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Strategies you can use

Program: Marketing the 1999 crop

A statewide University of Nebraska program Oct. 1 will provide grain producers with marketing and tax strategies for the sale of this year’s crop. The program, Marketing the 1999 Grain Crop, will be shown at about 40 sites across Nebraska. It will air on closed-circuit television from 7-8:20 a.m. Central Time and 7:30-8:50 a.m. Mountain Time.

“It’s a nontraditional time for a meeting, but we think this early morning session is most responsive to producers’ needs,” said Elbert Dickey, associate dean of NU Cooperative Extension.

The program will feature Bob Wisner of Iowa State University, one of the nation’s leading grain-marketing specialists. He will walk producers through a balance sheet for corn, soybeans and wheat, talk about the supply and demand situation and what it means for prices and what strategies producers can use this fall.

Joining Wisner will be Roy Frederick, NU Cooperative Extension public policy specialist; and Larry Bitney and Doug Jose, extension farm management specialists. Frederick will discuss the implications of the federal government’s farm program, while Bitney and Jose address grain storage issues and revenue-protection programs. Also, Gary Bredensteiner, director of extension farm management operations, will review the tax implications of several marketing and grain-storage situations.

Producers at the sites will have a chance to ask questions the last 20 minutes of the program.

This panel of experts will bring critical, up-to-date information to producers — information especially critical during these challenging times in agriculture, Dickey said.

Growing and segregating identity preserved grain

The first step toward marketing value-added grain and processed products is for the producer to use a reliable, multi-stage identity preserved system in production, handling and storage. In the identity preserved process, the goal is to segregate and maintain the integrity of a specified lot of grain that has a desirable trait or identity. Examples include: traits such as high protein; grain types such as white, waxy or high oil corn; specific varieties such as Vinton 81; and other market driven preferences such as non-GMO (non-transgenic) grain.

The Nebraska Crop Improvement Association (NCIA) has developed the following general checklist of steps in an identity preserved system.

1. **Start with the end in mind.** It should first be clearly understood what trait or factor is being preserved and what standard of purity is expected. This also helps to identify what types of contamination would be most costly and where contamination is most likely to occur. A producer must further develop his or her specific system based on the needs of the end-user.

2. **Records.** Taking the proper management steps is key, providing accountability through accurate complete written records is just as important. Records on all of the

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National groups offer GMO, grain handling info

In light of announcements from several elevators regarding their policies concerning buying and storing GMO and non-GMO grains, the question of the hour for many producers is who's going to take what and at what price. Are premiums a possibility?

In some cases local elevators may not be buying some grain or they may be segregating grain and specifying which facilities will accept which grains. Industry representatives recommend that individual producers talk with nearby elevators as soon as possible to learn more about their policies this year.

In addition, the American Seed Trade Association (ASTA) has compiled a database of elevators willing to buy GMO corn not yet approved for export to Europe. "The vast majority of corn and seed produced in the United States is free to be exported to world grain markets," according to a press release issued by ASTA. "However, some newer products, which have received U.S. regulatory clearance, have yet to receive approval for import by the European Union. The grain handlers listed on the ASTA website provide a marketing channel for this grain." About 96% of U.S. corn varieties are approved for import into all world markets, according to the ASTA release.

The ASTA grain handler’s Web site is easy to use. You just input your zip code and how many miles you’re willing to transport the grain and it will give you a list of the qualifying facilities. While there may be additional facilities than those listed and things may change by harvest, it provides a good start. It can be found at http://asta.farmprogress.com/

The home page of the American Seed Trade Association is at http://www.amseed.com/index.html

You also may be able to check with your seed company regarding whether individual GMO “events” in the seed your planted have been accepted by the European market. For example, Pioneer offers such information on its products at http://www.pioneer.com/usa/gmo/corn/import_status.htm

The National Corn Growers Association Web site also offers information and recommendations regarding this issue. The site includes the following divisions:

• Approval status of transgenic corn hybrids: http://www.ncga.com/02profits/know_where/know_grow_approved.html

• “Know where to go” advice for channeling unapproved corn hybrids includes a summary of major processors announced plans: http://www.ncga.com/02profits/know_where/know_grow_advice.html

• Unapproved individual company hybrid numbers: http://www.ncga.com/02profits/know_where/know_grow_unapproved.htm

Lisa Jasa
Editor

Field update

Dick Ronnenkamp, Extension educator in Boone and Nance counties (NE): Crops are rapidly maturing in part because of moisture stress. Dryland fields will suffer yield loss. Irrigated fields are also maturing, but at a slower rate. Silage cutting is complete and some high moisture corn harvest has started. Alfalfa fields will need rain soon to get ready for winter.

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Lisa Jasa
Editor

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Identity preserved (Continued from page 193)

following steps should be maintained on a field and grainlot basis.

3. Costs. Identity preserved grain may have potential for capturing added value. This will be critical due to the higher costs of identity preserved systems. The producer must always be asking, “How will I get paid for this?”.

3. Previous crops. A field should not have been planted to a crop the previous year that could be a source of contamination from volunteer. Some markets require a two-, three- year or longer rotation.

4. Seed source. Farm saved grain used as seed is not acceptable. Seed source and variety/hybrid identity must be confirmed by records and field inspection.

5. Isolation. Self-pollinated crops like soybeans need only a slight separation in distance (five feet) from other beans to avoid mechanical mixtures at harvest. Corn and other cross pollinated crops need a much larger distance and the use of friendly pollen barrier rows to prevent contamination from outside pollen (especially in prevailing wind directions). The distance of dispersal of corn pollen has been the subject of much discussion since the advent of hybrid corn in the 1940s. The isolation distances used in commercial corn hybrid seed production are based on distances determined by research and experience to reduce crossing to a practical minimum. Those distances are on a sliding scale from 660 feet to 85 feet depending on the factor being isolated and the number of barrier rows.

5. Clean-up. All equipment used for planting, harvesting, conveying, storing, and handling of the identity preserved grain must be thoroughly cleaned to prevent any mixture with objectionable grains.

6. Harvesting for quality. If your field had the potential of being contaminated from foreign pollen, do not harvest completely to the fence row in that direction. Leave 24 to 36 rows to include with your commodity corn. Also, the identity preserved system should be complemented by management for high quality grain (clean, sound, unbroken, etc.). Proper combine adjustment and timely operation is critical.

7. On-farm storage. Clean out all old grain and any where grain can be trapped in your storage and handling system. Label bins prominently.

8. Testing and quality analysis. This is one of the last steps in the identity preserved process, not the only one. Random sampling alone is not an efficient or cost effective method of detecting contamination due to the large number of samples needed. The kind of tests will depend on the end-user’s needs.

The NCIA does provide identity preserved field inspection, sampling, testing and labeling services for a fee. In cooperation with its international standards organization — AOSCA — NCIA has developed a customized, verifiable identity preserved process including checks at all stages of production and handling. This process has been reviewed by the American Soybean Association, International Marketing Division. For more information, call the NCIA Office at 402-472-1444 or email rhammons2@unl.edu

Roger Hammons, Manager
Nebraska Crop Improvement Association

Program sites for Marketing the 1999 grain crop

The program will be aimed at the following sites:

Albion, Boone County Courthouse
Alliance, high school administration building;
Auburn, Nemaha County 4-H Building, fairgrounds;
Aurora, Bremer Center;
Beatrice, Gage County Extension Office;
Blair, Washington County Extension Office, 1718 Washington St.;
Bridgeport, Community Center, 424 N. Main St.;
Broken Bow, Broken Bow High School;
Chadron, 4-H Building, fairgrounds.
Clay Center, NU South Central Research and Extension Center;
Columbus, Raider Room, West Education Building, Platte Campus;
Curtis, APS/Vet Tech. Building, Nebraska College of Technical Agriculture;
Dakota City, Dakota County Extension Office, fairgrounds;
Fairbury, Jefferson County Extension Office, 517 F St.;
Falls City, USDA Service Center, North Barada Street;
Geneva, Geneva Library, 1043 G St.;
Grand Island, College Park, 3180 W. Highway 34;
Hartington, Cedar County Extension Office, courthouse;
Hebron, Thayer County Extension Office, courthouse;
Holdrege, Phelps County Extension Office, 1308 Second St.;
Imperial, 4-H Building, fairgrounds;
Kimball, 4-H Building, fairgrounds;
Lexington, Dawson County Extension Office, courthouse;

Lincoln, East Union, University of Nebraska East Campus;
Mead, NU Agricultural Research and Development Center, 1071 County Road G;
Norfolk, Lifelong Learning Center;
North Platte, NU West Central Research Extension Center;
Omaha, 8015 W. Center Road;
Nebraska Crop Improvement Association; Scottsbluff, NU Panhandle Research and Extension Center, 4502 Avenue I;
Seward, Seward County Extension Office, 306 W. Third St.;
Syracuse, Otoe County Extension Office, 180 Chestnut St.;
Valentine, courthouse;
Wilber, Saline County Extension Office, 306 W. Third St.;
York, York County Extension Office, fairgrounds, 2345 Nebraska Ave.
Fall’s best for killing alfalfa stands

As an alfalfa stand ages, it loses vigor, becomes less productive and eventually must be replaced. Weed infestations become more of a problem and forage quality declines. If stands fall below two to three alfalfa plants per square foot, it may be time to rotate to another crop for one or more years. In Nebraska under dryland conditions, stands thicker than this will generally not produce more forage because the lack of moisture limits production.

Fall is an excellent time to use herbicides to kill alfalfa in preparation for next year’s row crop. The increased use of no-till treatments make this a popular alternative to plowing. Plowing is an age-old process in which the alfalfa is not always killed. Herbicides are more economical than plowing, very effective, and will leave the soil less susceptible to erosion. Applying herbicides in the fall will eliminate hurried applications in the spring and possible planting delays due to product label restrictions.

An economical, consistent alfalfa control treatment is a combination of 1 qt 2,4-D (4 lb/gal) + 0.5 pt of Banvel per acre. Make sure the alfalfa has at least 4 inches of top growth so there is sufficient plant surface area for herbicide uptake. Applications made in October prior to a hard freeze will produce the best results.

Jeff Rawlinson, Extension Technologist Weed Science
Alex Martin
Extension Weed Specialist

To cut or not to cut: decisions for fall alfalfa

Is harvesting your last growth of alfalfa worth it? Do you need extra hay or can you sell it for more than it costs in time and money to bale it? If there ever is a time when the answer to these questions might be no, this fall might be that time. For once, doing nothing might be the best decision of all.

Nearly all cow/calf producers have enough hay even for the worst of winters. Even dairy hay, which still commands a substantial premium over “average” hay, is slow to market. Maybe the best thing to do this year is simply to leave that last growth in the field.

Advantages to leaving last growth of alfalfa include saving the cost of harvest — often between $15 and $25 per acre — and improving stand life. Plus, the next spring’s first cutting may increase by about one-half of the hay yield that would have been harvested this fall.

Disadvantages include lost yield this year, residue lowering forage quality at first cutting next year, and the tendency for heavy residues to attract insects like cutworms and weevils.

On-farm grain storage

Quality grain storage can minimize loss and protect potential income. For more information, check out these Web sites:
http://www.ianr.unl.edu/ianr/lanco/ag/crops/storage.htm and
www.ianr.unl.edu/cropwatchnews/grainstorage.htm

Residue problems can be minimized several ways. Control insects through vigorous scouting followed by an insecticide when needed. Or, residues can be removed by shredding after snow is gone next spring or by grazing either this fall or early next spring.

If alfalfa is harvested this fall, evaluate risks of winter injury before actually cutting. (See accompanying table for help in assessing your risks.) Harvesting during alfalfa’s winterizing period of September 10 through October 15 will cause slower growth next spring and can lead to winter injury or winterkill. The more cuttings you have harvested from the field this year, the more severe the injury and the reduction in spring growth.

Young stands of winterhardy varieties that resist most diseases tolerate harvests during winterizing better than older stands, especially those already thinning. And, alfalfa growing in soils with good pH, fertility, and drainage is better able to handle stressful harvests. But, alfalfa that was weakened by potato leafhoppers or other insects or diseases will suffer more from harvest during winterizing.

Finally, never harvest alfalfa seeded this year during the winterizing period. If the hay is needed, wait until after mid-October so young plants adequately prepare their crown and root system for their first winter.

Bruce Anderson
Extension Forage Specialist
Calculate your risk of alfalfa winter injury

Assessing total risk

Use the worksheet (at right) to arrive at a total risk score and compare that number with the chart below.

<table>
<thead>
<tr>
<th>Your score</th>
<th>Your risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-7</td>
<td>Low/below average</td>
</tr>
<tr>
<td>8-16</td>
<td>Moderate/average</td>
</tr>
<tr>
<td>17-27</td>
<td>High/above average</td>
</tr>
<tr>
<td>28+</td>
<td>Very high/dangerous</td>
</tr>
</tbody>
</table>

This table is adapted for Nebraska from Alfalfa Management Guide, a North Central Region Cooperative Extension Publication, NCR 547, published by the University of Wisconsin.

Hessian fly-safe planting dates

If you're preparing to plant wheat and Hessian flies are a potential problem in your area, remember to check the recommended planting dates.

Cooperative Extension NebGuide, Hessian Fly on Wheat (G73-46), lists dates for a number of Nebraska counties. Copies of this publication are available from your local Extension offices or on the Web at: [http://ianrwww.unl.edu/pubs/insects/g46.htm](http://ianrwww.unl.edu/pubs/insects/g46.htm)

This publication also discusses the insect's life cycle, includes color photos for identification, and lists resistant and moderately resistant varieties.

<table>
<thead>
<tr>
<th>Points</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is your stand age?</td>
<td></td>
</tr>
<tr>
<td>&gt;3 years</td>
<td>4</td>
</tr>
<tr>
<td>2-3 years</td>
<td>2</td>
</tr>
<tr>
<td>≤ 1 year</td>
<td>1</td>
</tr>
<tr>
<td>2. Describe your alfalfa variety.</td>
<td></td>
</tr>
<tr>
<td>a. What is the winterhardiness (fall growth score)?</td>
<td></td>
</tr>
<tr>
<td>Moderately winterhardy (4 or 5)</td>
<td>3</td>
</tr>
<tr>
<td>Winterhardy (2 or 3)</td>
<td>2</td>
</tr>
<tr>
<td>Very winterhardy (1)</td>
<td>1</td>
</tr>
<tr>
<td>b. What is the disease resistance?</td>
<td></td>
</tr>
<tr>
<td>Moderate or better resistance to only bacterial wilt</td>
<td>4</td>
</tr>
<tr>
<td>Moderate or better resistance to bacterial wilt plus either anthracnose or Phytophthora root rot</td>
<td>2</td>
</tr>
<tr>
<td>Moderate or better resistance to all above-mentioned diseases plus Fusarium wilt and Verticillium wilt</td>
<td>1</td>
</tr>
<tr>
<td>3. What is your soil pH?</td>
<td></td>
</tr>
<tr>
<td>&lt; 6.0 or ≥ 8.0</td>
<td>4</td>
</tr>
<tr>
<td>6.1-6.5 or 7.5-7.9</td>
<td>2</td>
</tr>
<tr>
<td>Between 6.6 and 7.4</td>
<td>0</td>
</tr>
<tr>
<td>4. What is your soil exchangeable K level?</td>
<td></td>
</tr>
<tr>
<td>Low (≤ 80 ppm)</td>
<td>4</td>
</tr>
<tr>
<td>Medium (80-120 ppm)</td>
<td>3</td>
</tr>
<tr>
<td>Optimum (120-160 ppm)</td>
<td>1</td>
</tr>
<tr>
<td>High (&gt; 160 ppm)</td>
<td>0</td>
</tr>
<tr>
<td>5. What is your soil drainage?</td>
<td></td>
</tr>
<tr>
<td>Poor (somewhat poorly drained)</td>
<td>3</td>
</tr>
<tr>
<td>Medium (well to moderately well drained)</td>
<td>2</td>
</tr>
<tr>
<td>Excellent (sandy soils)</td>
<td>1</td>
</tr>
<tr>
<td>6. What is your soil moisture during fall/winter?</td>
<td></td>
</tr>
<tr>
<td>Wet</td>
<td>5</td>
</tr>
<tr>
<td>Medium to dry</td>
<td>0</td>
</tr>
<tr>
<td>7. Describe your harvest frequency:</td>
<td></td>
</tr>
<tr>
<td><strong>Cuts this year</strong></td>
<td><strong>Last cutting</strong></td>
</tr>
<tr>
<td>5 or more</td>
<td>Sept. 10-Oct. 15</td>
</tr>
<tr>
<td>After Oct. 15</td>
<td>4</td>
</tr>
<tr>
<td>Before Sept. 10</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Sept. 10-Oct. 15</td>
</tr>
<tr>
<td>After Oct. 15</td>
<td>2</td>
</tr>
<tr>
<td>Before Sept. 10</td>
<td>0</td>
</tr>
<tr>
<td>3 or less</td>
<td>Sept. 10-Oct. 15</td>
</tr>
<tr>
<td>After Oct. 15</td>
<td>0</td>
</tr>
<tr>
<td>Before Sept. 10</td>
<td>0</td>
</tr>
<tr>
<td>8. For a mid- to late October cut, do you leave more than 6 inches of stubble?</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
</tr>
</tbody>
</table>

Determine your total score

(Sum of points from questions 1-8) Total

(Compare the total with the scale in the upper left to determine your risk.)
Tips for grazing standing corn

Grazing standing corn (often called grazing maize) may be a good economic alternative to combining this year for diversified farms with corn and cattle. Grazing eliminates the costs of combining, transportation, drying, and storage, which usually run between 20 and 40 cents/bushel. Plus, you don’t need to worry about access to storage or grain spoiling on the ground. And, letting cattle harvest the grain eliminates yardage expenses, manure hauling, and feed processing and handling.

Recent experiences by pioneering Nebraskans have demonstrated that acceptable gains can be produced inexpensively. Grazing corn has been successful from early September through February. Yearling steers have gained 2.5 pounds per day with standing corn supplemented with the proper amount of protein.

After a brief learning period when cattle first are turned into corn, they soon begin to graze the corn ears almost exclusively if not forced to eat the leaves or stalks. This is the desired grazing behavior if rapid gains are desired. But, if animals have not been receiving at least 50% of their diet as grain prior to grazing corn, digestive disorders like acidosis can develop. Before giving cattle access to grazing maize, first adapt them to a grain diet for a week or so to avoid these digestive disorders.

Cross-fencing is a must to minimize trampling and waste. Give cattle access to no more than a two-day supply of fresh corn at a time; a one-day supply is even better. To determine how much area is needed, use grain yield estimates as an initial guide. Yearling steers weighing 500 lbs need about one-third of a bushel per day while 800 lb yearlings need nearly one-half bushel. If you multiply the per acre bushel yield estimate by 3.7, this will predict the number of 500 lb steers one acre will feed for one day (bushels x 3.7 = number of 500 lb steers per acre for one day). For example, one acre of a 150 bushel per acre yield will feed about 555 steers weighing 500 lbs for one day. They also will need about 1.5 pounds of a 40% protein concentrate/head/day for gains approaching 2.5 lbs/day. Soybean meal works well. For 800 pounders, multiply by 2.5 instead and feed 0.5 to 1.0 pound of protein supplement.

These numbers assume little or no waste of corn ears. Observe animals and corn to determine whether to increase or decrease the area allotted with each new grazing strip. Do not bother with back fences to simplify animal travel back to water. After calves or yearlings are through, grazing remaining residue with mature cows can make corn grazing especially efficient as cows will aggressively seek any downed ears left behind by the younger animals.

Grazing standing corn with beef cows can be more challenging because dry cows become fat and over-conditioned if allowed too much grain. As with yearlings, estimate stocking rate initially from expected grain yields. If it is desired to add condition and weight to the cows, multiply per acre bushel yield by 3.5 to estimate the number of 1200 lb cows per acre per day. If cows do not need to gain weight, multiply by 5.5 instead. Note: at this high stocking rate, cows will eat nearly everything and still might be

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Cool, wet weather predicted for fall

With the 1999 growing season rapidly winding down, it’s time to examine how projected climatic patterns will affect the fall harvest period. The most recent long-lead model indicates that September through December should be cooler and wetter than normal across most of the central and northern High Plains.

The extensive area of drought across the eastern United States appears to be subsiding with heavy rains from hurricanes Dennis and Floyd.

It appears that the upper atmosphere is finally beginning to signal a phase change. The dominant high pressure that has covered the eastern United States most of this summer is breaking down and being replaced by a long wave trough. If this pattern continues, heavy precipitation can be expected over the eastern United States this fall. This pattern will also play a key role in determining the fall and early winter pattern for the central United States.

Most of the central and northern High Plains have been under a northwest flow since the Labor Day weekend. This pattern has ushered in cool Canadian air and shows no signs of changing — we can expect cool temperatures to continue. Normal to below normal precipitation should occur as long as this cool, dry Canadian air remains in place.

If the current pattern persists, producers should anticipate an increased probability for an early freeze. Temperatures in South Dakota and North Dakota approached freezing last week. The areas of Nebraska most vulnerable to freeze damage at this point would be across the Panhandle and Sandhills. As of Sept. 12, only 43% of the corn crop had reached the dent stage across the Panhandle and only 9% of corn was mature across north-central Nebraska.

Natural gas prices have rebounded from their summer lows and

(Continued on page 202)
Late-season weed control in established alfalfa

As the growing season rapidly winds down, weed management begins to focus on alfalfa. Stands that have been established for one or more years and which have been well managed throughout the season will look very good as we enter the fall. Winter annual weeds may soon appear in older alfalfa stands and producers should be ready to act as this late weed competition can weaken stand vigor as it enters winter dormancy.

Several herbicides can be used to control these weed species on established stands (one year or more) before dormancy. Butyrac (2,4-DB) is a growth regulator that is converted to 2,4-D within the weed through an enzymatic process not found in alfalfa plants. Butyrac has fair activity on most winter annual broadleaf weeds at 1-3 qt/A. Butyrac should not be used when temperatures are expected to fall below 50°F for three days after application. Poast will have good activity on most annual grasses including downy brome at 1.5-2 pt/A. Growers should be aware of a 30-day harvest restriction. Poast will not control over-wintered downy brome. Pursuit can be used at 2 oz/A with good activity on pennycress, and other winter annuals. Select will provide excellent control of downy brome at 6-8 oz/A.

Once the alfalfa stand has gone dormant, several other herbicides are available to aid in weed management. Diuron, at 1.5-3 lb/A, will provide excellent control of many winter annual broadleaf weeds as well as kochia. Gramoxone Extra, at 1.5-2 pt/A, will provide good burndown of many winter annual broadleaf weeds as well as downy brome. Lexone/Sencor at .5-1 lb/A also will provide excellent control of many broadleaf winter annual weeds including pennycress, shepherdspurse, tansy mustard and downy brome. Growers should be aware of a 28-day harvest restriction. Sinbar, at 2-4 lb/A, will control many winter annual broadleaf weeds as well as downy brome. Velpar will provide excellent control of many winter annuals at 1-1.5 qt/A. Use the 1 qt/A rate for downy brome in low organic matter soils. Zorial Rapid, at 1.25-2.5 lb/A, will control many grass and broadleaf weeds provided it is applied before weed emergence. Use the lower rate on sand or sandy loam soils. Growers should be aware of a 28-day harvest restriction.

Few weeds can compete with vigorously growing alfalfa stands. Stands with heavy seasonal weed infestations may need to be rotated to row crops before going back into alfalfa in a few years. Herbicides should be integrated with proper cutting schedules and other management strategies. No herbicide program should be a substitute for sound forage management. By integrating several strategies throughout the year, producers should be able to consistently achieve high quality alfalfa stands without relying on one specific management tool.

Jeff Rawlinson, Extension Technologist Weed Science
Alex Martin
Extension Weed Specialist

Be alert to fall alfalfa diseases

Wilted dying plants recently observed in irrigated alfalfa fields have been diagnosed with phytophthora root rot. The roots were infected during the growing season, and the recent onset of hot, dry weather has caused infected plants to wilt and die.

On most plants affected by phytophthora root rot, the taproot has a reddish-brown rot of the cortex. Rot of mature taproots typically starts four or six inches below the soil surface and causes a yellow to brownish-red discoloration of the outer cortical tissue which eventually moves into the central cylinder. Rotted taproot tissue remains firm. Under dry soil conditions, Phytophthora lesions become brownish to black in color, resembling the feeding injury caused by root curculio insects. When severe, the lower taproot is completely rotted off. These plants are severely stunted and yield less than one half that of healthy plants. Branching of the taproot often occurs above the point where the taproot is rotted off. Plants with rotted taproots are more easily removed from the soil.

One of the best indicators of possible phytophthora root rot is a thin, weedy stand with plants having irregular growth, i.e. some normal and some stunted. If some of the stunted plants have the taproot rotted off, it is phytophthora root rot. Regrowth of diseased plants is often slow after each cutting.

Management practices to prevent or reduce losses to phytophthora root rot include soil and water management and the use of phytophthora root rot resistant or highly resistant alfalfa varieties adapted to Nebraska. Alfalfa varieties resistant or highly resistant to phytophthora root rot are available. In demonstration plots at the University of Nebraska's ARDC near Mead, the stand of an improved, phytophthora-resistant variety is vigorous and healthy while a stand of 'Ranger', which is susceptible, has been substantially thinned by the "{(Continued on page 200)"
Alfalfa diseases  
(Continued from page 199)

disease. Both stands are 2 years old, however the `Ranger` stand is no longer productive while the improved, resistant variety is sustainable.

Soil and water management on established stands affected by the disease focuses on not allowing irrigation water to stand on fields longer than two days. Most irrigation is scheduled using plant or soil-based criteria. Where phytophthora root rot is involved, short frequent irrigations or deep infrequent irrigations will aggravate the disease less than long frequent irrigations.

The other disease to watch for this fall is anthracnose. From a distance, infected fields show dead, straw-colored stems scattered throughout the stand. Infected stems are curved at the tip similar to a shepherd’s crook. Leaves wilt, turn tan, and the entire stem dies.

At first only a few, individual stems on scattered plants are affected; but on susceptible varieties, the disease progresses rapidly until at the one-tenth bloom stage 30 to 50 percent of the plants within the crop canopy can show evidence of anthracnose.

Typical stem lesions are diamond-shaped and ash-gray in color. They have a dark-brown to purple border and usually form on the lower stem. The gray centers of the lesions are dotted with small, black fruiting bodies of the fungus. More than one lesion may be found randomly distributed along the stem.

Lesions may coalesce and girdle the stem, resulting in wilt and subsequent death. Those occurring just above the crown may not have the typical diamond shape.

Planting alfalfa varieties resistant to anthracnose is the best approach to prevent forage and stand losses. Most improved varieties have acceptable levels of anthracnose resistance.

John E. Watkins  
Extension Plant Pathologist

Banding herbicides

Factors you can control

Banding was the application method used by many of the farmers who experienced damage from the herbicide Balance this year. Let’s look at why some of these problems occurred.

Banding herbicides behind the planter is an effective method of weed control in row crops. Since the herbicide is applied at the same time the corn is planted, application is timely. Banding also reduces herbicide costs. With banding, timely cultivations are essential. If they are not timely, yields may decrease and weed seed may be produced to contend with in next year’s crop. Cultivation also destroys crop residue and reduces soil moisture.

The success of banding herbicides depends on many variables. The correct nozzles for banding are those that have uniform coverage across the spray pattern, for examples 9503E. The E is for even flow across the spray pattern. An 80° broadcast nozzle (example 8003XR) with a 15-inch pattern will put a 2X rate over the row.

The correct nozzle height is very important. A 2-inch change in nozzle height (8 to 6 inches for 95° or 9 to 7 inches for 80° nozzles) changes the pattern width from 15 to 12 inches. This would increase the rate 20%.

The height of the nozzle is affected by several factors even though it may have been correctly set by the farmer before he started to plant. A planter set in the farm yard or field edge may not go into the soil as deep as when it’s operating in the field with softer soil. Another factor is a change in planting depth by the farmer. Nozzles usually wear in the center which reduces the area covered. Also the wear may increase the rate in the center of the area sprayed. All nozzles — even new nozzles — should be checked for flow rate and spray pattern.

Another factor in setting the nozzle height is the soil topography after planting. In ridge-till the farmer may lower the height to get better weed control on the edges — which again increases the rate in the center. Where farmers move a lot of soil at planting (to get to moist soil), a problem may occur after a rain or irrigation moves the herbicide to the center of the row.

Another problem can occur with saddle tanks that lack adequate agitation and fail to keep the herbicide in suspension. Many herbicides need to be preslurred before being added to the spray tank.

Calibration is of utmost importance. The speed of the planter must be kept the same as when the machine was calibrated. Spray pressure is another variable.

Density of the spray solution affects the nozzle flow rate. A farmer may be used to the flow rate of a nozzle when he sprays liquid fertilizer, but not realize that the flow rate will increase 13% with water.

The planter’s plumbing also is a factor. The first nozzle that receives the spray solution may have high pressure (higher flow rate) than the other nozzles. This is especially a problem if small hose sizes are used.

Robert N. Klein, Extension  
Cropping Systems Specialist

For more information about a variety of topics, check out the Cooperative Extension Publications Web site:  
http://www.ianr.unl.edu/pubs
Bin preparation leads to less loss

To keep stored grain in good condition for at least a year, it's important to properly prepare bins for storage, provide good temperature and air flow management, and monitor the grain throughout the period.

While no grain bin can be protected indefinitely from insect infestation, economic losses can be prevented with:
1. Clean harvesting equipment;
2. Proper bin preparation,
3. Management of the grain environment, and
4. Monitoring for insects throughout the storage period.

Remove all traces of old grain from combines, truck beds, grain carts, augers, and any other equipment used for harvesting, transporting, and handling grain. Even small amounts of moldy or insect infested grain left in equipment can contaminate a bin of new grain. Adjust combines according to the manufacturer's specifications to minimize grain damage and to maximize removal of fines and other foreign material. Many common grain insects are secondary feeders, feeding only on broken or cracked kernels and other material, not sound grain.

Check the bin site and remove any items or debris that would interfere with safe, unobstructed movement around the bin. Remove any spilled grain and mow the site to reduce the chances of insect or rodent infestation. If necessary, regrade the site so that water readily drains away from bin foundations. Inspect bins and foundations for structural problems. Uneven settlement of foundations can cause gaps between the foundation and bottom edge of the bin. This can result in grain spills and provide entry points for water, insects, and rodents. If perforated floors are used, a gap between the foundation and bin will allow air that would normally be forced through the grain to escape from the bin. Small gaps in bins can be filled with a high quality caulking compound. If deterioration is extensive, the mastic seal may need to be replaced. Be sure that all anchor bolts are tight and not damaged. Repair or replace any other deteriorated bin components.

Remove old grain with brooms and vacuum cleaners. Avoid placing new grain on top of old grain. Also, clean bins not being used for storage this year to keep insects from developing in them and then migrating to nearby bins.

If long-term storage (over 10 months) is planned, consider treating the cleaned bin with protective insecticides two to three weeks before new grain is added. Apply the spray to the point of runoff to as many surfaces as possible, especially joints, seams, cracks, ledges, and corners, including outside the bin at the foundation and near doors, ducts, and fans.

Malathion, methoxychlor, Tempo, and Reldan (sorghum only) can be used for treating bin surfaces. Tempo and methoxychlor should not be applied directly to the grain. Reldan can only be used if sorghum is to be stored. As with all pesticides, read and follow label directions during handling, mixing, and application.

To reduce the incidence of insects and molds, cool and dry the grain immediately after combining. Deterioration of grain quality occurs rapidly at higher moisture and temperatures. For example, grain held continuously at 75°F and 25% moisture content will deteriorate more in four days than 15% moisture grain held at 60°F would in 250 days. Warm, moist grain is more prone to insect and mold problems. As grain is being augered into storage, apply a liquid or dust grain protectant if the grain is to be stored for 10 months or more. Use either premium grade malathion (corn and sorghum), Actellic (corn and sorghum), or Reldan (sorghum only). Soybeans experience few insect problems and need not be treated as it enters the bin. Power spray applicators are preferred over gravity drip applicators because they provide more uniform coverage, giving better insect control.

Treating when grain temperature is above 90°F and grain moisture is above the recommended level for long-term storage will increase the breakdown rate and limit insecticide effectiveness. If grain must be treated when it is warm, it should be cooled with an aeration system as soon as possible. Operation of the aeration system will not remove the protectant from the grain.

After the grain has been leveled in the bin, topdress the surface with both Dipel (corn, soybeans or sorghum) and malathion (corn or sorghum), or Actellic (corn or sorghum), or Reldan (sorghum only). Dipel works against Indian moths while malathion is needed for beetle control. Actellic and Reldan control both insects. Do not treat soybeans with malathion, Actellic, or Reldan. If Indian meal moths have been a problem in the past, use Vapona resin strips (one strip per 1,000 cubic feet of air space) in the bin above the grain.

Inspect grain at least once a month in winter and every two weeks in the summer. If problems are detected, they need to be evaluated and corrected as soon as possible. This may include cooling with aeration, further drying, or fumigation for insect control.

Keith Jarvi
Extension Assistant
Integrated Pest Management
Controlling downy brome

Check your winter wheat fields shortly after emergence, if they look like a lawn, you may have a downy brome problem.

Downy brome, often referred to as cheatgrass, is a very troublesome weed in winter wheat. Downy brome and winter wheat are both grasses with a winter annual growth habit. Until now, there have been no effective herbicides for selective control of downy brome in winter wheat. Growers have had to rely on crop rotation and/or tillage, often moldboard plowing, to control downy brome in their winter wheat; however, a new herbicide by Monsanto has recently received federal registration in winter wheat and promises to make selective downy brome control feasible.

Maverick is a sulfonylurea herbicide similar to other common wheat herbicides such as Ally and Amber, with the exception that it may also provide excellent control of grasses in the Bromus genus such as downy brome, Japanese brome and cheat.

Like many of the other sulfonylurea herbicides, Maverick has a long persistence in the soil. Recrop options within the first year are currently restricted to winter and spring wheat. One year after application, a field bioassay is recommended to determine if injury to the intended rotational crop will occur. Recrop options will likely be expanded following further research, but grain sorghum and sunflower appear to be particularly sensitive to Maverick carryover, while proso millet appears to show good tolerance to Maverick 18 months after application.

Maverick should be applied at a rate of 2/3 ounce in 5 to 20 gallons of water per acre per cropping season. It may be applied preemergence or postemergence in winter wheat. A non-ionic surfactant should be added to postemergence treatments at 0.5% on a volume basis.

In testing by the University of Nebraska, Maverick has performed best on downy brome in wheat when applied early postemergence, that is shortly after the downy brome has emerged in the fall. Control during this time period has ranged from 80% to 100%. Sufficient rainfall prior to late October improved soil activation and root uptake of the herbicide, providing for excellent downy brome control. Without the fall precipitation following application, downy brome control has been closer to 80%.

Applications after Nov. 1 have tended to have much reduced control, probably due to reduced precipitation and a slowing down of plant growth. Spring applications to downy brome have been more inconsistent, with an occasional control rating as high as 85% percent, but more typically control in the spring has been in the 35% to 70% range. These plants are usually significantly stunted, but still produce seed. Again, precipitation after application appears to be important for improved herbicide activity.

While crop rotation using summer crops is an excellent way to reduce the impact of downy brome in winter wheat, Maverick herbicide is a new tool that may help wheat growers who find themselves with a downy brome infestation despite their best efforts at cultural control. Growers should be aware of the rotation restrictions with this product and the effects of weather and timing of application on its downy brome efficacy.

Drew Lyon
Extension Dryland Cropping Systems Specialist, Scottsbluff
Robert Klein
Extension Cropping Systems Specialist, North Platte

Grazing corn
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hungry. Even though they will have consumed sufficient protein and energy to meet maintenance needs, the remaining hunger sometimes can cause behavior problems, including pressure on fences.

Providing free choice access to poor quality hay may reduce these problems.

Electric fence is used most commonly as cross fences, but animals must be trained to respect these fences before entering the corn field. Otherwise, they may run through the fence, trampling and wasting much feed. Driving over a strip of corn with a tractor, pickup, or four-wheeler before placing the fence in the strip makes it easier to set up the fence and visually alerts the cattle that the fence is nearby.

Setting up strips ahead of time for the next two or three days provides a catch area if the original fence fails to keep animals in the desired small area.

Bruce Anderson
Extension Forage Specialist

Cool, wet
(Continued from page 198)

now exceed prices seen early last fall. Gas prices peaked early last fall as demand remained below normal during the fall and winter months due to above normal temperatures across most of the United States. If the current weather pattern continues, producers can expect gas prices to remain firm or rise during the fall harvest period. Thus, drying costs may be higher than they have been for several years.

New long-lead models will be issued later this week and should give us a clearer direction on how this fall and winter will shape up. Details of the new outlooks and their implications for the Midwest will be addressed in the next Crop Watch.

Al Dutcher, State Climatologist
Agricultural Meteorology