Crop Watch No. 2001-24, October 12, 2001

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

http://digitalcommons.unl.edu/cropwatch/257
New seed-applied insecticides extend benefits

Several advances have been made recently in the fight against insects that attack corn seedlings. Several newer insecticides have been labeled for use, and advances in seed coating technology have allowed insecticide to be applied to the seed, enabling farmers to buy pre-treated seed that is ready to plant.

While these products are primarily for seedling insect control, some of the new pre-treated seed treatments are labeled for protection against corn rootworms and other crop pests. While these advancements have led to increased protection from more pests, the costs of these pre-treated products are higher than the traditional hopperbox treatments.

Seed-applied insecticide treatments offer several advantages:

1) Uniform seed treatment.
2) Ease of use; no mixing or measuring is required, and there is no special equipment to use.
3) Less exposure to insecticide residues and dusts.
4) Rates of active ingredients are low compared to soil insecticides.

### Seed-applied fungicides for soybeans

5) Some are systemic and will provide some control of foliage feeding insects such as flea beetles.

As with many new products, marketing materials may not include certain drawbacks that may need to be considered. Here is what seed treatments do not do:

1) Increase plants stands. They only help protect what you plant.
2) Protect against poor germination due to mechanical damage to seed, poor storage, or genetic differences.
3) Depending on the product, they may not give season long protection. Many only last as long as it takes for the plants to emerge or germinate.
4) Protect against all insects.

#### 2001 research on seed-applied insecticides

The newer seed-applied insecticides are attempting to go beyond their traditional role of providing early season protection. Not only do they protect against early season insects such as wireworms and seedcorn maggots, they are labeled for use against other pests such as flea beetles and corn rootworms.

Gaucho and Prescribe from Gustafson are new products commonly available for corn. The active ingredient in both is imidacloprid, a systemic insecticide that has been used in other crops such as sorghum. The product used for both Gaucho and Prescribe is Gaucho 600.

The imidacloprid rate for corn varies depending on the target insects. If only seedling insect control is desired, the rate is lower and the product will be sold under the name Gaucho. Two rates of Gaucho are available, one for field corn and another higher rate for more susceptible inbreds (Gaucho Extra). Gaucho, although systemic, does not claim to protect the seedling plant from wireworm attack after the plant has emerged from the seed. Flea beetle control is expected through the first true leaf stage for Gaucho and through the 5 leaf stage for Gaucho Extra.

Under the brand name Prescribe, the rate is increased further to provide suppression of corn rootworms. “Suppression” is a category we would rather not see on a label but it does indicate that some mortality of target insects will occur, but that under certain conditions control may not be considered satisfactory. It is expected to give much longer control of flea beetles. These products will be sold through your seed dealer as pre-treated seed. Costs may range from $10 a bag for Gaucho to $40 for Prescribe.

ProShield from Syngenta is a tefluthrin-based seed treatment also labeled for control of corn root-
Run grain bin fans continuously

As fall weather patterns shift and temperature and moisture levels fluctuate, remember to ensure the quality of the grain you are storing on-farm.

The two most important factors in quality grain storage are the grain's temperature and moisture content. Storage bin fans should run continuously rain or shine from when the grain is added until it reaches the appropriate temperature – below 50°F. Corn stored above the threshold temperature and moisture content will respire and dry matter will be lost, reducing grain quality and providing an opportunistic environment for the development of storage molds. These molds can reduce the grain’s value and may produce toxins dangerous to man and animal.

Corn stored at 16% moisture and 50°F, followed by careful monitoring and periodic aeration to maintain a constant 50°F, will have a shelf life of about 186 days (six months). At 20% moisture and 50°F, the shelf life is only 63 days.

Grain handlers identified

The American Seed Trade Association hosts a website to help producers locate the closest grain handler who will buy, receive, and handle genetically enhanced corn products that have full U.S. registration for food and feed use, but are not yet approved for import into the European Union. Approximately 2,000 facilities are included. These facilities will only handle corn products fully approved for both food and feed use in the U.S.

Access the site at http://asta.farmprogress.com/locator.htm and fill in your zip code and how many miles you are willing to transport your corn. It will provide a list of grain buyers in your area.

There's still time to return your reader survey

Dear Readers,

If you've already returned your survey from the Sept. 28 Crop Watch, thanks! If not, please do take a few moments to complete the survey (we've timed it at 3-5 minutes) and send it back postage-paid. It will help us learn more about how you use information in the newsletter and how we might improve it.

We have fine-tuned the questions and the format to make it easier and quicker to complete in hopes that you may be able to work it into your hectic fall schedule. If you prefer to take it on the web, visit the survey site at: http://cropwatch.unl.edu/01surveyform.htm

And don’t forget that those who include their names and addresses on the survey will be entered in a drawing for one of 11 prizes, all of which were detailed in the last edition. Prizes include free and discounted meeting registrations, books, plant diagnostics at the UNL clinic, and chemical resistant gloves.

Don’t delay. The prizes will be drawn from those names submitted from both the print and web versions of the newsletter before Oct. 15.

Lisa Brown Jasa
Crop Watch Editor
Fungicide recommended for soybean seed

This production season proved to be an excellent test of the potential for seedling soybean disease problems in much of the state. What did we learn that we can apply to next year’s management?

As mentioned many times, a history of the field is a vital part of efficient disease management. Take careful note of whether you had a soybean stand problem this year and use this information when ordering seed for next year.

Commercial seed companies do not automatically treat soybean seed with a fungicide, as they do with corn, due to the short shelf life of soybean seed. As a result, producers need to order a treatment when they order seed or they can have it treated just prior to planting. The price for these treatments typically is $2-$3 per unit.

If you have fields with a history of seedling emergence or post-emergence problems, I recommend using a seed-applied fungicide. These problems may not occur consistently, so be sure to consider how frequently these problems develop and the field’s history over several years. This critical history data set should be used when deciding whether to treat seed.

The most common fungi involved in seedling diseases in Nebraska are species of Fusarium, Phytophthora, Pythium, and Rhizoctonia. All four are capable of killing soybean seedlings or at least causing damage sufficient enough that it affects the plant’s ability to achieve full yield potential. Diagnostic characteristics of common soybean seedling diseases are described in the UNL Extension publication, Damping Off, Root RotS, and Vascular Disorders of Soybean, Extension Circular EC99-1877.

Remember that fields with a history of Phytophthora should be planted with a resistant variety. Fields with a long-term history of Phytophthora may require a different resistance gene if you are noticing Phytophthora killed plants when you grow resistant varieties.

Seed treatment fungicides are available in a variety of formulations. Some products are labeled for commercial use in slurry- and mist-type seed treaters. Other products are labeled for on-farm application and are commonly referred to as hopper-box or planter-box treatments. With any seed treatment product, good seed coverage is required for the maximum benefit. The best treatment is going to be a commercial treatment, which results in uniform seed coverage.

I suggest you buy treated seed if you have fields with a history of seedling disease problems or are considering early planting when soil temperatures are cooler than optimum. Many compounds are currently available to use as seed treatment fungicides. A list of seed-applied fungicides, active ingredients, and the fungi they are effective against are included in the NU Extension NebFact, “Seed Treatment Fungicides for Soybeans,” NF00-411. Some seed treatment fungicides are not compatible with Rhizobium inoculants. Always check the label for compatibility. Unless otherwise labeled, if seed is treated with a fungicide, apply inoculants in-furrow rather than on the seed. Many products require that seed be planted within four hours of inoculation with liquid based Rhizobium inoculants.

With the increased interest in early season bean leaf beetle control, the use of seed-applied insecticides is being researched. At this time no seed-applied insecticides are labeled for use on soybean in Nebraska. Imidacloprid insecticides are being investigated and eventually may be available as a means of controlling early season insect pressure on soybean.

Loren Giesler
Extension Plant Pathologist

When ordering soybean seed for 2002, include a seed-applied fungicide if you have fields with a history of seedling emergence or post-emergence problems.

Storing hay to reduce winter losses

Hay stored outside will be damaged by rain, snow, wind, and ice this fall and winter. The average round bale loses about 25% of its original nutrients during storage; however this loss can be reduced to only 10% or 15%. Following are a few tips.

Line up bales so the twine sides don’t touch because rain, snow, and ice will gather in these spots instead of running off. Round bales butted end-to-end, cigar-like, usually have less spoilage.

Snow is likely to father where bales are in east-west rows or near fencelines or trees, causing water to soak into the bales or ground underneath. Line bales up north and south for fewer drifts and faster drying as sunlight and prevailing winds hit both sides of the row.

Always place bales on higher, well-drained ground or on pallets so water drains away from them. Keep them out of terrace bottoms or other low spots.

Bruce Anderson
Extension Forage Specialist
Seed-applied insecticides

Continued from page 205

Worms. It was used in some fields in 2000. The seed is coated with Force ST equivalent to approximately two-thirds of the rate of granular Force insecticide. Cost of ProShield will be similar to that of granular insecticides ($15-$18 per acre based on seeding rate).

Clothianidin is a new systemic material from Gustafson and Adage (to be marketed as Cruiser) is a systemic from Syngenta.

Nebraska researchers tested these products in seedling insect and corn rootworm plots in 2001 (see Table 1).

We are in the process of rating our roots differently from the 1-6 scale used in the past. The new 0-3 scale is a clearer representation of root pruning than the old scale. In the new scale, a 1, 2, or 3 represents the nodes pruned to within 1 1/2 inches of the plant. Intermediate numbers are percentages of roots pruned. In this scale a 1.50 indicates that one full node (equivalent to a 4 on the old scale) plus 1/2 of the roots of another node have been pruned. In general a rating of 0.5 or below will give satisfactory protection. Bear with us while we get used to this rating scale.

It appears that these seed-applied insecticides will be effective in protecting seeds from seed feeding insects such as wireworms and seedcorn maggots. However, based on the results of this trial (Table 2, page 209) and other trials, and based on the suppression label for Prescribe, we advise caution in selecting these newer seed-applied products as rootworm control choices. Two years of data at the UNL Haskell Ag Lab at Concord have shown that under moderate to heavy pressure these treatments do not perform as well as traditional soil insecticides for corn rootworm control. As with all products, growers should assess their situations before selecting a control method. Additional data can be found on these UNL entomology websites:

- entomology.unl.edu -- UNL Department of Entomology
- nerec.unl.edu/ipm/jarvi.htm -- Northeast REC
- screc.unl.edu/entomology -- South Central REC

Keith Jarvi, IPM Extension Assistant, Northeast REC
Tom Hunt, Extension Entomologist, Northeast REC

Table 1. Insecticide screening at Emerson, Nebraska in 2001. Plant population per 30 foot of row (22 June)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Application method*</th>
<th>Rate</th>
<th>Plant population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(See footnote, pg 209)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaucho</td>
<td>ST</td>
<td>0.165 mg ai/kernel</td>
<td>36.25 a</td>
</tr>
<tr>
<td>Warrior</td>
<td>IF MT</td>
<td>1 oz/acre</td>
<td>36.25 a</td>
</tr>
<tr>
<td>Force 3 G</td>
<td>IF</td>
<td>3 oz/1000 ft of row</td>
<td>36.25 a</td>
</tr>
<tr>
<td>Adage 5 FS</td>
<td>ST</td>
<td>200g ai/100 kg seed</td>
<td>35.25 a</td>
</tr>
<tr>
<td>Aztec 4.67</td>
<td>IF</td>
<td>2.25 oz/1000 ft of row</td>
<td>35.00 ab</td>
</tr>
<tr>
<td>Clothianidin</td>
<td>ST</td>
<td>0.25 mg ai/kernel</td>
<td>34.75 ab</td>
</tr>
<tr>
<td>Adage 5 FS</td>
<td>ST</td>
<td>50 g ai/100 kg seed</td>
<td>34.75 ab</td>
</tr>
<tr>
<td>Fortress 5 G</td>
<td>IF</td>
<td>3 oz/1000 ft of row</td>
<td>34.00 abc</td>
</tr>
<tr>
<td>Capture 2 EC</td>
<td>IF MT</td>
<td>0.15 oz ai/1000 ft of row</td>
<td>32.75 abc</td>
</tr>
<tr>
<td>Pounce 3.2 EC</td>
<td>IF MT</td>
<td>2 oz/acre</td>
<td>32.50 abcd</td>
</tr>
<tr>
<td>Pounce 3.2 EC</td>
<td>IF MT</td>
<td>4 oz/acre</td>
<td>32.50 abcd</td>
</tr>
<tr>
<td>Force 200 ST</td>
<td>ST</td>
<td>260 ml/100 kg seed</td>
<td>32.25 abcd</td>
</tr>
<tr>
<td>Capture 1.15 G</td>
<td>TB</td>
<td>8 oz/1000 ft of row</td>
<td>32.00 abcd</td>
</tr>
<tr>
<td>Adage 5 FS</td>
<td>ST</td>
<td>100 g ai/100 kg seed</td>
<td>32.00 abcd</td>
</tr>
<tr>
<td>Kernel Guard</td>
<td></td>
<td>54.8 g ai/100 kg seed</td>
<td>32.00 abcd</td>
</tr>
<tr>
<td>Supreme 24.42 DS</td>
<td>ST</td>
<td></td>
<td>32.00 abcd</td>
</tr>
<tr>
<td>ProShield</td>
<td>ST</td>
<td></td>
<td>32.00 abcd</td>
</tr>
<tr>
<td>Capture 1.15 G</td>
<td>IF</td>
<td>4 oz/1000 ft of row</td>
<td>31.75 abcd</td>
</tr>
<tr>
<td>Regent 4 SC</td>
<td>IF MT</td>
<td>.12 oz/1000 ft of row</td>
<td>30.00 bcd</td>
</tr>
<tr>
<td>F0570</td>
<td>IF MT</td>
<td>1.44 oz/acre</td>
<td>30.00 bcd</td>
</tr>
<tr>
<td>Capture 1.15 G</td>
<td>TB</td>
<td>4 oz/1000 ft of row</td>
<td>29.25 cd</td>
</tr>
<tr>
<td>Counter 20 CR</td>
<td>IF</td>
<td>3 oz/1000 ft of row</td>
<td>28.75 d</td>
</tr>
<tr>
<td>Aztec 2.1 G BD</td>
<td>IF</td>
<td>5.025 oz/1000 ft of row</td>
<td>28.25 d</td>
</tr>
<tr>
<td>Untreated</td>
<td>IF MT</td>
<td>.24 oz/1000 ft of row</td>
<td>27.75 d</td>
</tr>
<tr>
<td>Regent 4 SC</td>
<td>IF MT</td>
<td></td>
<td>27.75 d</td>
</tr>
</tbody>
</table>

Means with the same letter are not significantly different. (LSD = 5.1743; alpha = 0.05)
Seed-applied insecticides (Continued from page 208)

Table 2. Corn rootworm insecticide screening at Concord, Nebraska 2001 - root ratings.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Application method*</th>
<th>Rate oz/1000 row ft</th>
<th>Rate lb ai/1000 row ft</th>
<th>Root Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aztec 4.67 G SB</td>
<td>TB</td>
<td>3 oz</td>
<td>0.15</td>
<td>0.245 a</td>
</tr>
<tr>
<td>Force 3 G</td>
<td>TB</td>
<td>4 oz</td>
<td>0.12</td>
<td>0.250 a</td>
</tr>
<tr>
<td>Counter 20 CR</td>
<td>TB</td>
<td>6 oz</td>
<td>1.20</td>
<td>0.278 ab</td>
</tr>
<tr>
<td>Aztec 2.1 G BD</td>
<td>TB</td>
<td>6.7 oz</td>
<td>0.14</td>
<td>0.290 ab</td>
</tr>
<tr>
<td>Counter 20 CR</td>
<td>IF</td>
<td>6 oz</td>
<td>1.20</td>
<td>0.293 ab</td>
</tr>
<tr>
<td>Aztec 2.1 G BD</td>
<td>IF</td>
<td>5.025 oz</td>
<td>0.105</td>
<td>0.298 ab</td>
</tr>
<tr>
<td>Fortress 5 G SB</td>
<td>TB</td>
<td>3 oz</td>
<td>0.16</td>
<td>0.323 ab</td>
</tr>
<tr>
<td>Lorsban 15 G</td>
<td>TB</td>
<td>8 oz</td>
<td>1.20</td>
<td>0.366 ab</td>
</tr>
<tr>
<td>Aztec 2.1 G BD</td>
<td>IF</td>
<td>6.7 oz</td>
<td>0.14</td>
<td>0.375 ab</td>
</tr>
<tr>
<td>Fortress 5 G SB</td>
<td>IF</td>
<td>3 oz</td>
<td>0.16</td>
<td>0.388 ab</td>
</tr>
<tr>
<td>Regent 4 SC</td>
<td>MT 5 gal</td>
<td>.24 oz</td>
<td>0.13</td>
<td>0.390 ab</td>
</tr>
<tr>
<td>Force 3 G</td>
<td>IF</td>
<td>4 oz</td>
<td>0.12</td>
<td>0.418 ab</td>
</tr>
<tr>
<td>Force 3 G</td>
<td>IF</td>
<td>3 oz</td>
<td>0.09</td>
<td>0.428 ab</td>
</tr>
<tr>
<td>Aztec 2.1 G BD</td>
<td>IF</td>
<td>3.35 oz</td>
<td>0.07</td>
<td>0.443 ab</td>
</tr>
<tr>
<td>Counter 20 CR</td>
<td>IF</td>
<td>3 oz</td>
<td>0.60</td>
<td>0.468 ab</td>
</tr>
<tr>
<td>Force 3 G</td>
<td>IF</td>
<td>2 oz</td>
<td>0.06</td>
<td>0.480 ab</td>
</tr>
<tr>
<td>Counter 20 CR</td>
<td>IF</td>
<td>4.5 oz</td>
<td>0.90</td>
<td>0.485 ab</td>
</tr>
<tr>
<td>Aztec 4.67 G SB</td>
<td>IF</td>
<td>3 oz</td>
<td>0.15</td>
<td>0.493 ab</td>
</tr>
<tr>
<td>Lorsban 15 G</td>
<td>IF</td>
<td>8 oz</td>
<td>1.20</td>
<td>0.513 ab</td>
</tr>
<tr>
<td>Regent 4 SC</td>
<td>MT 1 gal</td>
<td>0.24 oz</td>
<td>0.13</td>
<td>0.585 abc</td>
</tr>
<tr>
<td>Lorsban 15 G</td>
<td>IF</td>
<td>4 oz</td>
<td>0.60</td>
<td>0.620 abc</td>
</tr>
<tr>
<td>Capture 2 EC</td>
<td>5 in TB 5 gal</td>
<td>0.30 oz</td>
<td>0.0046</td>
<td>0.658 abcd</td>
</tr>
<tr>
<td>Capture 1.15 G</td>
<td>IF</td>
<td>8 oz</td>
<td>0.0054</td>
<td>0.764 abcd</td>
</tr>
<tr>
<td>Lorsban 15 G</td>
<td>IF</td>
<td>6 oz</td>
<td>0.90</td>
<td>0.803 bcde</td>
</tr>
<tr>
<td>Clothianidin 600 FS</td>
<td>ST</td>
<td>1.25 mg/kernel</td>
<td>1.090</td>
<td>1.090 cde</td>
</tr>
<tr>
<td>Prescribe 600 FS</td>
<td>ST</td>
<td>1.35 mg/kernel</td>
<td>1.115</td>
<td>1.115 cde</td>
</tr>
<tr>
<td>Capture 1.15 G</td>
<td>TB</td>
<td>8 oz</td>
<td>0.0054</td>
<td>1.118 cde</td>
</tr>
<tr>
<td>ProShield</td>
<td>ST</td>
<td></td>
<td></td>
<td>1.135 de</td>
</tr>
<tr>
<td>Capture 1.15 G</td>
<td>IF</td>
<td>6 oz</td>
<td>0.0040</td>
<td>1.340 ef</td>
</tr>
<tr>
<td>Furadan 4 F</td>
<td>Post</td>
<td>1 qt formulation/acre broadcast rate</td>
<td>1.733</td>
<td>fg</td>
</tr>
</tbody>
</table>

Means with the same letter are not significantly different. (LSD = 0.5438; alpha = 0.05)

ST = seed treatment  MT = microtube
IF = infurrow        TB = T-band
IF MT = infurrow by microtube

Untreated

1.828 fg

2.205 g
Early control of winter annuals pays rewards in reduced yield loss in wheat

The worst weeds in winter wheat are those that germinate in the fall with the crop -- downy brome, jointed goatgrass, volunteer rye, blue mustard, tansy mustard, field pennycress, wild mustard, and shepherdspurse. Winter annual grasses like downy brome (cheatgrass) and jointed goatgrass are some of the most troublesome weeds in wheat because of their competitiveness and difficulty to control.

When 100 cheat or downy brome plants per square yard emerged within one week of crop emergence, wheat yields were reduced by more than 35% (Figure 1), according to research conducted at the Kansas State University Ag Research Center at Hays, Kansas and at Archer and Torrington, Wyoming. Infestations of cheat and downy brome at a similar population -- 100 plants per square yard -- that emerged three to four weeks after the wheat, only reduced wheat yields 12% and 6%, respectively. Winter annuals such as cheatgrass and jointed goatgrass growing up with the crop also cause lodging, harvest difficulty, and dockage.

Crop rotations and delayed planting are cultural practices that can help reduce the amount and level of competition of these weeds with winter wheat. After the winter wheat becomes established, however, the next control option is the use of herbicides. As with most things, "timing is everything."

For downy brome control, Maverick Pro at 2/3 oz applied when the downy brome is in the seedling stage (early post) has given effective control. If rainfall occurs shortly after application, control is almost 100% on emerged plants because root uptake of the herbicide adds to the performance of the foliar uptake. With this herbicide, add 2 quarts of surfactant to each 100 gallons of spray solution. Preplant, preemergence, late postemergence and early spring applications have not been as effective in controlling downy brome as the early post treatments. Once the downy brome tillers it is much more difficult to control.

For jointed goatgrass an effective herbicide treatment does not exist; however, in two to three years herbicide-resistant winter wheat will probably be available, which should provide a good tool to selectively control this weed in winter wheat.

A herbicide that selectively controls volunteer rye in winter wheat is not available; however, Roundup can be used with a rope-wick applicator in late spring to achieve control. The rye should be 10 to 12 inches taller than the wheat for best results. In heavy stands of rye, travel in both directions. Remember that if you contact the wheat with the rope-wick or drip the herbicide on the crop, it will cause injury. The Roundup should be mixed at a 33% concentration (1 gallon Roundup with 2 gallons water). The biggest disadvantage of this treatment is that most of the competitiveness with winter wheat has already occurred; however, if treatment is timely it will keep the rye out of the grain tank.

For most winter annual broadleaf weeds in winter wheat Ally, Amber, Finesse, Express, or Peak will provide effective control. Avoid the use of growth hormone imitator herbicides such as 2,4-D or Banvel/Clarity in the fall before wheat is fully tillered, or serious injury may occur the following spring during stem elongation and head emergence. Check labels for rate, timing and additives. Also check on crop rotation restrictions, both if the crop winter kills and/or for the crop you plan to follow the wheat crop. If fall application is timely, these treatments are effective and will reduce or eliminate weed competition with winter wheat.

Robert Klein, Extension Cropping Systems Specialist
Drew Lyon, Extension Dryland Cropping Systems Specialist
Ensure pesticides stored securely

Recent events here and abroad, including the temporary ban on agricultural aircraft, are prompting a new awareness of proper pesticide storage and security measures in our state. The current situation has created a need for a higher level of alertness and heightened responsibility among pesticide applicators.

For safety concerns now, as always, farmers, ranchers, agrochemical dealers, ag pilots, lawn care operators and exterminators should review management practices associated with their pesticide storage area and application equipment. These are simple, appropriate and justifiable steps to take.

I am reminded of a portion of new UNL Cooperative Extension Publication, Safe Transport, Storage and Disposal of Pesticides:

"Regardless of whether it is a cabinet, room or an entire building, the pesticide storage area should be lockable to prevent unauthorized entry and should only be used for pesticides and pesticide equipment."

Keep the following points in mind when assessing your pesticide storage security:

- Ensure pesticide storage is secure and locked as appropriate.
- Be aware of who has keys and access to pesticide storage areas.
- Post all storage areas (i.e., “Pesticides — Keep Out”).
- Post names, addresses and telephone numbers for contact persons at the primary entrance to the storage area (list at least two people, if possible).
- Regularly inspect storage facilities and keep an inspection log.
- Commercial pesticide applicators should be aware of who has access to pesticide storage areas during business hours.
- Keep inventory records of pesticide products current and readily available.
- Secure pesticide application equipment to prevent unauthorized access.
- Ensure pesticide label and Material Data Safety Sheets are available on all stored pesticides.
- Keep a list of emergency telephone numbers readily available, including fire, law enforcement and medical contacts.

Our initial thoughts of pest management have taken a turn that we may not have considered originally. Today, our responsibilities toward pesticide use and storage are more comprehensive than ever before.

For more information on pesticide responsibility, safety, and storage, visit the NU Pesticide Education Center website at http://pestEd.unl.edu/.

Larry Schulze
Pesticide Education Coordinator

Ag risk management workshop to be Nov. 13

Changes in the crop insurance program and new provisions of the proposed Farm Bill will be discussed during a November Risk Management seminar.

The University of Nebraska, Kansas State University, and Colorado State University are joining to host risk management seminars in each state. The workshops are scheduled for Nov. 13 at the Kearney, Nebraska, Holiday Inn; Nov. 14 at the Salina, Kansas Holiday Inn; and Nov. 15 at the Brush, Colorado Event Center at the Brush County Fairgrounds.

The fee for the one-day workshop is $65 if postmarked by Nov. 6. After that date, the fee is $90. The fee covers the workshop, materials, lunch and refreshments.

Speakers from the USDA Risk Management Agency, universities, and private industry will discuss crop insurance and the farm bill currently working its way through Congress. Doug Jose, NU Extension agricultural economist, is the Nebraska contact for information about the event.

"The biggest change in crop insurance is that the Risk Management Agency is developing a system to track crop insurance agents who have insured farmers with high loss ratios,” said K-State Research and Extension agricultural economist Art Barnaby. RMA officials will answer questions on the criteria used to place agents on the high loss ratio list.

A mini-workshop titled ‘Risk Assessed Marketing’ will demonstrate how farmers can manage price and yield risk using currently available tools, the economist said.

Risk tools include forward contracts, minimum price contracts, futures, options, crop insurance, hail insurance and other risk management tools. Participants also will "manage" a case farm.

"This workshop will be informative for any agribusiness that helps farmers manage their financial risk, including crop insurance agents, lenders, commodity brokers, grain merchandisers, farm managers, crop consultants and financial advisors. Farmers are also encouraged to attend," Barnaby said.

Further information and a printable registration form is posted on the Kansas State Department of Agricultural Economics Risk Management website at http://www.agecon.ksu.edu/risk/. For a brochure and registration form, contact Jose at (402) 472-1749.
Show addresses warding off the “Super Bug”

How long will the European corn borer remain susceptible to Bt corn and other pest control technologies? NU Entomology Professor Blair Siegfried outlines the latest research in this week’s UNL Market Journal broadcast. Also, Extension Field Crops Specialist John Foster discusses “Refuge acres: The producer’s job on the front line of defense.” The full October 11 broadcast is available on the web at marketjournal.unl.edu. The following article by Market Journal Web Editor Brian Gevik is based on this broadcast.

A University of Nebraska researcher says no evidence has been found to suggest that European corn borers resistant to Bt corn are on the rise. That’s good news for farmers in need of a viable pest control tool -- even better news for seed companies heavily invested in the relatively new technology.

Speaking with Market Journal host Doug Jose, NU Entomology Professor Blair Siegfried said that corn borers throughout the Corn Belt are remaining susceptible to Bt. Siegfried has been monitoring European corn borer susceptibility to Bt corn since 1995.

Despite the encouraging findings, Siegfried remains cautious, “It may be that adoption rates and other factors may change over time and we will see resistant populations.”

Siegfried says it’s possible that the European corn borer population overall has simply been in a sort of cyclical slump the past few years or it could be that resistance management efforts are working. Either way, he says, producers can help reduce the likelihood of Bt resistance by sticking with established resistance management strategies.

Among the most important of these techniques is “refugia,” or the planting of refuge acres near Bt corn fields.

University of Nebraska Cooperative Extension entomologist John Foster is a refugia expert. Foster says, “The bottom line is that refugia are set aside so that there are susceptible individuals (European corn borers) developing that would be available to mate with any insect that happened to survive the Bt.” Susceptibility, not resistance, is passed on.

More than just a good idea, refugia are required by the EPA and the seed companies that sell Bt corn. Farmers planting Bt corn agree by contract to plant at least 20% of their total corn acreage in non-Bt corn. Those who ignore the guidelines run the risk of fines -- and of being cut off from Bt corn. A recent survey based on self-reports from growers indicates about 70% compliance with the rules.

Foster says it may be that some farmers simply don’t take the time to do it right. He says it’s also possible that they’re not paying close enough attention to the label instructions that come with Bt corn. Reading and following those instructions carefully and completely says Foster, is probably the most important thing a grower can do to help prevent the evolution of Bt resistant European corn borers, Foster said.

On the Market Journal broadcast, Foster and Siegfried discuss insect susceptibility to Bt corn, impacts on the environment, and provide planting tips for farmers wanting to maximize the benefits of planting refuges.

Market Journal is produced twice a month by NU Cooperative Extension and the Department of Agricultural Economics. Broadcasts are archived on the website.

Win cash for new soybean use

College students with a desire to create, market and perhaps become entrepreneurs may want to enter this year’s Innovative Uses of Soybean contest. Co-sponsored by the Nebraska Soybean Board and the University of Nebraska Industrial Agricultural Products Center, this contest is open to all students enrolled in a Nebraska college or university.

Contestants can win prizes for identifying new ways to use soybeans. $3,500 for first place, $2,500 for the runner-up, and $250 for honorable mention entries.

Victor Buhoslavsky, executive director of the Nebraska Soybean Board, says “The contest gives them an additional chance to focus on their strengths and interests outside school and develop a commercial product or idea before they even graduate.”

According to Loren Isom, Technical Assistance Coordinator of the Industrial Agricultural Products Center, “Students might combine their contest entry with a research or marketing project, or make it the basis for an independent study course. It could even give them a great start on a master’s thesis.”

There is no entry fee. Contestants may work with an advisor or professor, individually or as a team, to develop and submit their product entry. Entries need to include:

- a written report about the new product and how it was developed;
- projected market impact of the product on the soybean and end-product markets; and
- a product sample.

Entries will be accepted up to March 1, 2002. For more information, contact Loren Isom, E-mail lisom2@unl.edu, or phone: 402-472-8187 or visit the website at: http://agproducts.unl.edu/contest.htm