9-20-1996

CropWatch No. 96-22, Sept. 20, 1996

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/125

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.
Evaluate corn nitrogen status at harvest

As producers prepare to harvest their corn, some will ask whether their fertilizer program was adequate. One way to evaluate the fertilizer program is the ‘end of season’ cornstalk test. This test has been calibrated in Iowa and is explained fully in the Iowa State University Extension Publication PM-1584, August 1994, Agronomy 7-4 called, Cornstalk testing to evaluate nitrogen management, by A. M. Blackmer and A. P. Mallarino.

What does the test show?

The results of this test indicate whether the corn was overfertilized during the season. Blackmer and Mallarino have calibrated the test to show low, optimal and excess stalk nitrate values. Low values indicate nitrogen may have been deficient. Excess values indicate there was more nitrogen than the plant could use to produce grain. The scientific basis for this test is the fact that corn will continue to accumulate nitrogen past the level at which grain yield is increased. Corn does not show visible symptoms of excess nitrogen, but the stalk analysis helps determine when an excess occurs. This test is probably best used for finding excess nitrogen since deficiencies can be spotted visually by leaf yellowing.

When should the test be used?

Since the test indicates how well nitrogen supply matched corn nitrogen needs, it can be used to compare alternative practices. While the test can not be used to fine-tune nitrogen management this season, it can help give confidence to the producer for giving credit for various nitrogen sources. If nitrogen credit from irrigation water is being tested, the stalk test will confirm if there was optimal nitrogen. If nitrogen credit for legumes is being increased or initiated, the stalk nitrate value will indicate if adequate nitrogen was available. Other times this test could be used to test manure credits, soil test recommendations and different nitrogen timings.

How to take the test?

Stalk samples should be taken anytime between one and three weeks after black layer formation in 80% of the kernels. Take an 8-inch segment from 6 inches to 14 inches above the ground. Remove leaf sheaths. Don’t take diseased stalks or stalks damaged by hail or insects. Take 15 stalks per sample, keep cool and send to the laboratory immediately. Wrap samples in paper, not plastic, because plasticwrapped samples may mold. Have the samples analyzed for nitrates.

If any of the results are in the low or excess category, conduct a thorough review of the nitrogen fertilization program to determine where improvements can be made. Several Extension NebGuides offer information to help you fine tune a nitrogen management program. Every year is

(Continued on page 151)
CropWatch winner

Friday the 13th turned out to be a lucky day for Ron Schmeeckle of Cozad. His name was drawn from those entered at Husker Harvest Days to win a free one-year subscription to CropWatch. Congratulations Mr. Schmeeckle! Your first issue will be arriving in March 1997.

Agricultural fatalities

Keep these statistics in mind when you’re rushing to get your crop in.

— Most agricultural fatalities occur between June and October, which corresponds with peak harvest season for wheat, corn and soybeans.

— As of June 1996, there had been 10 agricultural fatalities in Nebraska. There were 19 fatalities in 1995, down from 40 in 1986 and 59 in 1971.

— Overturning equipment and crushing are the two most common causes of agricultural fatalities.

— Most agricultural fatalities occur between 1 p.m. and 7 p.m.

For more information about farm safety, see the story on page 153.

UNL Extension Safety Statistics

Crop update

As of Sunday, 76% of the state’s sorghum crop was turning color, compared with 64% at this time last year and an average of 74%. The crop was rated at 86% good to excellent.

Eighty-five percent of the corn acreage had reached the dent stage by Sunday. Fields reaching maturity were estimated at 6%, considerably under an average of 31%. Irrigated corn was rated at 84% good to excellent.

Nebraska Agricultural Statistics Service

Potential evapotranspiration and precipitation data

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliance</td>
<td>0.78</td>
<td>1.83</td>
<td>-1.05</td>
<td>1.18</td>
<td>0.34</td>
<td>0.84</td>
</tr>
<tr>
<td>Beatrice</td>
<td>0.84</td>
<td>2.21</td>
<td>-1.37</td>
<td>0.62</td>
<td>0.88</td>
<td>-0.26</td>
</tr>
<tr>
<td>Central City</td>
<td>0.82</td>
<td>2.16</td>
<td>-1.34</td>
<td>0.68</td>
<td>0.76</td>
<td>-0.08</td>
</tr>
<tr>
<td>Concord</td>
<td>0.99</td>
<td>1.92</td>
<td>-0.93</td>
<td>0.03</td>
<td>0.65</td>
<td>-0.62</td>
</tr>
<tr>
<td>Holdrege</td>
<td>0.80</td>
<td>1.78</td>
<td>-0.98</td>
<td>0.43</td>
<td>0.56</td>
<td>-0.13</td>
</tr>
<tr>
<td>McCook</td>
<td>0.69</td>
<td>1.74</td>
<td>-1.05</td>
<td>0.83</td>
<td>0.36</td>
<td>0.45</td>
</tr>
<tr>
<td>Mead</td>
<td>0.89</td>
<td>1.86</td>
<td>-0.97</td>
<td>0.12</td>
<td>0.91</td>
<td>-0.79</td>
</tr>
<tr>
<td>North Platte</td>
<td>0.61</td>
<td>1.57</td>
<td>-0.96</td>
<td>1.10</td>
<td>0.41</td>
<td>0.69</td>
</tr>
<tr>
<td>O’Neill</td>
<td>1.05</td>
<td>1.98</td>
<td>-0.93</td>
<td>0.39</td>
<td>0.56</td>
<td>-0.16</td>
</tr>
<tr>
<td>Ord</td>
<td>0.65</td>
<td>1.93</td>
<td>-1.28</td>
<td>0.00</td>
<td>0.61</td>
<td>-0.61</td>
</tr>
</tbody>
</table>
Average freeze dates near; temperature outlook still good

Cooler than normal weather invaded the state this week, increasing fears about an early freeze. At this point, it appears that the sorghum crop would be the most susceptible to an early freeze. Soybeans would be next, followed by corn.

Using the average planting date and variety type grown across the state, our growing degree day models indicate that the sorghum crop will reach full maturity near the end of September. This projection is based on the assumption that normal temperatures will occur during the next two weeks. Of course, below normal temperatures will push the maturity dates further into October and warmer than normal temperatures would hasten maturity.

The average 32 F freeze date is rapidly approaching. It varies from Sept. 20 over the northwestern Panhandle to Oct. 8 in southeast Nebraska at Falls City. The average freeze date over the western Sandhills occurs from Sept. 22-26. In the North Platte, Lexington, Norfolk, and northeast areas of the state, the average freeze date is about Sept. 29. Sept. 29-Oct. 5 is the average freeze date in the Holdredge, Grand Island, McCook and York areas. The average first freeze for southeast Nebraska occurs Oct. 5-8.

To calculate the average hard freeze (28F) date, just add seven days. Medium range models indicate below normal temperatures through most of next week, but there are no indications of freezing temperatures. If this holds true, the western third of the state will have passed the average 32 F date.

The highest risk of freeze damage to the sorghum crop appears to be from North Platte through northeast Nebraska. Based on historical weather records, there is a 51-60% probability that a 32 F freeze will occur within this area before Oct. 1. However, the odds drop to less than 25% that a 28 F freeze will occur before Oct. 1. Remember that if you planted your crop later than average for your area, your probabilities of freeze damage will be higher than these projections.

Al Dutcher
State Climatologist
Agricultural Meteorology

Nitrogen (Continued from page 149)

<table>
<thead>
<tr>
<th>Plant nitrogen status</th>
<th>Stalk nitrate (ppm)</th>
<th>Management suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>0 - 700</td>
<td>Increase nitrogen into plants</td>
</tr>
<tr>
<td>Optimal</td>
<td>700-2000</td>
<td>Yields are not limited by nitrogen stress</td>
</tr>
<tr>
<td>Excess</td>
<td>Greater than 2000</td>
<td>Plant nitrogen greater than needed</td>
</tr>
</tbody>
</table>

Interpretation of the test results

different and some weather conditions can affect even the best program. It is important to determine if nitrogen problems were due to management or to unique weather conditions.

This procedure has not been extensively tested in Nebraska, but there is no theoretical reason why it should not be valid here.

Charles A. Shapiro, Extension Soil Scientist, Crop Nutrition
Northeast District

Extension resources

Phone/fax service offers tips and details

University of Nebraska Cooperative Extension is now offering a telephone hotline with more than 450 recorded messages addressing a variety of favorite and timely topics. Callers can listen to prerecorded messages or request that more detailed information be faxed to a specific location. More than 425 Extension publications are available through the service. Information categories include horticulture, insects, wildlife, nutrition, agriculture, family life, water quality, finances and household information. Selections range from Storing Wheat Grains and Grain Sorghum and Investment Tips for Beginners to Removing Grass Stains.

To access the service, call 1-800-832-5441.

Dave Varner, Extension Educator, Lancaster County

On the Web

The University of Nebraska Institute of Agriculture and Natural Resources offers a variety of resources through the World Wide Web, from how to estimate treatment thresholds for European corn borers to color photos of common pests and diseases. Many Extension publications are available and more are being added each week. Check out the web pages for the Institute, various departments, and Extension publications. The address for Extension publications is: lanrwww.unl.edu/lanr/catalog/home.htm.
Turfgrass seed production opportunities developing in Nebraska

Could our country’s “amber waves of grain” soon be replaced by “deep green fields of grass?”

Probably not, but ag producers in western Nebraska should be aware that turfgrass has become a practical, economical option in alternative crops and a serious contender on the market, according to a UNL Extension specialist.

Dave Baltensperger, Extension crop breeding specialist at UNL’s Panhandle Research and Extension Center, said the last Farm Bill made turfgrass production for seed more feasible.

“Under the Farm Bill, you can grow any crop you want to and still get deficiency payments for base acres,” Baltensperger said. “It allows for better flexibility and reduces barriers for producers to try new things, like turfgrass.”

Turfgrass is still considered a high-value specialty crop, Baltensperger said, with only 150,000 acres devoted to its production nationwide. The Pacific Northwest is the nation’s top turfgrass production region, with vast belts of production in eastern Oregon and Washington.

Restrictions on burning grass fields each fall in Oregon’s turfgrass-heavy Willamette Valley, however, have left turfgrass seed contractors in the Northwest looking elsewhere for production options.

Western Nebraska and eastern Wyoming were both high on contractors’ lists, Baltensperger said, and interest in establishing turfgrass production operations in the region has been steadily increasing. Three years ago only one turfgrass contractor had contacted Nebraska producers, Baltensperger said. University officials have now heard from six companies.

Kentucky bluegrass is the most common grass grown commercially in Nebraska, Baltensperger said, and has the most potential to be a marketable cash crop for producers in western Nebraska and the Panhandle, where regional climate and topography is ideal for grass production. Other turfgrasses that fare well in Nebraska are Tall Fescue and Perennial Ryegrass, with market opportunities developing for both.

Ideal production sites for turfgrass in Nebraska are on high plateaus in center-pivot accessible areas west of the state’s “humidity belt,” which runs roughly north and south of Ogallala, Baltensperger said.

Grass seed production can play an important role in a well-designed crop rotation system, Baltensperger said, particularly in winter wheat cropping systems or similar systems that substitute spring cereals such as oats or barley for wheat. Control of volunteer plants and weeds in these systems needs to be exceptional because of the high quality standards enforced by grass seed contractors, he added.

(Continued on page 153)

Seed companies indicate interest in state

Several companies have expressed interest in contracting for turfgrass seed production in western Nebraska, according to UNL Extension Crop Breeding Specialist Dave Baltensperger.

The following list is a reference for producers considering turfgrass production. It is not exclusive of other companies nor an endorsement for a particular company; it represents those companies that have contacted the University of Nebraska and requested to be on the list.

Companies expressing interest are:

- The Scotts Company
  7644 Keene Road, NE
  Gervais, OR 97026
  (503) 792-3633

- Fine Lawn Research, Inc.
  P.O. Box 1051
  Lake Oswego, OR 97034
  (503) 636-2600

- Pennington Seed, Inc.
  1280 Atlanta Highway
  P.O. Box 290
  Madison, GA 30650
  (706) 342-1234

- Turf Seed
  P.O. Box 250
  Hubbard, OR 97032
  (503) 651-2130
  or 800-247-6910

- Great Western Seed Co.
  P.O. Box 387
  1810 Jackson Street
  Albany, OR 97321-0112
  (503) 928-3100

- Lesco Inc.
  1651 Eska Way
  Silverton, OR 97381
  (503) 873-8091
Plan for safety during harvest rush

During the busy harvest season, Nebraska farmers and ranchers shouldn’t forget about their own safety and the well-being of others in the rush to get their crops out of the field, according to Dave Morgan, UNL Extension safety engineer.

Morgan offers several safety tips to help farmers through harvest:
1. Prepare machinery and equipment before it breaks down. Routine maintenance becomes an emergency situation during harvest, so stock up on items or parts that routinely fail or need replacing and use the owner’s manual to make a complete pre-harvest inspection of all machinery.
2. If the combine becomes plugged during harvest, stop the engine and remove the keys before leaving the vehicle. Keep the keys in a pocket to prevent anyone from re-starting the machinery while someone is working on it.
3. Use extreme care when refueling in the field, making sure that all machinery has cooled down and an operable fire extinguisher is available at all times.
4. Most combine cabs are too small for more than one person, so don’t allow children to ride along in a single-seat combine. Unexpected bumps can pitch riders around the cab and possibly off the vehicle.
5. Be aware of children’s safety around large machinery. Walk around combines to check for bystanders before operating the vehicle, and keep children out of grain carts and away from augers and PTO shafts.
6. Don’t leave combine headers, truck boxes or loaders in the “up” position unless safety locks or stands are in place.
7. Avoid high speeds when hauling grain tanks, especially full ones. They can be difficult to maneuver and may tip over.
8. Install shields around augers, PTO shafts and vee belts, and never use hands or feet to manipulate grain flow around augers. Never try to start an auger engine by pulling on the vee belt; operators risk severing fingers.
9. When setting and moving augers, make sure that they are not sitting too high, where they may become top-heavy and tip over. When positioning an auger on a hillside, make sure the auger’s center of gravity is kept between the wheel and that the wheels are blocked to prevent rolling. Also, watch for power lines overhead when moving augers, to prevent electrocution.
10. Augers should be transported in the lowered position with a red flag attached to the rear of the machinery. Augers should not be transported after dark.
11. Operators moving implements around rural train crossing areas should be aware of their possible inability to hear oncoming trains over the noise of the machine. Look both ways and be prepared.
12. Remove tie strings from hooded clothing and replace tattered work clothes to prevent clothing from getting caught in machinery.
13. Wear a properly fitted dust mask or respirator and goggles if allergies/respiratory problems are a factor. Avoid breathing in large amounts of grain dust and chaff, which can lead to chronic long-term respiratory illnesses such as bronchitis and emphysema.
14. Get plenty of rest, eat nutritious meals and don’t abuse caffeine, nicotine or alcohol. Check with a physician to see if prescription medications may cause drowsiness or decreased alertness.
15. Taking breaks and altering repetitive activities can keep the mind more alert and relieve stress from harvesting. Take a 10- to 15-minute break when the rows start to run together. Walk around the combine, stretch out cramped muscles or shut off the engine and listen to the wind.

Jason Grotelueschen
CropWatch Editorial Assistant

Turfgrass (Continued from page 152)

“Having turfgrass in a rotation increases organic matter content, minimizes insect, weed and nematode problems and distributes the producer’s workload over the growing season,” Baltensperger said. The ideal planting time for turfgrass -- a perennial crop -- is in the spring (April through early June) and late summer (first half of August), when day and night temperatures are lower and favor seed germination and emergence, he said.

Spring seedings are ideal because of overall yield potential and the larger time window for field preparation. Dry edible beans, corn and potatoes are all good crops to follow with spring-seeded turfgrass in a crop rotation, he said.

Turfgrass production costs are generally comparable to those of traditional cropping operations, Baltensperger said, but individual producers should consult with a production expert to get more accurate figures for their particular operation.

In addition to being a viable option in crop rotations, Baltensperger said turfgrass seeded in early August may also be a practical alternative for producers who have suffered massive crop loss to hail in early summer. Control of volunteer plants and weeds is absolutely essential in this instance, he said.

The Nebraska Department of Agriculture is funding ongoing research on turfgrass production through a federal Economic Development Program, Baltensperger said, and improved production methods are constantly being tested and developed.

Western Nebraska producers should also watch for upcoming meetings about establishing turfgrass production operations in the region, Baltensperger said.

Jason Grotelueschen
CropWatch Editorial Assistant
Farmers, researchers, business to address varied issues of precision farming

Increasingly, aspects of precision farming are moving from agricultural showroom floors to the combines and equipment of producers. Knowing what the future offers, what purchases are best for what situations, and how the technologies can best be adapted to your farming situation is important information for those considering this change.

Nebraska Farmer and Wallace's Farmer are sponsoring the Precision Decisions '96 conference in cooperation with University of Nebraska and Iowa State University Cooperative Extension. It will be held Nov. 11-12 at the Holiday Convention Centre, 3321 S. 72nd St., in Omaha.

Attendees will be able to learn the nuts and bolts of precision farming from farmers and other industry leaders who are already engaged in site-specific activities. They can visit with representatives from leading companies in the business at the trade show.

Producers considering software purchases will be able to consider objective information compiled through a Farm Progress/Purdue University study.

Some of the program topics are:
- **Precision Farming and You: The Big Picture**;
- **A Status Report -- Where is Precision Farming Today?**;
- **Using Yield/Moisture Monitors and GPS**;
- **Sorting Out GPS/GIS Software and Hardware**;
- **Comparing Yield/Moisture Monitors (Or Key Questions I Forgot to Ask Or, I Should Have Asked Before I Bought Software/Hardware)**;
- **What Crop Protection Product Dealers and Researchers Say About GPS/GIS and Variable Rate Technology**; and
- **Payoffs in Precision Farming — What are They**.

Speakers will include farmers, University researchers and Extension specialists, and representatives of industry and government agencies. Nebraska farmers who will be speaking include: Brad Rathje, Waco; Lyle Von Spreckelson, Clay Center; Dale Rolofson, Greenwood; Jim Stein, staff agronomist, Agri Co-op, Holdrege; Donnell Bombeck, farm manager, Holstein; Blake Johnson, Bunker Hill Farms, Inc., Holdrege; and John Williams, crop consultant, AgTracks, Inc., Holdrege.

Other Nebraska speakers include: Jim Schepers, USDA-ARS, University of Nebraska-Lincoln; Keith Glewen and Dave Varner, UNL Extension educators; Richard Ferguson, UNL Extension soils specialist; Bill Miller, Extension agricultural economist; and Derrel Martin, UNL irrigation researcher.

Preregistration, which includes the *Guide to Precision Farming* and lunch both days, is $129 and must be made by Oct. 28. For more information about registering, contact Nebraska Farmer, 5625 O St., Suite 5, Lincoln, NE 68510 or call (402) 489-9331.

Hotel reservations are not included in the preregistration and need to be made directly with the Convention Centre by calling (402) 393-3950.