of using cages. Stakes should be placed before planting or soon after to avoid damaging the roots of the tomato plants. Place the stake 4 inches from the plant and tie the plant to it, using a nylon stocking or soft cord. Make sure the tie is placed under a leaflet

branch to avoid damaging the plant.

Place mulch around the plant to maintain uniform moisture, which is critical to preventing blossom end rot. The mulch also reduces the spread of soil-borne diseases and reduces weed growth and water loss. Fungicides also help keep diseases at bay. To increase growth and prevent against late and early blight, apply fungicide every 10 to 14 days.

Proper watering is critical. Most plants need one to two inches of water per week depending on the soil type, plant size, and the weather. Soaker hoses keep the foliage dry and prevent fungus-carrying soil from splashing onto the leaves. Soil moisture needs to be distributed evenly to prevent the blossoms from rotting.

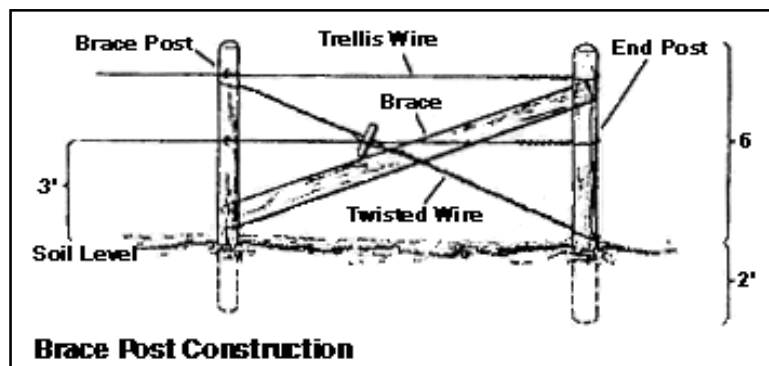
Gardeners should weed often and treat for insects as needed. It's also helpful to rotate the tomato plants' position in the garden from year to year.

For more information, the NebGuide G80-496-A "Tomatoes in the Home Garden," available at the cooperative extension office or online at: <http://ianr.www.unl.edu/pubs/horticulture/g496.htm>. (DJ)

Acreage Insights



Trellis Construction



Grapevines can be supported and trained to a variety of structures. In the home garden, structures range from the decorative arbor to the conventional trellis.

Construction of a grape trellis is similar to constructing a farm fence. The trellis must be substantial enough to carry the weight of the vines plus a heavy crop during high winds. Basically, the trellis consists of one, two, or three wires stretched tightly and secured to firmly set posts.

End posts serve as the anchor points as well as wire supports. End posts are generally eight-foot long, with a diameter of four inches, set approximately two-feet deep in the soil. They may be braced in several ways. A common method is to set an extra post within a few feet of the end post. A heavy piece of wood or another post makes a good brace between the two end posts.

Line posts are also about eight-foot long, but with a diameter of three inches. They are set about two feet into the ground and are spaced about 24 feet apart within the row.

Galvanized wire is strung between the line posts. Galvanized wire is recommended because it is durable and does

not cause serious wire chafing of young vines. Wire sizes commonly used include number nine, ten, or 11.

Wires are fastened to the line posts with ordinary staples. Wire placement is determined by the training system to be followed. For example, a Four-Cane Kniffin system would use two wires, the first three-feet high and the second six-feet high. The Six-Cane Kniffin system requires three wires positioned two, four, and six feet above the ground. In the Single Curtain system, the single wire should be about six-feet high.

Wires are secured to end posts in various ways. A common method is to wind the wire around the post once or twice and then twist the end several times around the wire as it is stretched to the next post. Some growers use special devices to attach the wires to the end posts because they simplify tightening of the wires. These devices employ cranks that eliminate removing the wires from the end post when tightening.

The best time to construct the grape trellis is during the first growing season. Tying new shoots to the trellis wires will allow for straight grapevine trunk development in future years. (DJ)

Suiting the Garden to the Gardener

Gardeners often find they can't use certain parts of their landscape because of the type of soil on the site. However, a raised bed can provide more options for these areas.

While building a raised bed is fairly simple, planning ahead and using good materials are essential. Spending a little money at first will pay off in the long run.

When planning a bed, take into consideration drainage, design issues, available sunlight, and irrigation needs. But, soil quality is the most important factor in determining the success of a raised flower or vegetable bed.

Map out the design with a garden hose. Turf paint can be used to mark the bed line, but is not necessary. Kill all weeds and turf where the bed will be made; this can be done manually or with herbicides.

When creating the bed, it's best to rototill the bed area to a depth of eight to 12 inches and then add topsoil and organic matter to the desired height. Incorporate 25 percent organic matter to 75 percent topsoil. Pile the soil higher than ultimately desired to allow for settling. Install any underground or drip irrigation at this point as well.

Layer mulch on top of the bed after planting, making sure the mulch is lower than the edge of the bed to prevent washing over. Stone, brick, wood, and plastic landscape edger are popular options to provide an edge for the bed.

SOURCE: Anne Streich, coordinator, Horticulture Outreach Programs, NU/IANR. (DJ)



Alice Henneman, RD, LMNT, Extension Educator

The month of May is “National Egg Month,” and Nebraska joined the celebration when Governor Johanns proclaimed “May is Egg Month” in Nebraska. Here’s a quick and easy egg recipe for you to enjoy.

Eggs are no longer considered a major dietary risk factor for heart disease. The American Heart Association (AHA) recently released its new dietary guidelines with the first significant changes in its policies in four years. Based on accumulated data from decades of research, AHA replaced its previous recommendation to limit egg yolk consumption to three per week with the following statement: “Individuals may choose to eat one egg yolk daily, if they limit their total cholesterol intake.” AHA also notes eggs are “fairly low in saturated fat and total fat” and “egg whites have no fat and no cholesterol.”

The egg industry is an important part of Nebraska agriculture. Nebraska’s laying hen population of approximately 10 million birds produces over 2.5 billion eggs annually. Nebraska ranks eighth in the nation in commercial egg production and is also a leading state nationally in the production of further processed egg products.

For more free egg recipes or information related to eggs and food safety, contact Mary Torell, Public Information Officer, Poultry & Egg Division, Nebraska Department of Agriculture by e-mailing her at mtorell2@unl.edu or calling 472-0752.

EGG POCKETS

Preparation: 5 minutes
Cooking: 5 minutes
Makes 4 servings

- 4 eggs
- 1/4 cup low-fat milk
- 2 teaspoons finely chopped green onions
- 1 teaspoon butter or cooking oil, or cooking spray
- 2 pita pockets, halved

In a small bowl, beat together eggs, milk, and onions until blended. In a 7 or 8-inch skillet over medium heat, heat butter until just hot enough to sizzle a drop of water. Pour in egg mixture. As mixture begins to set, gently draw an inverted pancake turner completely across bottom and sides of pan, forming large, soft curds. Continue until eggs are thickened and no visible liquid egg remains. Spoon 1/4 of the eggs into each pita half. If you like, add chopped tomato and green pepper, a sprinkling of shredded cheese or a dollop of taco sauce, or all of them!

Nutritional information: Calories 155; Carbohydrates 36%; Protein 22%; Fat 42% (AH)

Helping the Homeless

Under the direction of Matt Talbot Kitchen Executive Director Suzanne Blue, Lincoln’s homeless are learning life skills. Blue, assisted by Jennifer Cantrell, AmeriCorps, Lincoln Action Program, has organized a six-class session for individuals of need.

Andrea Ohlrich, extension assistant, Nutrition Education Program, leads the class on nutrition. Class participants learn about the food guide pyramid, meal planning, food safety, and food preparation. They especially enjoy the hand-washing activity. One male commented, “I need to do a better job of washing my hands before I fix supper.” The participants also prepare two healthy snacks.

Nutrition Education Program
for Limited Resource Families

Andrea Ohlrich
Extension Assistant

Other class topics include: parenting, Star Tran (bussing in Lincoln), tenant rights, budgeting, and self-esteem. With two sessions complete and another in the works, this program has proved to be a success.

NUTRITION AND OSTEOPOROSIS - Part 1

Alice Henneman
MS, RD, Extension Educator &
Linda Boeckner
PhD, RD, University of Nebraska Extension Nutrition Specialist

May is National Osteoporosis Month. Here is the first of a two-part series on what you can do to help prevent or treat osteoporosis.

- “It’s snowing outside and my newspaper was tossed on the bottom of the steps—do I dare go after it?”
- “I’ve lost six inches in height and none of my clothes fit me anymore. Plus, it’s hard to get clothes that look nice when my back is so hunched over.”
- “This medication is so darned expensive. But if I want to be independent, I can’t afford to let my condition get worse either.”
- “It seemed like it took forever for my bone to heal when it broke. I don’t want that to happen again. It’s so frustrating always worrying about falling.”
- “If somebody had told me sooner what I know now about osteoporosis, none of this might be happening to me!”

SOURCE: Based on comments made by a 70+ year old woman with osteoporosis.

Ten million Americans have osteoporosis and another 18 million have low bone mass, placing them at increased risk of osteoporosis, according to the National Osteoporosis Foundation (NOF). Osteoporosis often is called the “silent disease” because bone loss occurs without symptoms. The first sign of osteoporosis may be a fracture that occurs as a result of a weakened bone. A sudden strain or bump may be all it takes to break a bone.

Eighty percent of those affected by osteoporosis are women. A woman’s risk of an osteoporosis-related hip fracture equals her combined risk of breast, uterine, and ovarian cancer. Overall, one in two women and one in eight men over age 50 will have an osteoporosis-related fracture. On average, 24 percent of hip fracture patients age 50 and over die during the year following their fracture according to NOF.

A Gallup poll of women with osteoporosis showed few took preventive action and 9-out-of-10 wish they had known how to take preventive measures (source: NOF news release, May, 2000).

Though there are treatments for osteoporosis, there is currently no cure. That’s why prevention is so very important. The National Osteoporosis Foundation recommends a combination of these four steps to help prevent osteoporosis.

- 1) A balanced diet rich in calcium and vitamin D;
- 2) weight-bearing exercise;
- 3) a healthy lifestyle with no smoking or excessive alcohol use;
- 4) bone density testing and

medications when appropriate. Osteoporosis is preventable for most people!

NOTE: While osteoporosis occurs most frequently in older persons, start building healthy bones while you’re still young. Eating a healthy diet and leading a healthy lifestyle throughout your life is important for BOTH women and men.

The following information on the dietary aspects of osteoporosis is provided as information for general healthy eating and should not be considered a substitute for seeking dietary advice from your own health care provider. For additional information about diet and osteoporosis as well as other factors influencing bone health, two excellent resources are the National Osteoporosis Foundation Web site (<http://www.nof.org>) and the book, *Strong Women, Strong Bones*, by Miriam Nelson, Ph. D. NOTE: The information in Nelson’s book is applicable to men as well as women.

Using Food & Supplement Labels to Assess Calcium Intake

Calcium, the major component of bones, is one of the dietary factors most frequently mentioned in relation to osteoporosis. We can use the product label to learn how much calcium is in packaged foods and in vitamin/mineral supplements. The Food and Drug Administration (FDA) uses the term “Percent Daily Value” (% DV) to describe the amount of calcium a food or supplement provides in relation to the general U.S. population’s daily needs.

NOTE: The calcium and vitamin D recommendations in this article are based on those developed for the United States and Canada. They may not be appropriate for all countries due to differing dietary patterns and environmental factors.

The 100% DV level for calcium equals 1,000 milligrams (mg). The % DV on the “Nutrition Facts” panel of a food label or the “Supplement Facts” section of a vitamin/mineral supplement tells how much calcium one serving provides in relation to 1,000 mg. For example: If a food or supplement provides 200 mg of calcium per serving, the label would show a 20% DV for calcium (200/1,000 = 20%).

The serving size on the “Nutrition Facts” panel of foods is based on what people typically eat—it is not a recommended amount. The serving size is given at the top of the panel.

To determine your calcium intake from a specific food or supplement, identify the serving size and the % DV on the label. For example, suppose the serving size listed on a package of frozen chopped broccoli is 1/2 cup and

this amount provides 4% of the calcium DV. If you eat TWICE this amount, or 1 cup, you will consume 8% of your daily calcium need.

By adding up the % DV for calcium in all your foods and supplements, you can learn whether you reach your goal each day. Also, it’s easy to compare the calcium content of different products by looking at the % DV.

Depending on your age and such factors as whether you’re pregnant or lactating, you may need MORE or LESS than the 100% DV level of 1,000 mg of calcium daily. For example: If the calcium recommendation for your age grouping is 1,200 mg of calcium, your daily goal should be 120% of the calcium DV.

The following chart gives the recommended daily calcium and vitamin D intakes for various ages. Calcium is an important component of bones and vitamin D is essential for optimum calcium absorption.

These amounts are based on the 1997 recommendations of National Academy of Sciences (NAS). Depending on your situation, your physician may recommend slightly more than these levels. Remember: The 100% DV for calcium is based on 1,000 mg calcium. For vitamin D, the 100% DV is based on 400 IU vitamin D.

Recommended Daily

IMPORTANT NOTE: The NAS (1997) suggests a tolerable upper intake level (UL) for persons age one and up for calcium no higher than 2,500 mg daily and for vitamin D no higher than 50 micrograms (2,000 IU) daily from foods and supplements combined. UL’s have not been established for individuals below one year of age. However, unless your physician advises otherwise, the following recommendations from NAS for the various ages should be sufficient.

Calcium and Vitamin D Intakes

- Birth - 6 months:**
210 mg calcium (21% DV)
200 IU vitamin D (50% DV)
- 6 months - 1 year:**
270 mg calcium (27% DV)
200 IU vitamin D (50% DV)
- 1 - 3 years:**
500 mg calcium (50% DV)
200 IU vitamin D (50% DV)
- 4 - 8 years:**
800 mg calcium (80% DV)
200 IU vitamin D (50% DV)
- 9 - 18 years:**
1,300 mg calcium (130% DV)
200 IU vitamin D (50% DV)
- 19 - 50 years:**
1,000 mg calcium (100% DV)
200 IU vitamin D (50% DV)
- 51 - 70 years:**
1,200 mg calcium (120% DV)
400 IU vitamin D (100% DV)
- 71 or older:**
1,200 mg calcium (120% DV)

Clarice's Column

Clarice Steffens
FCE Council Chair



Recently the newspaper listed a number of ways to know you are growing old. One of the many ways is "You decide to procrastinate, but never get around to it." Well, I did procrastinate, but I am getting around to writing this article. Maybe I'm not quite as old as I think I am! Incidentally, many of the other ways are right on target!

On March 26 the FCE Council met and several decisions were made. Our county project for 2001 will be supporting the Lincoln Food Bank. Contributions can be brought to any Council meeting but our main thrust will be to culminate our collection at Achievement Day, October 23.

The scholarship fund was

also discussed and the Council voted to support a Bakeless Bake Sale. This year we have had several applicants for the scholarship for which we are very grateful. The scholarship committee will announce this year's recipient at the June meeting. Information about the bakeless sale will also be distributed that night.

Delegates to the State Convention in Kearney, August 16 and 17, were also elected.

Delegates will be Darlene Isley, Ann Meier and Clarice Steffens.

A huge thank you to Don Janssen for a very informational program. We could have questions for hours.

Plans for the Sizzling Summer Sampler on July 10 are nearly complete. I hope many of our members and friends will be able to attend. Topics for the learnshops will include using accessories to extend your wardrobe, what's new in the

produce aisle, and making your own sweatshirts. Dinner will be served at 6 p.m. with learnshops starting at approximately 7 p.m.

The next Council meeting will be June 26 at 7 p.m. In addition to our regular meeting, Twyla Lidolph will share sewing tips and ideas including information from polar fleece workshops she has attended recently. This meeting will be held at 5010 Sugar Creek Road and will be hosted by the Gateway Gourmets, Home Service and Salt Creek Circle clubs.

By the time this reaches you in May, we will hopefully be able to know what month it is. In the past few days we have had February cold, March winds, April showers and even a few May flowers. It's springtime in Nebraska!

Happy belated Mother's Day and enjoy your Memorial Day weekend, while we remember why we have these special days.

4 Steps for Kids



"4 Steps for Kids", a national

initiative of the National Highway Traffic Safety Administration, reminds parents to protect child passengers as they grow.

1. Rear-facing child safety seats—from birth to at least 20 pounds and at least one year of age. The harness straps should be at or below shoulder level. For babies who are under one year and over 20 pounds, be sure they ride in a safety seat approved for heavier babies and continue to ride rear-facing until at least one year of age.

2. Forward-facing seat—if a child is at least 20 pounds and at least one year old to about 40 pounds and about age four. The harness straps should be at or above shoulder level. Most convertible, forward-facing seats require use of the top slot for

forward-facing seats.

3. Booster seat—if the child is over 40 pound up to 80 pounds and under four feet, nine inches tall. Belt-positioning booster seat must be used with both lap and shoulder belts. Never use a booster seat with a lap belt only. Make sure the lap belt fits low and tight to avoid abdominal injuries.

4. Adult seat belt—if a child is over 80 pounds and at least four feet, nine inches tall. If a child can sit with their back straight against the vehicle seat back cushion, with their knees bent over the vehicle's edge without slouching, they can be moved out of the booster seat into the regular back seat.

Additional Hints:

- Have your child safety seats inspected by a certified child safety seat technician. The following two locations in Lincoln offer such inspections:

Russwood Chrysler Plymouth, 8350 O Street, Lincoln, phone: 402-489-7156, or Lincoln Dodge, 1235 West O Street, Lincoln, phone 402-477-3777. As a courtesy, call ahead to make sure a technician is available.

- Never place a child in the front seat of a vehicle equipped with an air bag. All children age 12 and under should sit properly restrained in the back seat.

- Old/used child safety seats should not be used unless you are certain they have never been in a crash. If you are reusing a seat, make sure it is less than six years old, make sure you have all the pieces (including instructions) and make sure the seat has been checked for recalls.

Information based on material from the National Highway Traffic Safety Administration. (LJ)

Preparing Kids for Summer Camp

LaDeane Jha
Extension Educators

Making s'mores around a campfire, telling ghost stories at night during a scary thunderstorm, finding a snake, getting dirty, conquering fears, finding new friends, complaining about camp food—the camping experience. Summer camp is more than a country vacation for kids according to psychologist, Bruce Muchnick. The benefits to both child and parent are many. A good camp experience can give children the following:

- Time away from parents, school, and their neighborhoods. Separation gives kids a chance to be independent in a safe environment.
- Greater self-sufficiency and confidence by doing things without parental help.
- A knowledge of how to cooperate. Children learn the art of give and take by living and playing with new people.
- Adventure that comes from trying new things, especially new

skills outdoors. Children often develop their bodies through regular exercise and eating well-balanced meals.

- A new respect for the outdoors by living closer to nature.

Friendships

Fun. Kids run, play, and experience new and exciting skills.

When are kids ready?

Most children are ready for an overnight camping experience by the age of 11 or 12 and many children are ready at a much younger age. The age and personality of your child must be taken into consideration along with the circumstances of the experience. A one or two day camp is considerably different than one of a week duration or longer. Very young children are not mature enough to deal with overnight camp but day camps will give them a good introductory experience. Starting small and building over time is probably a good idea.

Preparation

Professionals suggest parents

and children prepare for camp together. For example, what camp to attend and what to pack decisions should be made jointly. If your child feels part of the decision-making process, her chances of having a positive experience will improve.

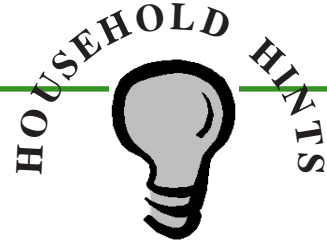
Listen to your child's concerns about camp and answer all questions simply and honestly. Let your child know you have confidence in his ability to handle being away from home. Take time to remind him about successes he has experienced in other situations.

Have realistic expectations. Camp, like the rest of life, has high points and low ones. Not every moment will be filled with excitement. At times, your child will feel great while at other times they may feel unhappy or bored.

Make sure your child is well prepared and you have followed a camp-provided checklist of what to pack. Don't send items that are forbidden. Let your child practice rolling their sleeping bag, changing batteries, and getting everything into a pack or suitcase. The fewer

See CAMP on page 12

Family Living



by Lorene Bartos, Extension Educator

To clean small areas like countertops, spray or gel products are convenient and easy to use. To clean larger areas, like floors or walls, powders or liquids mixed in a pail of water are more efficient.

To prevent streak marks when cleaning large vertical areas (walls, etc.), start at the bottom and work up. Overlap areas as you clean and use a circular motion. (LB)

- FCE News -

Sizzling Summer Sampler

sponsored by the FCE Council
For FCE members and guests

Tuesday, July 10

Dinner — 6 p.m.

Learnshops — Approximately 7 p.m.

Watch the June NEBLINE for details

Cost: \$10.00

Send reservations to:

Joy Kruse

850 Adams Street, Lincoln, NE 68521

Mark your calendar and join the fun!

AmeriCorps and VISTA at Work in Your Community

AmeriCorps and VISTA are at work in your community. VISTA stands for Volunteers In Service to America. For the last four years, Cooperative Extension in Lancaster County has sponsored a VISTA. The VISTA volunteer commits to a year of service in a community and receives a modest living allowance. At the end of their term, they may select a year-end cash stipend or a monetary educational award. VISTA is a full-time commitment. The extension office financially supports the VISTA with office space, mileage, and other expenses such as any relevant training.

VISTAs in extension identify needs in the community and find ways to solve them. They are also given the opportunity to work with various programs in extension. The primary focus of the collaboration between VISTA and Cooperative Extension is to serve new audiences. Suzanne Spomer, VISTA, has been with extension since July 2000.

Suzanne currently supervises two youth leadership programs, a 4-H club and a tutoring group. The programs enable youth to develop life skills and critical thinking. She also assists with

See VISTA on page 12

CHARACTER COUNTS! Corner

Loyalty

The four part series of being a trustworthy person is concluded this month with the characteristic of loyalty. There are many forms of loyalty such as commitment to family, pride in your school, or being faithful to a spouse. All of these relationships seem to say, "you can depend on me, I'll be here." Ways to show loyalty to people you care about include keeping private information private and being careful with embarrassing or harmful information which could hurt other people. Loyal people show strength of character by being committed to their families, their workplaces, or causes that are important to them. People who show loyalty can be counted on and are trustworthy. They are assets in almost any place in communities. They realize how destructive it can be to talk behind other people's backs, gossip, or spread rumors. Loyal people protect who and what are important to them. (SS)





4-H & Youth

4-H Bulletin Board

- There will be NO Teen Council meeting in June. See you in July! (TK)
- 4-H camp brochures are available at the extension office. (TK)

How To Exhibit At The County Fair

New leaders, experienced leaders, 4-H members, and parents are invited to "How to Exhibit" leader training, Thursday, May 24, 9:30 a.m. and 7 p.m. at the Lancaster Extension Education Center. Learn how to put an entry tag on an exhibit, where to take the model rocket exhibit, and other exhibit information which will prepare you for the 2001 Lancaster County Fair. (TK)

Putting It All Together

A day for 4-H'ers enrolled in or interested in Shopping in Style and Attention Shoppers. Sharpen your consumer decision-making skills and learn how to make a complete outfit by mixing and matching. The workshop will include choosing accessories, shopping (visiting the mall), and modeling.

Thursday, June 28, 9:30-3 p.m. call 441-7180 to register. (LB)

Demonstration Workshop and Contest

The demonstration workshop is Wednesday, June 13 at 2:30 p.m. 4-H members can learn what a demonstration is and how to present at the demonstration contest on July 20 at 1 p.m. or on August 1 at 5 p.m. If your demonstration is ready, present it and receive help if needed. (TK)

ExpoVisions 2001

ExpoVisions 2001 is scheduled for June 27-29. The event, for teens 15 and older, will begin with registration from 12:30-1:30 p.m. on Wednesday and conclude with a Celebration Luncheon at the Wick Alumni Center, ending at 2:30 p.m. on Friday. Highlights for this year include: a message from Diane Mendenhall, Director of UNL's National Championship Volleyball Team; a live performance of "My Fair Lady" at the Stars Dinner Theater; tours of the UNL Campus; and a variety of subject-matter based workshops.

Cost for this year's event will be \$130. The registration deadline is June 13. Early registration is encouraged as space is limited. For more information, pick up your packet from the Lancaster County extension office. (TK)

Family & Consumer Science Judging Workshop and Contest

Come to the Family & Consumer Science workshop Wednesday, June 13 from 1-2:30 p.m. Learn judging techniques and decision making skills for the July 18, Family & Consumer Science Judging Contest. (TK)

Table Setting Contest

The 2001 Table Setting Contest will be held July 12, 2001, at 5:30 p.m. at the Lancaster Event Center, 4100 N. 84th, Lincoln. Registration is due June 29. For more information, contact Tracy at 441-7180. (TK)



Pre-District Horse Show

The Lancaster County Pre-District Horse Show will be Saturday, June 9, 9 a.m. at the Lancaster Event Center Countryman Arena, 84th & Havelock. The show will be run in district format. Judges will be Cindy Wolverton of Seward and former Lancaster County 4-H'er, Kala Ball. The district show will be held two weeks later at the same location, so this is a great opportunity for exhibitors to get their horse in the arena and get a feel for a district show. For those 4-H'ers who aren't old enough to show at districts, this is still a great chance to see what a district show feels like, and are encouraged to participate.

District Horse Show

Time is running out to turn in your entry form for the District/State 4-H Horse Show. Deadline is Friday, May 18, and **no late entries are accepted**. Your entry must be accompanied by your horse I.D. form(s) and our office must have your Level II Horsemanship on record.

When filling out the form, be sure you have entered the class number correctly! If you have put the wrong number on the form, you will be entered into a class you had not intended, and you will not be allowed to change once the forms have been turned in to the Animal Science office. Turn in the form, as soon as possible; then feel welcome to call me before the May 18 deadline and verify the classes you have entered.

If there are youth interested in participating in a horse judging team, horse bowl team, hippology team, public speaking or horse demonstration team, please call me and I'll send the paper work to you. These contest entries are due in the county office by June 8.

One of the eight 4-H district horse shows is scheduled in Lincoln on Wednesday, June 27 at the Lancaster Event Center, 84th & Havelock. As host of one of the district shows, there are plenty of opportunities for both youth and adult volunteers. If you are available and willing to help at the district horse show, please give Ellen a call at 441-7180. We would like to put on a well organized, impressive show. (EK)

Livestock Judging and Evaluation Camp

On June 6-8, the University of Nebraska will be conducting a Livestock Judging and Evaluation Camp for youth ages 12-18. The registration fee will be \$130. This cost includes two nights lodging in the dorms, all the meals, breaks from Wednesday afternoon through Friday morning, and material for the camp.

During the camp youth will evaluate live cattle, sheep, and hogs and will evaluate the same animal's carcasses on the last day. Youth will also have the opportunity to learn the usage of ultrasound equipments, proper animal handling, and how to give a good set of oral reasons.

For more information, please contact Deanna at 441-7180. (DK)

Barrel Decorating Contest

Have A Barrel of Fun in 2001
Sunday, June 10, 4-7 p.m.

Lancaster Event Center
84th & Havelock



Get your club, family or committee together, pack a picnic and join other Lancaster County families in the paint a trash barrel activity. Decorate your barrel with a county fair theme. All paint will be supplied. Bring your favorite brush and creative ideas and join the fun.

Call 441-7180 to reserve a barrel

Picnic meal will be at 6 p.m.

Barrel decorating will be judged and prizes awarded by the Lancaster County Agricultural Society. (LB)



Lancaster County Fair Lancaster Event Center-84th & Havelock



July 30-August 5

Friday, July 20—Demonstrations 1 p.m. or Wednesday August 1, 5 p.m.

Wednesday, July 25—Style Revue judging

Monday, July 30—Static exhibit entries due 4-8 p.m.

Tuesday, July 31—Static exhibits judged

Watch future issues of the NEBLINE for a complete calendar and details. Each 4-H family should have received a Lancaster County Fair Book. A fair packet will be mailed to all 4-H club leaders and independent members. (LB)

Lancaster Event Center Workdays

The final touches are being done at the new home of the Lancaster County Fair, 84th and Havelock. Help is needed to assist the Event Center staff with painting and various other tasks.

4-H clubs, families or individuals are invited to help get the area ready for county fair. Workdays are scheduled for Saturdays, May 12, May 26, June 9, and June 23. To help, contact Leon Meyer, Event Center Manager, at 441-6545 for times and details. Lend a helping hand-Volunteer today!!! (LB)

I need information NOW!

The Lancaster County 4-H web site is up and running. You now have access to current information when you need it. Find information on activities and events, programs, contact staff with questions and keep up-to-date with the 4-H calendars. Of course, you are always welcome to call or stop by the office. Visit us on-line at <http://lancaster.unl.edu/4h>



4-H Clover College



Here's a great opportunity for 4-H'ers to learn about a variety of topics by participating in these "hands-on" workshops.

To register, complete the registration form (one person per form) listing the classes you wish to enroll in and return with the full fee. Registrations must be received by June 15. They will be handled on a "first come" basis and will only be accepted upon receipt of fees. Telephone registration will not be accepted. You may register by mailing your registration form and check or money order (made payable to Lancaster County Extension) to: Lancaster County Cooperative Extension, 444 Cherrycreek Road, Lincoln, NE 68528-1507.

Early registration is recommended. If you have questions, need additional forms or need to know if space is available, contact Tracy at 441-7180.

ALL FEES ARE NON-REFUNDABLE unless a class is filled to capacity or canceled.

Youth attending workshops that overlap the lunch period may bring a sack lunch. No other food will be available unless otherwise stated in the workshop description. (TK)

Four-day Workshops

All four-day workshops will be held Tuesday, June 19 - Friday, June 22.

1. Rockets... Countdown to Family Fun

How to's on rocket building. Participants are required to purchase their own rockets. The first day will concentrate on the different kinds of rockets, how to's of buying the right rocket and rockets that can be made.

TIME: 8:00-10:00 a.m.
FEE: None
CLASS SIZE: 10 maximum
AGES: 8 to 12
INSTRUCTOR: Ron Suing, 4-H volunteer

2. Clover Kids 4-day Day Camp

Clover Kids will participate in several hands-on activities while learning about animals, food fun, science, the outdoors, and more. Refreshments provided.

TIME: 8-12:15 p.m.
FEE: \$10.00
CLASS SIZE: 15 maximum
AGES: 5-7

3. Outdoors, Small Animals, and More

Make a bird feeder, learn about habitats for household pets, and acquire tips for small animal care.

4. Quilted Flags

Learn about the processes of quilting and make a quilted flag. Participants need to bring the following: (all fabric needs to be 100% cotton, prewashed, and ironed) 1/4 yard white on white or white on cream (or similar fabric color), 1/4 yard navy print OR

blue scraps large enough to make 12 2" squares, 1/4 yard each of 2 or more different red prints. Also needed: straight pins, fabric scissors, seam ripper, cream thread, sewing machine.

TIME: 3:00-5:00 p.m.
FEE: \$7.50
CLASS SIZE: 6
AGES: 8 and up. MUST have completed Clothing Level 1 project book.
INSTRUCTOR: Kim Bock, 4-H volunteer

5. Insect Collecting for Beginners

Youth will learn the most common insect orders and make their own starter collection. They will learn about insect collecting supplies and will make their own kill jar. Youth will chase insects with aerial nets and collect aquatic insects so should come dressed to enjoy the outdoors!

TIME: 3:00-5:00 p.m.
FEE: \$15 (some supplies included)
CLASS SIZE: 20 maximum
AGES: 8 - 12
INSTRUCTOR: Barb Ogg, Extension Educator

One and Two-day workshops
These workshops will be held for two hours each, one or two days only. Check for day and time.

6. Home Alone

This workshop is for school-age children who spend time alone during the day or after school without adult supervision.

DATE: Tuesday, June 19 and Wednesday, June 20
TIME: 8:00-10:00 a.m.
FEE: \$2.00
CLASS SIZE: 15 maximum
AGES: 8-12
INSTRUCTOR: Lorene Bartos, Extension Educator

7. Funtivities

Youth will learn that experimenting with science and technology can be fun. Throughout the workshop youth will do many fun and exciting hands-on science experiments. If you would like to discover and explore new things, this is for you!

DATE: Tuesday, June 19
TIME: 10:15-12:15 p.m.
FEE: \$3.00
CLASS SIZE: 10 maximum
AGES: 8 and up
INSTRUCTOR: Deanna Karmazin, Extension Assistant

8. Money, Money, Money

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

DATE: Wednesday, June 20
TIME: 10:15-12:15 p.m.
FEE: None
CLASS SIZE: 15 maximum
AGES: 8 and up
INSTRUCTOR: First Federal Lincoln Bank, Clocktower Branch

9. Style Revue and Color Analysis

Learn new styling procedures and practice your modeling technique. Color consultant Jackie Zimmerman will also present a colors workshop where individual color analysis (warm and cool colors) will be offered.

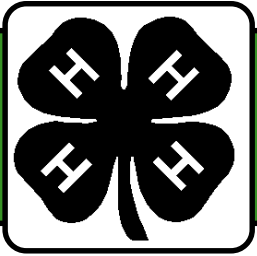
DATE: Thursday, June 21
TIME: 10:15-12:15 p.m.
FEE: No cost
CLASS SIZE: No limit
AGES: 8 and up

10. Getting Set for the Table Setting Contest

Have a great time learning everything you need to know to participate in the table setting contest. Come away with a planned table for the fair.

DATE: Friday, June 22
TIME: 10:15-12:15 p.m.
FEE: \$5.00

4-H & Youth



CLASS SIZE: 15 maximum
AGES: 8 and up

11. Fun with Fleece

Be ready for next winter. Sew yourself a headband and mittens. Supplies of fleece and thread will be provided. Bring your sewing machine with a new size 14 ball point or universal needle. Also bring scissors, shears, pins, needle, and tape measure.

DATE: Tuesday, June 19 and Wednesday, June 20
TIME: 12:45-2:45 p.m.
FEE: \$4.00
CLASS SIZE: 8 maximum
AGES: 9 and up. Must have completed "Sewing for Fun" and be able to thread and wind bobbin for own machine.
INSTRUCTOR: Barb Smith, 4-H volunteer

12. Poppin' up Fun with Popcorn

Ever wonder how popcorn pops? Or how it came to be? Attend this workshop and learn all about popcorn including fun facts, history, yummy recipes, as well as lots of educational games and fun crafts all using America's favorite snack, POPCORN!!

DATE: Tuesday, June 19
TIME: 12:45-2:45 p.m.
FEE: None
CLASS SIZE: No limit
AGES: 8 and up
INSTRUCTOR: Lori Warner, Marketing Manager for The Popcorn Board

13. Fun in the Kitchen

It's easier than it looks to shape speciality breads and rolls. Learn techniques through this hands-on workshop.

DATE: Wednesday, June 20
TIME: 12:45-2:45 p.m.
FEE: \$5.00
CLASS SIZE: 15 maximum
AGES: 8 and up
INSTRUCTOR: Lorene Bartos, Extension Educator

14. Outdoor Cooking

Make tasty treats while learning how to cook on a camp fire and an outdoor grill.

DATE: Thursday, June 21
TIME: 12:45-2:45 p.m.
FEE: \$3.00
CLASS SIZE: 10 maximum
AGES: 8 and up
INSTRUCTOR: David Smith, Extension Technologist and Soni Cochran, Extension Associate

15. Digital Photography

Learn what makes digital photography different from film photography.

DATE: Thursday, June 21
TIME: 12:45-2:45 p.m.
FEE: None
CLASS SIZE: 10 maximum
AGES: 8 and up. Must be familiar with fundamental operation of a camera.
INSTRUCTOR: Jim Wies, Communications Assistant

16. Pick it-smush it-eat it.

Did you know that nearly all agricultural products must be processed in some way before we can use them? During this workshop we will process wheat into bread and cream into butter. We will also taste many agricultural products in their raw forms and in different stages of processing.

DATE: Friday, June 22
TIME: 12:45-2:45 p.m.
FEE: \$4.00
CLASS SIZE: 15 maximum
AGES: 8 and up
INSTRUCTOR: Deanna Karmazin, Extension Assistant

17. Be Water Wise

Learn more about this valuable natural resource and why it is important to conserve and protect it by participating in a variety of demonstrations and kid-friendly experiments.

DATE: Friday, June 22
TIME: 12:45-2:45 p.m.
FEE: \$5.00
CLASS SIZE: 10 maximum
AGES: 8 & up
INSTRUCTOR: Corey Brubaker, Extension Educator

18. Wonderwise: Rainforest Ecologist

Have you ever wanted to travel to or learn more about a tropical rainforest? If you have, come to this session and learn about the plants and animals that live in a tropical rainforest through numerous hands-on activities, an interactive CD-Rom, and videos developed by the leading rainforest scientist in the United States.

DATE: Wednesday, June 20
TIME: 3:00-5:00 p.m.
FEE: \$2.00
CLASS SIZE: No limit
AGES: 8 and up
INSTRUCTOR: Lance Cummins-Brown, Extension Educator

Livestock Behavior Clinic

The Great Plains Livestock Behavior Clinic coordinated by the University of Nebraska and Nebraska Southeast Community College will be held July 13, 9 a.m.- 3:30 p.m. on the Beatrice Campus. The cost of the clinic is \$5 per person.

The clinic will cover the following topics: What is Livestock behavior, cattle, sheep, hog and horse behavior?

If you are interested in going, please send your \$5 payment to Deanna Karmazin, 444 Cherrycreek Rd., Lincoln, NE 68528. If enough youth and adults are interested in going, I will provide transportation.(DK)



Team Members Needed!

I am looking to organize a livestock quizbowl and livestock judging team to participate in state contests. These contests will take place June 25 and 26. If you are interested, please contact Deanna at 441-7180. (DK)

2001 Clover College

All classes meet at Lancaster Cooperative Extension, 444 Cherrycreek Rd., Lincoln

Registration Form (one person per form)

ALL FEES MUST BE PAID IN FULL UPON REGISTRATION

Name: _____ Age _____ Male _____ Female _____

Parent Name(s) _____

Mailing Address _____

City _____ State _____ Zip Code _____

Daytime Phone Number _____ Home Phone Number _____

Special Needs _____

I WANT TO ENROLL IN THE FOLLOWING SUMMER PROGRAMS:

NUMBER	TITLE	FEE
# _____	_____	\$ _____
# _____	_____	\$ _____
# _____	_____	\$ _____
# _____	_____	\$ _____
# _____	_____	\$ _____
# _____	_____	\$ _____

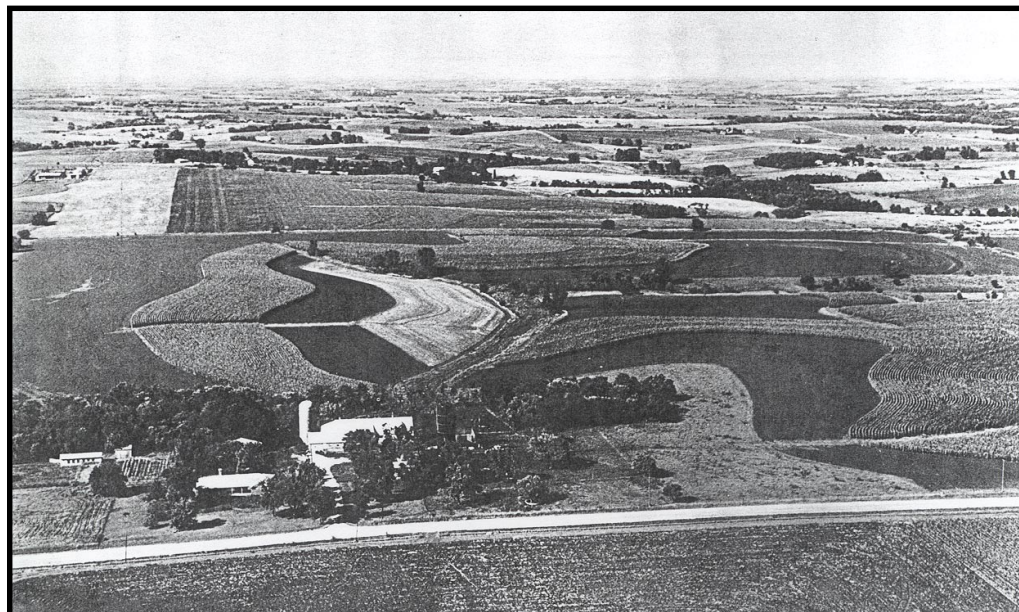
TOTAL AMOUNT PAID \$ _____

- Checks/money orders should be made payable to Lancaster County Extension
- Bring this form and registration fees, or mail this along with check or money order, to Lancaster County Extension located at 444 Cherrycreek Road, Lincoln, NE 68528-1507.
- Registrations must be received by June 15, 2001.



Community Focus

Soil Survey of Lancaster County, Nebraska is a Valuable Reference



Deadline Approaching for Fellowship Applications

The Lancaster Extension Office encourages qualified area residents to consider applying for a Nebraska LEAD (Leadership, Education/Action Development) Program Fellowship. Designed to strengthen leadership skills and knowledge; the two-year program focuses in areas of economics, government, communications, international trade, politics, business, labor, environment, finance, and industry.

Annually, up to 30 individuals will be selected from production agriculture and agribusiness. Selected fellows participate in 12 three-day seminars, a 10-day national study/travel seminar and a two to three-week international study/travel seminar. The program is structured so participants can usually continue a regular working routine over the length of the two-year program.

In its 21st year, the program is operated by the Nebraska Agricultural Leadership Council, Inc., a nonprofit organization, in cooperation with Nebraska colleges, universities, business, industry, and individuals throughout the state.

Applications are due June 15 and are available from the Nebraska LEAD Program, Room 318 Biochemistry Hall, University of Nebraska, Lincoln, Nebraska 68583-0763 or additional information can be obtained by phoning 472-6810. General information is available on the web at www.ianr.unl.edu/lead/ (GB)

Have you ever wondered why your concrete garage floor has a severe crack, why some basements have constant water problems, or why a number of Lancaster County properties have a sewage lagoon system?

The soil survey of Lancaster County is a valuable information resource for land use purposes. It contains information about soil behavior and points out certain soil limitations and hazards that impact land uses. It can answer many questions about land in Lancaster County.

Being knowledgeable about local soils can help save you considerable frustration, needless mistakes, and expense.

Landowners interested in food and fiber production can determine soil production potential and required management requirements. For those

interested in a land purchase, the soil survey can assist buyers to quickly determine if a property is suitable for an intended use.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some soils may be too unstable for use as a foundation or road bed. Other soils are unsuited for basements and septic tank absorption fields. Side stepping this kind of information reduces decision-making ability and often leads to costly and unhappy situations.

The Soil Survey of Lancaster County contains a wealth of information. Including general background information, it provides detailed soil maps of the county. It further lists and explains soil properties and classifications for land use

purposes. In addition, the soil survey features an environmental planting guide for trees, potential for wildlife habitat, building site development, sanitary facilities information, water management table, engineering index properties, and physical and chemical properties of soils.

The Soil Survey of Lancaster County is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture, other federal agencies, University of Nebraska, Conservation and Survey Division and local agencies. The last publication was issued in 1980 and available copies are now limited.

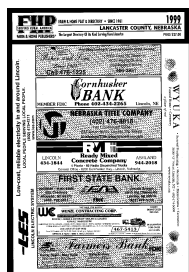
The Lancaster County Extension Office maintains this publication and can assist with questions related to its use. (GB)

Lancaster County...

- rectangular in shape, extending 24 miles from east to west and 36 miles from north to south
- covers 545,856 acres of land and features 4,800 acres of surface water in areas larger than 40 acres
- its highest elevation is about 1,520 feet in the extreme northwestern part of the county or about 5 miles northwest of Agnew and in the extreme southwestern part of the county about 4 miles south of Kramer
- the lowest elevation is 1,080 feet in the northeastern part where Salt Creek leaves the county (GB)

	T-12-N	R-6-E	R-7-E	R-8-E
T-12-N	West Oak	Little Salt	Rock Creek	Mill
T-11-8	Elk	Oak	North Bluff	Waverly
T-10-N	Middle Creek	West Lincoln Garland	Lancaster	Stevens Creek
T-9-N	Denton	Yankee Hill	Grant	Stockton
T-8-N	Highland	Centerville	Saltillo	Nemaha
T-7-N	Olive Branch	Buda	South Pass	Panama

Farm/Home Plat Map and Directories are Available



New farm/home plat map and directories are available for purchase at the Lancaster County Extension Office. They are published by Farm and Home Publishers, LTD of Belmond, Iowa. Price for the directory is \$19.50 (includes tax). They are available for pick-up at the reception desk during office hours. (GB)

Grantsmanship Training Program Offered June 25-29

The Lancaster County Extension Office will host The Grantsmanship Center's renowned Grantsmanship Training Program June 25-29. The five-day program is the most widely attended program in nonprofit history. Introduced in 1972 and continuously updated, this workshop takes participants step-by-step through all the stages of planning programs, locating funding sources, and writing grant proposals.

The program will show how to locate grant support from foundations, corporations, and government funding sources. It also covers the latest developments in online grant information systems and the Internet.

The core of the training is the hands-on work developing proposal elements that pertain to ones own agency or organization's programs. At the same time, participants gain insight into what proposal reviewers are looking for as they become a reviewer themselves, evaluating the proposals of other participants.

Finally, in a small working group, participants prepare a complete grant proposal, identifying potential funding sources and presenting it to the class for a review. (GB)



NUTRITION

continued from page 6

600 IU vitamin D (150% DV)

Pregnant & Lactating:

14 - 18 years:

1,300 mg calcium (130% DV)

200 IU vitamin D (50% DV)

19 - 50 years:

1,000 mg calcium (100% DV)

200 IU vitamin D (50% DV)

Percent Daily Value For

Calcium in Common Foods

To start you thinking about your dietary calcium intake, here's the approximate % DV for some common foods. Check actual food labels for a more exact amount. These amounts are based, in part, on information provided in: "Calcium! Do You Get It?," by the U.S. Food and Drug Administration/Center for Food Safety and Applied Nutrition at <http://vm.cfsan.fda.gov/~dms/ca-toc.html>

Grain Products Group

- Ready-to-eat cereal, calcium-fortified. Serving size varies, check product label.

Vegetable Group

- Broccoli with cheese; 1/2 cup = 20% DV

- Collards; 1/2 cup = 20% DV

- Turnip greens; 2/3 cup = 15% DV

- Kale; 2/3 cup = 10% DV

- Bok choy; 1/2 cup = 10% DV

- Broccoli; 1 stalk = 6% DV

Fruit Group

- Orange juice, calcium-fortified; 1 cup = 30% DV

Milk Group

- Yogurt; 8 oz. = 35%

- Milk, whole, 2%, 1%, skim,

- chocolate; 1 cup = 30% DV

- Cheese; 1 oz. = 20% DV

- Milk pudding; 1/2 cup = 10% DV

- Frozen yogurt; 1/2 cup = 10% DV

- Ice cream; 1/2 cup = 6% DV

- Soy milk, calcium-fortified; 1 cup = 30% DV

- Tofu with calcium sulfate; 3 oz. = 60% DV

Meat & Bean Group

- Baked beans with sauce; 1/2 cup = 8% DV

- Pork & beans with sauce; 1/2 cup = 6% DV

The main dietary sources of vitamin D are fortified milk (400 IU per quart), some fortified cereals, cold saltwater fish (for example: salmon, halibut, herring, tuna, oysters and shrimp) and some calcium and vitamin/mineral supplements. Also, vitamin D can be manufactured in your skin following direct exposure to sunlight. The amount varies according to time of day, season, and latitude. (AH)



CORN

continued from page 1

two different genes, both of which produce crystalline proteins that control corn borer but which act differently and have different rates of breakdown in mammalian digestion systems.

In the case of StarLink™, the Bt coding region was called Cry9(c) while the Yieldgard event (which is used in all other commercially available Bt hybrids) used a coding region from a different Bt gene called Cry1a(b). Bt proteins encoded by Cry9(c) bind to different mid-gut receptors in the larvae than proteins encoded by Cry1a(b).

The fact that Cry9(c) Bt proteins kill European corn borer by different modes of action than Cry1a(b), Bt proteins was seen as an advantage. By developing two different strains of corn with completely different modes of action against corn borer, plant breeders hoped to greatly postpone or eliminate any natural resistance to Bt corn that

might show up through natural selection processes.

This difference in Bt proteins is also the reason why there are food safety concerns with StarLink™ but not with Yieldgard. Tests that predict the rate of protein digestion in a human stomach demonstrated that StarLink's™ Cry9(c) encoded proteins digest more slowly than the Cry1a(b) encoded Bt proteins found in Yieldgard.

Because allergies to some foods such as nuts and wheat are caused by proteins that digest slower in the stomach, the EPA decided to wait for more information before approving the bacterial Cry9(c) protein found in StarLink™ for use in food products that will be consumed by humans.

The FDA did approve StarLink™ corn for release, but with very stringent constraints on its eventual use. It was not to be sold to processors for use in corn-

based products eaten directly by humans until more evidence was gathered about its safety for human consumption. It could be used to feed livestock and it could be used in ethanol plants.

Cross-contamination of StarLink™ with other types of corn in the grain handling industry and contamination resulting from pollen drift from StarLink™ fields onto neighboring corn fields, has resulted in cancellation of FDA approval for StarLink™ corn.

Testing kits have been developed to check corn samples for the presence of the StarLink™ gene, even when that contamination is present in very low concentrations. Processors are now routinely testing corn going into products for human consumption.

For information on controlling volunteer StarLink™ corn, see the Farm Views page in this issue of the NebLine.



What To Do About Swearing.

It may seem despite your best efforts to teach your children to express themselves without resorting to bad language, you are fighting a losing battle. These days explicit expletives are everywhere; many adults use swear words as part of everyday conversations; and kids hear them on the street, on television and radio, and at the movies.

If you want your children to avoid using unsavory vocabulary, two major obstacles must be overcome. First you need to subdue their natural inclination to use words that cause a stir; and secondly teach children restraint in a world that has little regard for such proprieties.

As preschoolers become

fluent, they notice what they say and how they say it makes an impression on those around them, especially adults. Words give little kids power and can be pretty heady stuff. As they become more and more talkative, using bad language can delight them because it gives them newfound powers to affect grownups.

Here are some tips:

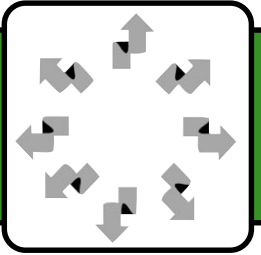
Don't overreact. "When a child cries out inappropriate language by calling someone a poo-poo head, for instance, its important not to respond too strongly. The child, after all, is simply flexing his newly developed verbal muscles and delighting in the reaction that follows, observes child psychiatrist,

Paulina F. Kernberg. In "The Growing Years: A Guide to Your Child's Emotional Development from Birth to Adolescence."

Explain the impact of bad words. Let kids know their language may upset others or seem insulting. Once they understand the negative impact they will often drop it.

Practice what you preach. Parents need to be aware of how they manage their own anger and frustration. Kids may pick up unsavory speech from older kids, television, or the movies, but the single greatest influence on how young children communicate their feelings is what they hear at home. (LJ)

Miscellaneous



Soybeans Return to Forage Use

Soybeans are returning to their roots. The crop was first brought to the United States to be used for forage. Over time, plant breeders modified soybeans to use the oil and protein in the plants' seeds. Now, some varieties are being used for forage again.

These varieties differ from typical soybean plants because they grow over six-feet tall and mature late. In Nebraska, late-maturing soybeans produce mostly leaves and stems with relatively little seed, making them ideal for forage. The quality of soybean forage is similar to of alfalfa.

When planted with corn or forage sorghum, silage made from the mix will be higher in protein and will have similar energy and palatability as corn or sorghum alone. Some produc-

ers rotate forage soybeans and corn on a yearly basis. Many producers use forage soybeans because the crop can be drilled in May and it may provide three- to six-tons of silage in just one harvest. Forage soybeans also don't require nitrogen fertilizer.

Using soybeans for forage is a relatively new idea, but it can benefit producers during times of low crop prices, high nitrogen prices, and tight forage supplies. Buy seed as soon as possible, because the seed supply is expected to be tight this year. If forage types are unavailable, tall, extra-late varieties often provide similar results, although they have slightly lower yields.

SOURCE: Bruce Anderson, Ph.D., hay and forage specialist, NU/IANR. (TD)



GENETIC

continued from page 1

gene is then inserted into the nucleus of a plant cell. The trick is to successfully graft the new gene into a chromosome of the plant so it will be expressed as desired without disrupting other genes that are essential for plant growth. It may require literally thousands of gene splicing attempts before the new genetic material is successfully incorporated into the plant in just the right way so the gene will function as desired, while preserving the naturally occurring qualities of the original plant.

Scientists can then grow these single plant cells in the laboratory causing them to multiply until they form a clump of cells called a callus. The callus is then transferred to a different growth media that has the correct ratio of plant hormones to induce the cells to differentiate into the

structures we would recognize as different parts of a plant (embryos, shoots, roots, etc.). Using long-established methods for vegetative reproduction, cuttings can be taken from these plants to make other plants that have identical genetics. This process is what is done when a greenhouse worker takes cuttings from a plant, applies a rooting hormone and produces new plants from the cuttings.

Finally, traditional plant breeding techniques are employed to cross the genetically modified plants with established inbred lines. Through selective breeding and backcrossing, the new genes are incorporated into commercial hybrids. Source: "Principles of Applied Biotechnology Workshop", Don Lee, Deana Namuth, and Patricia Hain, UNL.



CONTROLLING

continued from page 4

proposal Aventis has made to the U.S. Food and Drug Administration), the more effective strategies outlined may provide acceptable volunteer control in corn. Roundup, Touchdown, or other brands of glyphosate can be used for volunteer StarLink™ corn control in Roundup Ready corn and would offer the most effective herbicide option. Lightning used with "IMI" seed corn will provide good control of volunteer StarLink™ corn, but is not as effective as Roundup, Touchdown, or other glyphosate brands. Liberty will not control volunteer StarLink™ corn

because StarLink™ corn is Liberty resistant.

Grain Sorghum

There are no effective herbicides available for volunteer corn control in grain sorghum. Paramount applied post emergence to small (less than four inches tall) volunteer corn would provide some suppression; however, it is not nearly as effective as the herbicides available in soybean or corn.

Source: Alex Martin, NU Extension Weeds Specialist. (TD)

The NEBLINE

Nebraska Cooperative Extension
Newsletter
Lancaster County

THE NEBLINE is published monthly by the University of Nebraska Cooperative Extension in Lancaster County, 444 Cherrycreek Rd., Suite A, Lincoln, Nebraska, 68528-1507. Contact the extension office, (402) 441-7180 or lancaster.unl.edu for more information.



Gary C. Bergman, Extension Educator—Unit Leader,
gbergman1@unl.edu

NOTICE: All programs and events listed in this newsletter will be held at the Lancaster Extension Education Center unless noted otherwise. Use of commercial and trade names does not imply approval or constitute endorsement by the University of Nebraska Cooperative Extension in Lancaster County.

- Lorene Bartos**, Extension Educator, lbartos1@unl.edu
- Corey Brubaker**, Extension Educator, sbrubaker1@unl.edu
- Maureen Burson**, Extension Educator, mburson1@unl.edu
- Patrice Broussard**, Nutrition Advisor, pbroussard2@unl.edu
- Tom Dorn**, Extension Educator, tdorn1@unl.edu
- Soni Cochran**, Extension Associate, scochran2@unl.edu
- Lance Cummins-Brown**, Extension Educator, lbrown4@unl.edu
- Arlene Hanna**, Extension Associate, ahanna1@unl.edu
- Alice Henneman**, Extension Educator, ahenneman1@unl.edu
- Don Janssen**, Extension Educator, djanssen2@unl.edu
- LaDeane Jha**, Extension Educator, ljha1@unl.edu
- Ellen Kraft**, Extension Assistant, ekraft1@unl.edu
- Tracy Kulm**, Extension Assistant, tkulm1@unl.edu
- Deanna Karmazin**, Extension Assistant, dkarmazin2@unl.edu
- Mary Kolar**, Publication & Resource Assistant, mkolar2@unl.edu
- Mary Jane McReynolds**, Extension Associate, mmcreynolds1@unl.edu
- Mardel Meinke**, Extension Assistant, mmeinke2@unl.edu
- Barb Ogg**, Extension Educator, bogg1@unl.edu
- Andrea Ohlrich**, Extension Assistant, aohlrich2@unl.edu
- Sondra Phillips**, Nutrition Advisor
- Kendra Schmit**, Extension Assistant, kschmit2@unl.edu
- David Smith**, Extension Technologist, dsmith9@unl.edu
- Suzanne Spomer**, Americorps - VISTA, sspomer2@unl.edu
- Jim Wies**, Extension Assistant, jwies1@unl.edu
- Karen Wobig**, Extension Assistant, kwobig2@unl.edu



Phone numbers & addresses:

- Office (leave message after hours) 441-7180
 - TDD (Telecommunications Device for the Deaf) 441-7180
 - After hours 441-7170
 - FAX 441-7148
 - COMPOSTING HOTLINE 441-7139
 - NUFACTS INFORMATION CENTER 441-7188
 - EXTENSION OFFICE E-MAIL Lancaster@unl.edu
 - WORLD WIDE WEB ADDRESS lancaster.unl.edu
- OFFICE HOURS: 8 a.m. to 4:30 p.m. Monday-Friday**



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Story Idea(s) _____

Return to:
University of Nebraska
Cooperative Extension in Lancaster County
444 Cherrycreek Road • Suite A, Lincoln, Nebraska 68528-1507

Extension Calendar

All programs and events will be held at the Lancaster Extension Education Center unless otherwise noted.

May

- May 16** Market Broiler Entries Due
- May 17** Fairboard Meeting-Lancaster Event Center, 84th & Havelock 7:30 p.m.
- May 18** District/State Show Entries Due
- May 21** 4-H Pet Pals Club 7 p.m.
- May 24** How to Exhibit & 4-H Leader Training 9:30 a.m. and 7 p.m.
- May 28** Memorial Day Holiday-Office Closed
- May 31** Seward County Horse Judging Contest

June

- June 1** Horse I.D. Deadline
- June 6-8** Livestock Judging Evaluation Camp UNL
- June 8** Extension Board Meeting 8 a.m.
- June 9** Lancaster County Pre-District Horse Show Event Center-Countryman Arena
- June 10** Barrell Painting-Lancaster Event Center 4-7 p.m.
- June 13** Family Consumer Science Workshop 1-2:30 p.m.
Demonstration Workshop 2:30 p.m.
- June 15** County Fair Animal I.D.'s Due
- June 19-22** Clover College
- June 25-26** UNL/PASE Livestock Judging
- June 27** District Horse Show-Lancaster Event Center 9 a.m.
- June 27-29** ExpoVisions UNL

CAMP

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times they are faced with uncomfortable situations the better.

A few questions to ask

What are all the expenses associated with the camp? Do they have a camp store, for example, and how often is it open? Is there a suggested amount of spending money for a camper to bring?

Does the camp supply bedding or does your child bring his own? What special equipment

might be needed? Is camper health and accident insurance available or does your current family policy provide the coverage? What about transportation?

Is the camp accredited by the American Camping Association? What do they look for when hiring counselors? How many counselors from previous years have returned? What is the ratio of counselors to campers? Often the ratio is based on age and type of

camp; but the median range is one staff member for every seven to eight campers. Is the camp equipped to handle any special needs for your child?

The rewards are many and the pay-off is lots of fun and memories for a child going to camp. There are many camps in the area including the Eastern Nebraska 4-H camp. Call the office at 441-7180 to request a 4-H camp brochure.



VISTA

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other existing programs such as "Strengthening Families," a program in which adults and youth attend sessions to learn to

both love and set limits. The VISTA program enables volunteers to gain experience, serve their community, and network

with others. The sponsoring organization benefits from the dedication and talents of the VISTA. (SS)

Scholarships being Offered

\$500 dollar scholarships will be awarded to the top individual in each state judging and identification contest that has over 25 participants. A \$250 scholarship will also be awarded to each team member of the Champion General Livestock and Horse Quiz bowl teams.

Lancaster County 4-H youth are encouraged to participate in one or all of the following state contest this year.

- Livestock Judging
- Meats Judging
- Dairy Cattle Judging
- Tree Identification
- Poultry Judging
- Tractor Operators Contest
- Horse Judging
- Livestock quiz bowl
- Dog Judging
- Horticulture Judging
- Grass and Weed Identification
- Horse quiz bowl

For more detailed information about the scholarships or to obtain information about participating in these state events, please contact Deanna at 441-7180. (DK)



Wanted:

4-H Council Applicants



Seeking qualified applicants for 4-H Council youth (9th grade or above in fall of 2001) and adult positions in the following geographic areas:

- Northeast—adult
- Northwest—adult and youth
- Southwest—youth
- Lincoln city limits—two youth and one adult
- Lancaster County at large—one youth

Interested applicants need to contact Lorene for further information and an application form. (LB)