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

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Weather favors charcoal rot in soybeans and corn

The hot, droughty weather present during the reproductive growth stages of soybeans, sorghum, and corn favored infection by the charcoal rot pathogen, *Macrophomina phaseolina*. It is a soil-borne disease that commonly develops in fields where moisture is limited. It typically occurs first on terrace tops, compacted areas, and sandy spots in the field. Although there are some subtle mid-season symptoms (loss of vigor, small leaves, etc.), the most distinctive symptom occurs as plants approach maturity. Close examination with a hand lens will reveal small, black fruiting structures known as microsclerotia. On soybeans, they are embedded on the outer surface of the lower stems or in the stem interior. On corn and sorghum, the lower stalk turns brown and can be easily crushed when squeezed between the thumb and fingers. Splitting the stalk reveals the microsclerotia attached to the vascular bundles.

Fields with too high a plant population or with heavy weed pressure will often be the first to show symptoms because moisture is more limiting under these conditions. Any management practice that conserves moisture will aid in minimizing disease impact. In severely infected soybean fields, rotate with comparatively poor hosts such as wheat or other cereal crops for one or two years. Rotations with corn or sorghum must be for three or more years.

David Wysong
Extension Plant Pathologist

Fifth shortest growing season

In several areas of Nebraska, this year's growing season was one for the records. Of 109 years of weather data for Lincoln, this growing season, from last spring frost to first fall frost of 32 F, tied for fifth shortest out of 109. This means that there is a longer growing season about 96% of the years. This doesn't even account for those producers who couldn't get into their fields because of the heavy late spring rains.

Typically there are about 172 days in the growing season, according to Lincoln data. This year there were 143 days. The shortest growing season was 118 days in 1940 when the last frost was May 10 and the first was Sept. 11. The next shortest season was 131 days. The latest frost on record in Lincoln is Nov. 7, recorded in 1956 and 1990.

How do you use *CropWatch*? We really want to know

Included with this issue of *CropWatch* is a readership survey. Please take a few moments to share your opinions with us. What do you like about *CropWatch* and what would you change. Each winter, as we prepare for another year of publication, we carefully consider the comments from our readers.

With this year's roller coaster production season our contributors wrote more stories than ever before, covering everything from when to change hybrids and crops to scouting pests to assessing frost damage. Was it helpful to you? We also began electronic dissemination on the World Wide Web. Have you used this service or do you plan to?

Please take a few moments to complete the survey and send it back postage paid. We're interested.

Lisa Brown Jasa
*CropWatch* Editor
Grain yield monitors grow in popularity

The use of grain yield monitors on combines is one site-specific management tool which is becoming more widespread among Nebraska farmers.

Preregister now for CPMU

The annual Crop and Pest Management Update Conference will be Nov. 28-29 at the New World Inn in Columbus. This year’s conference will feature in-depth workshops on site specific management, corn insect resistance management, herbicide activity in relation to crop growth stage and environment, and corn growth and development. These workshops will each be conducted for 1 1/2 hours and will run concurrently from 8:30 am until 5 pm Oct. 29. Certified Crop Advisor (CCA) continuing education training credits will be applied for and should be available for those participating in that program.

Submit preregistration forms and fees by Nov. 10 to avoid the late fee of $25. This year’s fee schedule allows registrants to pay for only those meals that they want along with a nominal fee for refreshments, speaker costs, etc. Room reservations should be made with the New World Inn by Nov. 10 to get the conference rate of $40.50 for a single and $45.50 for a double.

Those who have attended the conference during the past four years or who have received our mailings in recent years will receive preregistration materials by mail within the next few weeks. Others may assure themselves of receiving a preregistration form and outline of the conference agenda by leaving their name and address with the extension entomology secretary at (402) 472-2125.

Steve Danielson
Conference Coordinator
Extension Entomology Specialist
Harvest update

South Central District
Rain across the area at the end of last week slowed harvest but was beneficial to emerging wheat. Harvesting resumed this week. Many farmers are nearly finished with soybean harvest and others are just beginning. Reports vary on how elevators are treating green-colored soybeans that were affected by the Sept. 22 frost. Some are discounting, while others are not. The extent of green beans varies among varieties and locations. We are examining percent green soybeans on three varieties and the effects of delayed harvest on that percentage. Results will be discussed later.

Some farmers are nearly finished with soybean harvest and others are just beginning. Entire fields in some situations have all the plant tops broken off. Some plants are broken due to corn borer damage. Others are broken because of frost injury. This phenomenon is related to the hybrid grown. In some cases stalk lodging is occurring below the ear.

Grain sorghum harvest is also underway. Some hybrids are lodging severely due to the early frost and high winds. Farmers are harvesting these fields first to prevent further losses.

Regional Weed Society to meet Dec. 5-7

The 50th Annual North Central Weed Science Society meeting will be Dec. 5-7 at the Holiday Inn Convention Center in Omaha.

Sessions will address: weed ecology and biology; herbicide physiology; soybean and annual legumes; corn and sorghum; sugarbeet, horticulture, and ornamentals; equipment and application methods; edaphic factors, environment, and health; regulatory and crop consulting; and weed management in conservation tillage.

CropWatch

Fall applications best for many weed pests

Leafy Spurge

Leafy spurge is a persistent, deep-rooted perennial which reproduces by seeds and roots. It is found primarily on untillled land and is a noxious weed in Nebraska. A well-planned program must be followed to achieve adequate control. A combination of crop rotations, cultivation and herbicides can provide good control of leafy spurge on cultivated land.

Herbicides for controlling leafy spurge in grassland are 2,4-D, 2,4-D + 1 pt of Tordon 22K or Tordon 22K at 2 to 4 qt/A. Tordon 22K is much more effective than 2,4-D against leafy spurge. Also, multiple treatments will be more effective than a single treatment in reducing leafy spurge root growth. Fall treatments to actively growing plants will provide better control than spring treatments.

Musk thistle

Musk thistle is primarily a biennial, but may act as a winter annual or, less frequently, as an annual. It is a prolific seed producer, as one plant can produce as many as 20,000 seeds. It has spread throughout the state and will invade almost any location that has sufficient moisture and light for growth. Since this fall has started out moist in many areas of the state, conditions for large populations of musk thistle appear to be good.

Fall herbicide options include Tordon 22K at 6 to 8 fluid ounces, 2,4-D + Banvel at 1.0 qt + .5 pt, Ally at .3 ounce, Curtail at 2 pt, and 2,4-D at 1.5 to 2.0 qt. These herbicides will be most effective when the musk thistle is actively growing prior to a hard freeze. Tordon 22K is the best treatment when conditions are cool and dry.

Pesky perennials

As the perennial weed approaches the “dormant” stage, nutrients from the summer's top growth are translocated into the root system. Herbicides applied this fall can actively move with the nutrients. Canada thistle, Russian knapsweed, field bindweed and many other perennial weeds can be effectively treated with herbicides at this time.

Herbicides which are most effective in controlling these perennials include Tordon at 1-4 qt/A depending on the weed and combinations of 2,4-D + Tordon. Banvel and Roundup combinations with 2,4-D are useful on Canada thistle and field bindweed. Applications, other than high rates of Tordon, must be made more than once to gain control. Tordon use for perennial weeds is limited to non-crop areas. Ally at .1 oz and Curtail at 2-4 pts can also be used for Canada thistle control. Treat after mid-September before a hard freeze occurs and when daytime temperatures are still in the 50s.

Preregistration is due before Nov. 1 and can be sent to the North Central Weed Science Society, 1508 W. University Ave., Champaign, IL 61821-3133. Cost is $105 for members.

For more information, contact David Holshouser at the Northeast Research and Extension Center, Concord, (402) 584-2261.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant, Weed Science
Monitor temps., moisture for quality storage

While this week's warm and blustery days have been helpful for drying grain in the field, some producers may still be facing special drying and storage needs because of the early frost. Grain tends to deteriorate in storage, but the degree of deterioration can be limited with proper drying, storage and continual inspections. The moisture content of corn and sorghum going into natural air drying bins should be limited. Natural air drying times vary with location in the state. Table 1 indicates drying times for different locations.

<table>
<thead>
<tr>
<th>Location</th>
<th>Date drying completed</th>
<th>Hours of fan operation</th>
<th>Date drying completed</th>
<th>Fan Hours operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sioux City</td>
<td>Nov. 20</td>
<td>888</td>
<td>April 19</td>
<td>2380</td>
</tr>
<tr>
<td>Lincoln</td>
<td>Nov. 15</td>
<td>768</td>
<td>April 12</td>
<td>2212</td>
</tr>
<tr>
<td>Grand Island</td>
<td>Nov. 16</td>
<td>792</td>
<td>April 3</td>
<td>1996</td>
</tr>
<tr>
<td>North Platte</td>
<td>Nov. 14</td>
<td>744</td>
<td>April 16</td>
<td>2308</td>
</tr>
<tr>
<td>Scottsbluff</td>
<td>Nov. 11</td>
<td>672</td>
<td>Dec. 6</td>
<td>1272</td>
</tr>
</tbody>
</table>

High moisture content corn can be held (but not dried) for a short time using aeration. The table below indicates the length of time grain can be held with aeration.

<table>
<thead>
<tr>
<th>Storage Temp.</th>
<th>Corn Moisture Contents (wet basis)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>75</td>
<td>115</td>
</tr>
<tr>
<td>70</td>
<td>154</td>
</tr>
<tr>
<td>65</td>
<td>206</td>
</tr>
<tr>
<td>60</td>
<td>275</td>
</tr>
<tr>
<td>50</td>
<td>621</td>
</tr>
<tr>
<td>45</td>
<td>931</td>
</tr>
<tr>
<td>40</td>
<td>—</td>
</tr>
<tr>
<td>35</td>
<td>—</td>
</tr>
</tbody>
</table>

Proper aeration management is required to keep corn at the appropriate temperature.

Table 3. Recommended airflow rates and dates to which wet grain can be held for Nebraska weather conditions.

<table>
<thead>
<tr>
<th>Harvest date</th>
<th>Oct. 1</th>
<th>Oct. 15</th>
<th>Nov. 1</th>
<th>Nov. 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Airflow Rate (cfm/bu)</td>
<td>Moisture Content</td>
<td>Safe storage date</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.1-0.2</td>
<td>16%</td>
<td>June 1</td>
<td>June 1</td>
<td>June 1</td>
</tr>
<tr>
<td>0.1-0.2</td>
<td>18%</td>
<td>May 1</td>
<td>May 1</td>
<td>May 1</td>
</tr>
<tr>
<td>0.2-0.5</td>
<td>20%</td>
<td>Jan. 1</td>
<td>March 1</td>
<td>April 1</td>
</tr>
<tr>
<td>0.33-0.5</td>
<td>22%</td>
<td>*</td>
<td>Jan. 1</td>
<td>March 1</td>
</tr>
<tr>
<td>0.33-0.5</td>
<td>24%</td>
<td>*</td>
<td>*</td>
<td>Feb. 1</td>
</tr>
<tr>
<td>0.33-0.5</td>
<td>26%</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

*Grain should only be held for less than one month (See Table 2).
CropWatch readership survey

Dear CropWatch Subscriber:

We value your opinion and want to know what you think about CropWatch? Please take a moment and fill out this survey. Then fold it, tape it, and return to us, postage paid. Thank you.

1. What is your occupation?

2. If you are a producer, how many acres do you farm and what crops do you produce? If you’re a consultant, for how many acres and what crops do you provide services?

3. What is most valuable about CropWatch?

4. What would you change about CropWatch?

5. Are there any subject matter areas you would add? Are there any subject matter areas you don’t use? If so, what?

6. Have you changed any pest management or crop production practices as a result of information in CropWatch? Yes No If so, in what areas? (Please check all that apply?)
   Pesticide selection Pesticide timing Scouting Nonchemical controls
   Production practices (Please describe)

   Other (please describe)

7. Can you give an example and/or assign a dollar value per acre to savings made because of these changes?

8. Are you getting the information you need on a timely basis? Yes No If not, please give a specific example.

9. With “1” being most important and “10” being least important, please rank the following subject matter areas in the order of their importance for you.

   Agronomic information Biological pest control Disease control Equipment Soil fertility
   Insect control Pesticide updates Soil moisture/precip/GDD data Variety trials Weed control

11. Do you plan to subscribe to CropWatch in 1996? Yes No If not, please explain.

12. Do you access information electronically through the World Wide Web? Yes No CropWatch is currently available on the World Wide Web. Have you used this service? Yes No If you haven’t already used it, do you foresee using it in the next 1-3 years? Yes No
Please include any other comments about what types of stories were most helpful or what you would like to see more of.