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## CropWatch No. 95-24, Oct. 13, 1995

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# CROP WATCH

University of Nebraska Cooperative Extension  
Institute of Agriculture and Natural Resources

No. 95-24  
Oct. 13, 1995

## 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 soilborne 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

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# 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

Yield monitors can be coupled with a global positioning system (GPS) receiver, allowing yield and position information to be collected on one second intervals. This information can be used to create a yield map of the field. However, most yield monitors use in Nebraska are not yet linked to GPS receivers. Producers can still get very useful information from yield monitors without GPS information, if they plan ahead. Yield monitors allow the storage of data from many fields, and many subdivisions, or loads, within a field. By dividing fields into several loads, related to hybrid, soils, planting date, previous crop, etc.,

information about yield performance as influenced by these factors can be obtained. In many cases, the more subdivisions the better – formally the data storage capacity of the yield monitor will not be limiting and the data can be combined later if necessary. Some producers using monitors last year even recorded each round of the combine as a separate load, allowing them to look at yield of individual strips across the field.

Producers who are using yield monitors this fall should think carefully about how they divide fields for data collection purposes in order to get the most information from the yield monitor.

Richard Ferguson  
Extension Soils Specialist



## CROPWATCH

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Lisa Brown Jasa, Editor

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## 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 beginning to harvest corn. 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.

**Roger Elmore, Extension Cropping Systems Specialist**

## 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.

# 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 untilled 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 ester at 2 qt/A, 1 qt of 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 knapweed, 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.

**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. Remember to run the fan continuously until the moisture content of the grain is below 18%.

The safe storage time for corn depends on the moisture content and the temperature (*Table 2*). Remember that during storage the corn produces heat and moisture. Aeration is needed to keep the corn cool. The rate of heat production increases with moisture content, thus the amount of aeration should be increased with higher moisture contents. The higher the moisture, the higher the risk of the corn going out of condition and the shorter the time the corn should be stored. If the grain is not fed or used within this storage period, plan to dry it.

**David Jones**  
Assistant Professor  
Biological Systems Engineering  
**Bobby Grisso**  
Extension Engineer

### Coming soon

Upcoming *CropWatch* issues will feature a calendar of Extension winter meetings on crop production and pest management.

Table 1. Example drying times for 20% corn harvested on Oct. 15 and dried using an airflow rate of 1.0 cfm/bu

Location	Warm fall		Cool fall	
	Date drying completed	Hours of fan operation	Date drying completed	Fan Hours operation
Sioux City	Nov. 20	888	April 19	2380
Lincoln	Nov. 15	768	April 12	2212
Grand Island	Nov. 16	792	April 3	1996
North Platte	Nov. 14	744	April 16	2308
Scottsbluff	Nov. 11	672	Dec. 6	1272

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 2. Safe corn storage periods (number of days)\*

Storage Temp.	Corn Moisture Contents (wet basis)						
	15%	17%	19%	21%	23%	25%	30%
75	115	37	16	9	6	5	3
70	154	49	22	12	8	6	4
65	206	66	29	16	11	10	6
60	275	88	39	22	21	14	8
50	621	199	88	48	30	21	12
45	931	299	131	72	45	32	18
40	—	448	197	107	68	48	27
35	—	671	295	161	102	72	41

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.

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

\*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?  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.

- |  |  |
|--|--|
| <input type="checkbox"/> Agronomic information   | <input type="checkbox"/> Insect control                |
| <input type="checkbox"/> Biological pest control | <input type="checkbox"/> Pesticide updates             |
| <input type="checkbox"/> Disease control         | <input type="checkbox"/> Soil moisture/precip/GDD data |
| <input type="checkbox"/> Equipment               | <input type="checkbox"/> Variety trials                |
| <input type="checkbox"/> Soil fertility          | <input type="checkbox"/> Weed control                  |

11. Do you plan to subscribe to *CropWatch* in 1996?  If not, please explain. \_\_\_\_\_

12. Do you access information electronically through the World Wide Web?  *CropWatch* is currently available on the World Wide Web. Have you used this service?

If you haven't already used it, do you foresee using it in the next 1-3 years? \_\_\_\_\_

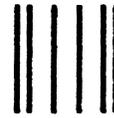
Please include any other comments about what types of stories were most helpful or what you would like to see more of.

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