

2004

Crop Watch No. 2004-24, October 22, 2004

Lisa Brown Jasa

University of Nebraska-Lincoln, ljasa@unlnotes.unl.edu

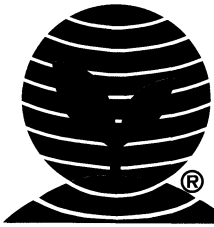
Follow this and additional works at: <http://digitalcommons.unl.edu/cropwatch>



Part of the [Agriculture Commons](#)

Brown Jasa, Lisa, "Crop Watch No. 2004-24, October 22, 2004" (2004). *Crop Watch*. 282.
<http://digitalcommons.unl.edu/cropwatch/282>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Crop Watch by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.



CROP WATCH

University of Nebraska Cooperative Extension
Institute of Agriculture and Natural Resources

UNIVERSITY OF
Nebraska
Lincoln

No. 2004-24, October 22, 2004

Seed selection more targeted and complex

These days, buying corn or soybean seed is a bit like buying a new vehicle. You've seen the ads -- prices starting at \$21,400, but as shown, \$39,500. Similarly, the genetically elite seed options don't come cheap, but they can accomplish a lot. The price per acre of "enhanced" seed can easily double upfront costs, but likely should result in reduced pesticide and application costs.

Today's seed may have simplified some production elements, but it has complicated the process of selecting seed and pushed forward the timing of when some pest control decisions are made.

Do you need Bt seed for corn rootworm and/or corn borer control? Will Roundup Ready seed address your weed problems? Is soybean cyst nematode apt to be a problem in your area? Is the group

of seed you're considering genetically diverse to help manage risk?

All these and many more factors are important to the selection process, but the heart of the decision should still be yield. Do field trials and grower experience indicate that the seed you're considering will produce top yields in your field

conditions? In the end, the vehicle with all the options is only as good as its performance and reliability.

In this article several UNL Extension specialists address some of the new options and what to consider when selecting seed.

Not surprisingly, Nebraska Farm Business Association data

(Continued on page 228)

SCN moving westward; sample now to plan for control

Soybean cyst nematodes (SCN), once thought to be a problem primarily in counties adjacent to or near the Missouri River, continue to move westward to new areas. The

latest report comes from Buffalo County, an area relatively new to soybean production, where one field has been tested and found to be positive for soybean cyst nematode.

Check for SCN if a whole field or an area within a field doesn't yield as well as you expected and insect damage, soil type, hail, or herbicide carryover don't seem to be causing it.

Frequently, fall is when a farmer first starts thinking about sampling for SCN. Soil samples for SCN can be collected any time; however, the

SCN reports extend from counties bordering the Missouri River to as far west as Buffalo County in central Nebraska.

best time is right after harvest. This is due to several reasons:

- Farming activities are slower after harvest, allowing more time to collect soil samples.

- Poor yielding fields or areas in fields are fresh in the your mind, making it easier to identify and sample those areas. (See Figure 1 for typical areas for SCN infestations.)

- If in a rotation, you can sample fields that will be planted to soybeans next year to determine if

(Continued on page 225)

Inside

| | |
|------------------------------------|-----|
| Ag briefs | 224 |
| Temporary grain storage | 226 |
| Corn Expo Nov. 23 | 227 |
| Inspector's seed perspective | 228 |
| Selecting entuse traits | 229 |
| Livestock insurance seminars | 230 |
| Winter hay use | 230 |
| Odor management | 230 |
| Agronomy distance ed | 231 |
| Volunteer wheat in alfalfa ... | 231 |
| Agronomy Highlights | 232 |
| Events | 232 |

Ag briefs and updates

Del Hemsath, Extension Educator based in Dakota, Dixon, and Thurston counties: Soybean harvest is wrapping up in northeast Nebraska. A few irrigated fields were still too wet to harvest at the start of the week, but if things dry out some, harvest is likely to continue. We haven't received any significant rain in the last three weeks. Corn harvest has begun with dryland corn being harvested at 15-20% moisture. Yields are much better than expected and range from 160 to 220 bushels per acre. Lack of storage is a concern for most producers, but it's actually a good problem to have. There is some chisel tillage being done on harvested soybean fields.

Karen DeBoer, Extension Educator based in Cheyenne County: In the Southern Panhandle, we need some warm, dry days to pick up and combine proso millet. Most of it has been swathed and windrowed, but it's been too wet to combine. Sugarbeet and dry bean harvest are progressing. In some places, wheat has been replanted due to the rain this fall.

David Baltensperger, Extension Alternative Crops Breeder, Panhandle Research and Extension Center, Scottsbluff: Proso millet harvest is finally wrapping up for the year. Nebraska dryland proso fields were heavily impacted by the lack of rain in late July through mid August. With late August moisture some fields headed, but did not produce enough growth to harvest easily, increasing harvest losses significantly. Some areas received late July rain and produced average yields, but few non-irrigated fields produced above average and many were below average to not harvested. On a brighter note, producers with limited irrigation produced excellent yields and a high quality crop this year.

USDA Nebraska Agricultural Statistics Service: For the week ending October 17, drier conditions allowed harvest to continue at a near normal pace for soybeans while corn and grain sorghum harvest lagged behind normal. In some areas, corn harvest has been slowed due to high grain moisture content and the backlog at drying facilities. Producer activities also included finishing fall wheat seeding and harvesting alfalfa.

Corn condition rated 2% very poor, 5% poor, 17% fair, 48% good, and 28% excellent, above last year and average. Irrigated fields rated 82% good and excellent while dryland fields rated 65% good to excellent. Harvest was 31% complete, a few days behind last year at 39% and a week and a half behind average at 50%.

Soybean harvest was 80% complete, near last year at 81% and average at 79%.

Sorghum condition rated 3% very poor, 9% poor, 42% fair, 38% good, and 8% excellent, above last year and average. Eighty-nine percent of the acreage was mature, behind last year at 97% and average at 96%. Harvest was 30% complete,

a week behind last year at 45% and a week and a half behind average at 52%.

Dry bean harvest was 68% harvested, well behind last year at 97% and average at 96%.

Proso millet harvest progressed to 69% complete, behind last year at 95%.

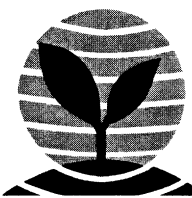
Wheat seeding moved ahead to 96% planted, behind last year and average at 98%. Eighty-five percent had emerged, behind last year at 88% and average at 87%.

Alfalfa conditions rated 14% very poor, 17% poor, 29% fair, 34% good, and 6% excellent, above last year and average. Fourth cutting activities were 89% harvested, behind last year at 96% and average at 94%.

Pasture and range condition rated 18% very poor, 26% poor, 31% fair, 24% good, and 1% excellent, above a year ago and average. Cattle were being moved to stalk fields as they became available.

Nebraska Game and Parks Commission: With harvest underway and crop and cover patterns quickly changing, stay safe by watching for deer activity, especially during October and November, peak activity months.

CROP WATCH



cropwatch.unl.edu

© 2004 University of Nebraska

Crop Watch is published from March to November by Cooperative Extension and Communications and Information Technology in the University of Nebraska Institute of Agriculture and Natural Resources, PO Box 830918, 108 Agricultural Communications Bldg., UNL, Lincoln, NE 68583-0918. To order a print subscription or to change your address, write to *Crop Watch* at the above address or call (402) 472-7981. The newsletter also is available on the Web at cropwatch.unl.edu

Disclaimer: Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by University of Nebraska Cooperative Extension is implied.

Lisa Jasa, Editor; Email: ljasa1@unl.edu

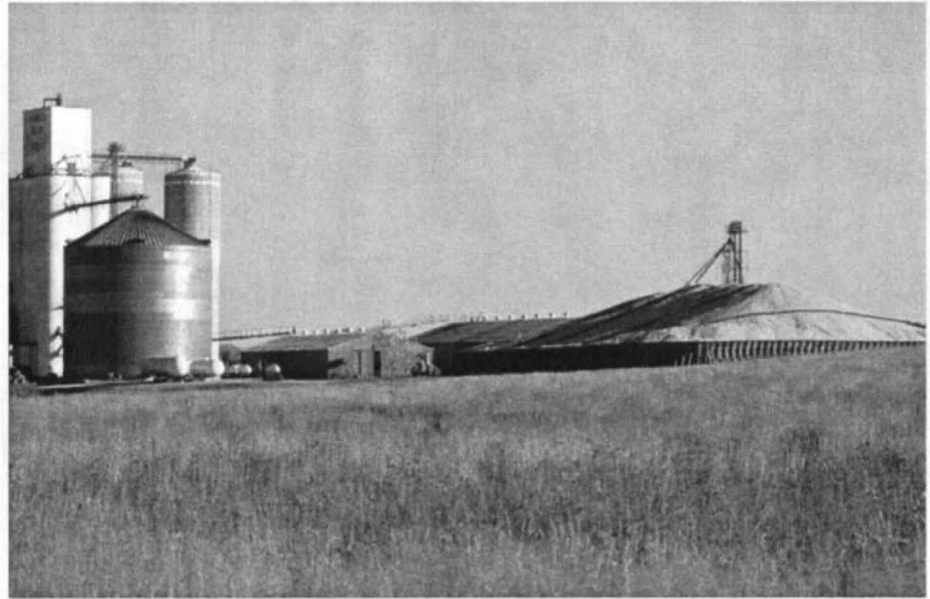
Planning for temporary grain storage

Temporary storage may be needed this year until grain can be moved into more permanent storage or sold. There are several options when considering temporarily storing grain.

Modifying existing farm buildings

If temporary/emergency grain storage is needed, putting a crop in a building is better than putting it out in the open. If bin space is full, pole barns and machine sheds can provide good grain storage if they're prepared correctly and not overloaded. An excellent reference on modifying buildings is NDSU publication AE-84, *Temporary Grain Storage* by Kenneth J. Hellevang.

Buildings used for grain storage should be in a well-drained site. Lay a sheet of 6-mil or heavier plastic on the floor to reduce the migration of moisture from the soil or through cracks in concrete floors into the grain. Ordinary machine sheds are not designed to withstand the pressures that are exerted on the sidewalls by piled grain. Avoid piling grain more than two feet deep against the side walls of machine sheds.



If grain has to be temporarily stored outside, ensure that the area is well drained and that the grain stays dry can help maintain its quality.

One good temporary grain storage solution is to construct a temporary "bin" inside an existing shed using steel grain bin rings placed on the concrete floor. These rings are self supporting and are made to withstand the stresses imparted by grain. A temporary "bin" 36 feet in diameter and 8 feet high will hold 6,514 bushels level

full and if peaked to the maximum height 7.6 feet above the top ring (total height 15.6 feet high) would hold nearly 8,600 bushels.

Outside storage

If grain must be piled outside on the ground, drainage is crucial. The pile should be on high ground with the earth crowned under the pile. Placing plastic on the ground is absolutely essential to keep soil moisture from migrating into the grain. Pile only dry grain (not more than 14% moisture). Cooling the grain with aeration prior to piling improves the chances for success. If the grain will be stored for more than a month, cover the pile with plastic to shed precipitation.

Since site preparation is so critical, it would be useful to know the size of pile necessary to store a given quantity of grain. Grain that is elevated using an auger and then dumped into a pile will come to rest in a cone-shaped pile and will come

Table 1. Conversion factors for calculations on grain resting at the angle of repose

| Crop | Avg. Filling Angle | Height Factor (HF) | Base Factor (BF) |
|---------------------|--------------------|--------------------|------------------|
| Barley | 28 | 0.2659 | 17.95 |
| Corn (shelled) | 23 | 0.2122 | 22.52 |
| Oats | 28 | 0.2659 | 17.95 |
| Grain Sorghum | 29 | 0.2772 | 17.24 |
| Soybeans | 25 | 0.2332 | 20.49 |
| Sunflower (non oil) | 28 | 0.2659 | 17.95 |
| Sunflower (oil) | 27 | 0.2548 | 18.76 |
| Durum Wheat | 23 | 0.2122 | 22.52 |
| Wheat | 25 | 0.2332 | 20.49 |

(Continued on page 227)

Grain storage *(Continued from page 226)*

to rest at predictable angles, as shown in *Table 1*. Since volume is a function of the height and diameter of the cone-shaped pile, one can estimate the required diameter of a pile of grain necessary to hold a desired quantity (bushels) of grain provided the angle of repose is known for the particular type of grain.

The author has worked out a simple equation which can be used to predict the diameter of a conical pile of grain to hold any given quantity (bushels) of grain. Only two variables are necessary for the computation: the number of bushels

and the base conversion factor (BF) from *Table 1*.

$$D_{(ft)} = (Bu \cdot BF)^{1/3}$$

For more information on computing bushels of grain in various situations and configurations, including extracting cube roots, see Lancaster County Extension Factsheet 297-01 Emergency / Temporary Grain Storage - Unconstrained Piles of Grain at <http://lancaster.unl.edu/factsheets/FieldCrops/297.pdf>.

**Thomas Dorn, Extension Educator
based in Lancaster County**

Example 1

One could use the equation -- $D = (Bu \cdot BF)^{1/3}$ -- to estimate the diameter of a conical corn pile necessary to contain 10,000 bushels of corn.

$$\begin{aligned} D_{(ft)} &= (10,000 \text{ Bu.} \times 22.52)^{1/3} \\ &= 60.8 \text{ feet} \end{aligned}$$

The process of solving for the diameter of the pile also implies the height of the pile necessary to contain the stated number of bushels. However, at times it is useful to estimate the height of a pile of grain once the diameter is known. This will determine the minimum height the auger must be set in order to create the pile of grain.

Example 2

The height of a pile of corn 60.8 feet in diameter can be estimated by multiplying the diameter by the height conversion factor (HF) from *Table 1*.

$$\begin{aligned} H_{(ft)} &= D_{(ft)} \times HF \\ &= 60.8 \text{ ft.} \times 0.2122 \\ &= 12.9 \text{ feet} \end{aligned}$$

To create a conical pile of 10,000 bushels of corn that slopes all the way to the ground with no walls requires that the site be 60.8 feet in diameter. The auger used to pile the grain must be long enough to reach out 30.4 feet beyond the wheels when at a height of greater than 12.9 (13) feet.

Nov. 23 Corn Expo tackles today's production issues

The Nebraska Corn Expo November 23 in Fremont will provide producers and agribusiness representatives strategies to remain competitive in the complex corn industry.

Registration for the free event begins at 8 a.m. The expo, which will run from 8:30 a.m. to 2:30 p.m. at the main arena of Christensen Field, is designed for growers, crop consultants, agronomists, seed corn representatives, and others looking to improve corn production and marketing strategies.

Program topics will include: the genetic future of crop production; improving irrigation efficiency with subsurface drip technology; what to expect from Mother Nature in 2005; an agricultural perspective on our southern trade partners — Mexico and Central America; Western Bean Cutworm; an integrated biorefinery — the new Mead Ethanol plant — market impact; and updates from local and state corn commodity organizations.

For more information contact Dave Varner, Cooperative Extension educator based in Dodge County, at 402-727-2775 or dvarner1@unl.edu. Exhibitor space is available.

The Nebraska Corn Expo is sponsored by NU Cooperative Extension, Colfax-Dodge County Corn Growers, Nebraska Corn Growers Association, Fremont Area Chamber Agricultural Business Council and area agribusinesses.

*Read current and
archived issues of
CropWatch on the Web:*

cropwatch.unl.edu

Seed selection *(Continued from page 222)*

indicates that the average price of seed per year is increasing faster than the cost of other inputs, said Roger Elmore, Extension crops specialist. For example from 1991 to 2003, seed cost increased an average of \$1.45 per acre per year while herbicide and insecticide costs decreased by an average of just 14 cents per acre per year, Elmore said. During the same period, fertilizer costs increased an average of \$1.14 per acre per year.

A further look at the numbers indicates that much of the increase in seed costs occurred in the latter half of that period as GMO seed became more popular. With the increased popularity of these GMOs and the likelihood of farmers ordering stacked traits in the future, costs could easily reach \$65-\$70 an acre for seed, Elmore said.

"It'll be easy to get a huge bill for seed if you aren't selective about what you need and get," he said. "You don't want to buy things you don't need, and it would be really easy to do that."

Alex Martin, Extension weed specialist, agrees. This year the royalty fee for Roundup Ready soybeans is increasing \$4.75 a bag to approximately \$15.25 a bag. While seed and enhancements aren't

priced separately from seed, each enhancement adds a cost.

Following is a general schedule of royalty fees or costs per trait for various corn hybrids: \$18 per bag for the Roundup Ready gene; \$24 a bag for corn borer control, and \$45 per bag for rootworm control. Stacking all three traits could cost \$87 in fees per bag before you even

Factors in seed selection

Seed selection

When selecting seed, "yield is always the end and should be the first criteria for seed selection," Elmore said. Seek information about performance from the seed literature and from nonbiased sources such as university research and demonstration trials. (See varietytests.unl.edu or *Nebraska Seed Guide 2004*, EC101.) Compare conditions at the trial site with conditions on your farm.

UNL extension specialists have developed a step-by-step guide for using data from the variety trials to systematically select hybrids best suited for a particular operation. Using yield as the first criteria, it helps the reader develop a pool of genetically diverse seed hybrids

include the actual price of the seed. (Note: These costs are estimates and can be affected by several factors, including the amount of seed being ordered.)

Extension specialists recommended that growers carefully consider their needs and their goals, balancing expected costs with benefits.

which are proven performers and would be expected to yield well in a given situation. See *Using Soybean Yield Data to Improve Variety Selection – Part I* (G04-1546) and *Part II* (G04-1547, expected in early November 2004) and *Using Corn Hybrid Yield Data to Improve Selection of Rapidly Changing Hybrids* (G03-1521).

When considering whether to buy GMO or non GMO seed and whether to use seed treatments, consider pest pressures from this year and the likelihood of more problems next year, then select enhancements likely to control those problems. If the field is in rotation and hasn't had a threshold level of a particular insect, for example corn rootworm, will a GMO seed with resistance to corn rootworm pay for itself in the long run? Similarly, if you've never had a major problem with wireworms, will the \$5-10 seed treatment pay for itself?

In some cases, producers may consider seed treatments or enhanced seed as a type of insurance, said Bob Wright, Extension entomologist. The value of this decision depends on the cost and the likelihood of a problem.

For example, while wireworm problems aren't common, wireworms can wipe out a field and a producer is left with no recourse. There isn't any postemergence rescue treatment for wireworms. In some cases providing control in case a problem would develop may be well worth it.

(Continued on page 229)

From a seed inspector . . .

"The quality of the soybean harvest this year is excellent. Soybeans have had plump, round berries and beautiful seed coats," notes Steve Knox, manager of the Nebraska Crop Improvement Association, which inspects and certifies seed production for the coming year. "It's been really nice to inspect a field – [soybean] seed quality is just excellent. It's better than we've seen for the last three to four years."

With seed corn, "yield is down, but the quality is still good," he said. "Several years ago weather like we've seen this year would've given us weak, puny, disappointing yields," he said, but variety and hybrid improvements have led to stronger, healthier plants that have yielded better under less-than-optimum growing conditions.

Seed selection *(Continued from page 228)*

Some seed treatments, such as Cruiser, Prescribe, and Poncho, offer a lower rate for early season soil insect control and a higher rate for corn rootworm control.

"These products often do a good job with low to moderate populations of rootworms. With heavy rootworm pressure, generally the seed treatments have not proven to be as good. High populations may still require a rescue treatment," Wright said. (See the Oct. 8 *CropWatch* for results from this year's UNL corn rootworm insecticide field trials.)

Planning for hybrid marketability

Another selection factor to consider is what markets are accepting the GMO crop being considered. If similar benefits can be obtained from a non GMO or from a seed treatment, neither of which are likely to limit markets, this may be a factor in the selection process.

Know the marketability of the hybrid/variety before buying the seed and plan to segregate the grain, if necessary, depending on the end market.

"Grain from some areas is more readily channeled to one market or another," noted Martin. "If you're planning to truck it to your nearest elevator, make sure they will take it." For a guide to the approval status of corn hybrids in Europe and Japan visit the National Corn Growers Association Biotechnology Web site at http://lepton.marz.com/ncga/search_hybrids/know_where.asp.

As part of its "Know Before you Grow" campaign, it recommends you know whether it is conventional, approved for EU export or not yet approved for EU export. Growers should read their grower agreements before planting and be fully aware of the requirements of those agreements. It is vital that hybrids awaiting EU approval are kept out of export and processing

channels."

For a list of elevators and the GMOs they're accepting, visit the American Seed Trade Association Web site at <http://asta.farmprogress.com/locator.htm>

With transgenics, it's also good to verify and not assume their spectrum of activity.

"Today's products target a pest more specifically than traditional options. Not all Bts are alike and not all products provide the same coverage," Wright said.

For example, Herculex 1 and YieldGard both provide good control of corn borer, but they cover different spectrums, Wright said. Herculex also provides control of black cutworm and western bean cutworm.

Growers also should be watching for new traits which are currently under development or being field tested, Elmore said. Many Nebraska producers may be particularly interested in work on a

"drought gene" which could be inserted into corn hybrids to provide more stability in poor production environments, especially drought conditions.

Each year a number of new hybrids and varieties are introduced on the market, necessitating an annual checkup to ensure that you're employing the seed and seed technologies available to get the highest yields possible and the traits and pest management options best suited to your field environment.

While newly available, several years of commercial and university trial rainings are usually available. UNL Extension specialists recommend testing new varieties or hybrids on a limited number of acres typical of your field conditions before switching a major percentage of your crop to a newer hybrid or variety.

Lisa Jasa
CropWatch Editor

Selecting for end use traits may pay premiums at harvest

Increasingly seed is becoming more specifically targeted to its end use, requiring producers to select entuse traits based on how it will be marketed.

Roger Elmore, Extension crops specialist, recommends that soybean producers seek varieties that are high in both protein and oil -- at least 19% oil and 35% protein.

There has been some suggestion from the soybean industry that the price differential for seed from this region is partly attributable to grain not meeting this level, Elmore said. This is a minimum that processors want to see in the soybeans they're buying.

"Some varieties make that cut and if you have that variety, you may be eligible for a premium," he said. "We don't want to sacrifice

yields, but the variety trials indicate that you can have both -- high yields and high oil and protein."

It's not clear why northern soybean states historically tended to produce lower protein and oil levels. It may be environmental or genetic, Elmore said, but it is something that growers can and should consider changing when selecting their seed.

Similar factors also affect corn production where processors are seeking high extractable starch (HES) and high total fermentable (HTF) hybrids. Some Nebraska elevators already are testing trucks as they come in for these traits and may pay a premium.

Similarly, feeders may seek hybrids with lower phythate levels.

Livestock insurance seminars set for November

Livestock Risk Protection Insurance seminars will be held at five Nebraska sites in November.

Topics will include:

Features of the new Livestock Risk Protection Insurance (LRP); using insurance to hedge price risk in feeder cattle, fed cattle, and hog markets; basis differences when

Organize winter hay lots for efficient use

Once hay harvest is complete, manage your hay reservoir wisely by feeding selected stacks or bales according to your stock's nutrient needs.

We all know that dry, mature cows in good condition can get by on pretty low quality forage. In contrast, young stock need better feed to grow, and after heifers drop their first calf, they need very good quality feed to maintain growth, to milk well, and to rebreed.

One way to provide all your animals with enough protein, energy, and other nutrients is to feed expensive, purchased supplements. What a waste this can be, however, if you have in your own hay lot some stacks or bales that will take care of these nutrient needs. You probably already have hay that can supply nearly all the nutrient needs of your livestock without much supplement, but you've got to be able to identify and distribute this hay accordingly.

When harvest is over, don't just move hay into winter storage. Store good hay separately from poorer hay and measure the feed value of your hay with a forage test to ensure you can provide the protein and energy needs of your animals. Also be sure to store each type of hay so you can get to it when needed.

Bruce Anderson
Extension Forage Specialist

Whether hedging with LRP, futures, options or cash contracts, nothing provides a "silver bullet" to create profit where it doesn't already exist, writes Darrell Mark in the Sept. 8 *Cornhusker Economics*. See the full article in this week's online *CropWatch AgNews* at <http://cropwatch.unl.edu>

using LRP; and how LRP compares to other marketing alternatives. Presenting the free seminars are Darrell Mark, Extension livestock economist; and Al Prosch, Pork Central director.

Locations

Nov. 5, North Platte, West Central Research and Extension Center, 1-4 p.m. (308-532-2683)

Nov. 12, Scottsbluff, Panhandle REC, 9:30 a.m. to noon (308-632-1480)

Nov. 15, Beatrice, Gage County Extension Office, 1-4 p.m. (402-223-1384)

Nov. 17, Fremont, Dodge County Extension Office, 1-4 p.m. (402-727-2775)

Nov. 22, Norfolk, Lifelong Learning Center, 1-4 p.m. (402-370-4040)

The seminars are sponsored by the Nebraska Cattlemen, Nebraska Pork Producers Association, Nebraska Farm Bureau, and the University of Nebraska Cooperative Extension.

Workshop helps farmers plan odor management program

Two University of Nebraska Cooperative Extension odor management workshops will help pork producers further understand the off-farm impact of odor, alternatives for controlling odor and applicable alternatives for their farms.

The odor management workshops, tailored specifically for pork producers, are Nov. 11 in Norfolk and Nov. 12 in Beatrice.

The one-day, hands-on workshops will use planning tools to assist individual producers in assessing farm odor potential, identifying residences that are likely to be impacted by odors and determining science-based directional setback distances. It also will help in assessing applicable odor-control options and evaluating using and sizing a biofilter on a production building. In addition, the workshops will assist in compar-

ing options and costs for covering a lagoon or manure storage and considering the benefits of different odor control technologies, especially in terms of reduced area impacted by farm odor.

The Norfolk workshop will be at the Lifelong Learning Center and the Beatrice workshop will be at the Gage County Extension office.

Workshops are from 9:30 a.m.-3:30 p.m. Lunch is provided. There is no registration fee, but advance registration is necessary by Nov. 5. To register, call Daphne Nebel at (402) 472-1646 or e-mail dnebel2@unl.edu.

For more information, contact Rick Stowell at (402) 472-3912 or Rick Koelsch at (420) 472-4051.

Workshops cosponsors are the Nebraska Pork Producers Association and the National Pork Board.

Distance ed classes offered on crop management issues

The Department of Agronomy and Horticulture is offering several distance education classes related to crop genetics and crop production. For more information on any of these classes, visit the department's Web site at http://agronomy.unl.edu/distance_ed/index.htm

Crop and Weed Genetics, Internet distance education course, October 25 - December 11.

This workshop, taught by Agronomy Professor Don Lee, is for people who want to develop or update their understanding of plant genetics.

It covers the application of classical and molecular genetic principles to the explanation of variation observed in plant families and populations. Interpretation of information gathered from whole-plant trait observation and from molecular analysis. Relationships between crops and weeds. Examples from genetic studies on both crop and weed species are the basis of the course.

Why do corn hybrids from some companies tend to be more resistant to gray leaf spot or more susceptible to green snap? Is this weed becoming more of a problem for us to control with herbicides? Why do off-type kernels sometimes appear in a yellow or white cornfield? What percent of volunteer corn will have the hybrid's herbicide resistance trait? What genetic changes were incorporated to produce this specialty crop? Crop and Weed Genetics is designed to help the agronomy professional understand the genetic basis for variation observed in the field among crop

varieties or weed populations, and gain insights into the development of new traits in crop varieties. Email access required.

Cross-Pollinated Crop Breeding, distance education course, November 4 to December 11.

This class is taught via the Internet/videotape or CD-ROM by Agronomy Professor P. Stephen Baenziger. Learn the standard breeding methods and theories associated with population improvement of cross-pollinated crops or self-pollinated crops that are forced to cross-pollinate. Learn how to create populations, recurrent selection methods with and without progeny tests, and hybrid production practices. The common breeding methods used in improving cross-pollinated crops (e.g., corn, alfalfa, sunflowers) and the theoretical basis for cross-pollinated crop breeding will be discussed.

Pest Resistance Management, December 8-9, Lincoln

This two-day workshop will be held in Lincoln and taught by Alex Martin, Extension weeds specialist; Tom Hunt, Extension entomologist; Loren Giesler, Extension plant pathologist; and Blair Siegfried, Extension entomologist.

Understanding and Managing Spatial Variability in Soil, Feb. 2, Grand Island.

This one-day workshop will be taught by Richard Ferguson, Extension soil nutrient specialist, and cover why it's important to understand spatial variability; what's manageable; sources and scales of variability; spatial information resources -- public and self-generated; spatial tools -- GPS & GIS; and how to quantify variability.

(Attendance in Grand Island is recommended, however workshop will be taped and video delivered to students unable to travel to Grand Island.)

Controlling volunteer wheat in new alfalfa

Drilling alfalfa into winter wheat stubble offers many benefits, but it also can lead to the growth of volunteer winter wheat seedlings.

Limiting tillage can help maintain a firm seedbed, protect the soil from erosion, and conserve precious moisture, given the wheat residue has been evenly distributed.

If it rains enough soon after combining the wheat, you can kill most of these seedlings by spraying glyphosate or Gramoxone before planting alfalfa. But if rain waits until near alfalfa planting time, both alfalfa and volunteer wheat begin growing at the same time.

This is hard on new alfalfa. Wheat is very competitive, especially when it stools out and thickens. It can easily crowd out slower growing alfalfa seedlings, thinner the new alfalfa stand. It helps to remove the straw or at least have it chopped fine and distributed evenly across the field. Heavy residue can make it difficult for new seedlings.

Killing out the volunteer wheat is fairly easy to do using the herbicides Select or Poast, but it is best done in the fall so that alfalfa seedlings can be free of competition to establish well enough to survive winter. Plus, after wheat has gone through the winter it becomes more resistant to both Select and Poast. If you wait too long, you might get good tonnage at first cutting, but it will be mostly wheat with little alfalfa remaining.

Bruce Anderson
Extension Forage Specialist

Selling that special sauce

UNL's Food Processing Center is offering a one-day seminar Jan. 21 for those interested in exploring the idea of starting a food manufacturing business. Pre-registration is required and space is limited. Registration deadline is Jan. 12. Contact Jill Gifford at (402)472-2819 or jgifford1@unl.edu for more info.

The next issue of *Crop-Watch* will be Nov. 12. Check the Web site for updates at

cropwatch.unl.edu

Events

October

- Land Application of Manure Workshop, Oct. 27, West Point

November

- Agriculture at the Crossroads, Nov. 4, Lincoln.
- Livestock Risk Protection Insurance Seminars
 - Nov. 5, North Platte
 - Nov. 12, Scottsbluff
 - Nov. 15, Beatrice
 - Nov. 17, Fremont
 - Nov. 22, Norfolk
- Odor Management Workshops for pork producers,
 - Nov. 11, Norfolk
 - Nov. 12, Beatrice
- Central Region Woodland Stewardship Conference, Nov. 6, Nebraska City
 - Intermediate Precision Agriculture Workshop, Nov. 15, Norfolk (http://bse.unl.edu/adamchuk/pa_workshop/paw_2004_2.html)
 - National GIS Day, Norfolk, Nov. 17.
 - Nebraska Corn Expo, Nov. 23, Fremont

December

- Agronomy and Horticulture Highlights, featuring current UNL research, extension and teaching topics, Dec. 2, Lincoln.
- Using Aerial Imagery in Crop Production, Dec. 7, Grand Island.
- Pest Resistance Management Course, Dec. 8-9, Lincoln (http://agronomy.unl.edu/distance_ed/2004fall/martin/course_896.htm).
- Nebraska Soybean Day and Machinery Expo, Dec. 10, Saunders County Fairgrounds, Wahoo
- Advanced Precision Agriculture Workshop, Lincoln, Dec. 10 (http://bse.unl.edu/adamchuk/pa_workshop/paw_2004_3.html)

January

- Crop Protection Clinics and Pesticide Applicator Sessions,

| | |
|-------------------|----------------------|
| Jan. 5, Fremont | Jan. 14, Norfolk |
| Jan. 6, Auburn | Jan. 18, Scottsbluff |
| Jan. 7, Beatrice | Jan. 19, Ogallala |
| Jan. 11, York | Jan. 20, Broken Bow |
| Jan. 12, Hastings | Jan. 21, Holdrege |
| Jan. 13, O'Neill | Jan. 24, Lincoln |

February

- Nebraska Agricultural Technologies Association (NeATA) Conference and Trade Show, Feb. 2-3, Grand Island

Program features soybean advances & relay intercropping

Soybean breeding and management for high yields and results from recent relay intercropping trials will be among the topics featured at this year's Agronomy and Horticulture Highlights.

The annual one-day seminar, scheduled for Dec. 2 in Lincoln, features speakers from the UNL Department of Agronomy and Horticulture on current topics in teaching, research, and extension.

Jim Specht, agronomy and horticulture professor and soybean breeder, will address the high yield options and Jim Schepers, agronomy and horticulture professor and USDA research leader, will address relay intercropping.

Other seminar topics will include: Genetics via Distance Ed with Don Lee, Extension plant geneticist; Yellow Leaves in the Green Industry with Ellen Paparozzi, agronomy and horticulture professor; Water Crises in Nebraska with Gary Hergert, Extension soil quality specialist; Global Food Security with Kenneth Cassman, professor of agronomy and horticulture; and Are you Ready for Roundup Ready Turf? with Ryan Goss, Post-Doctoral Research Associate.

A panel discussion at 1 p.m. will address questions contributed by participants during the morning. There also will be a number of poster presentations on agricultural research topics.

Agronomy and Horticulture Highlights will begin at 8:15 Dec. 2 and conclude about 3 p.m. at the Corhusker Hotel in Lincoln. A complimentary lunch will be included but reservations are required by November 22. For more information or to make a reservation, contact JoAnn Collins at the UNL Department of Agronomy and Horticulture at 402-472-2811.