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## CropWatch No. 95-13, June 16, 1995

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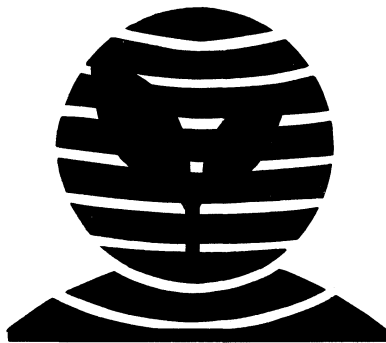
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# CROP WATCH

University of Nebraska Cooperative Extension  
Institute of Agriculture and Natural Resources

No. 95-13  
June 16, 1995

## Expert reviews risk of corn leaf diseases

In a recent newsletter, Dr. Don Scott, Extension Plant Pathologist at Purdue, addressed: *What might be the effect of late planted and delayed silking of corn this year on the development of gray leaf spot (and, we might add, other mid-season foliar diseases)?* Here was his reply, paraphrased:

1. Gray leaf spot is a high temperature, high humidity disease. Other foliar diseases that are favored by high temperatures include southern leaf blight, Rostratum spot, brown spot, common smut, Goss's wilt, and southern rust. During the growing season, temperatures are usually highest in late July and early August.

2. Corn plants are more susceptible to infection when in the reproductive rather than vegetative phase of development. More corn could be in the early reproductive stage when temperatures *could* be high.

3. Yield losses from gray leaf spot or other foliar diseases increase the earlier infection occurs on or above the ear leaf.

Delayed silking and pollination *could* place corn in a growth stage that is more vulnerable to disease loss at a time when disease development is favorable.

What does this all mean? It depends on the

weather; however, don't ignore the potential for increased disease. Fields with the highest disease risk are those in continuous corn with reduced tillage and where foliar diseases occurred last year.

David S. Wysong  
Extension Plant  
Pathologist

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## Wheat diseases active, but damage still limited



Barley yellow dwarf and tan spot are the most evident diseases throughout the southeast, south central and west central wheat areas of Nebraska. Leaf rust is developing slowly because of cool temperatures and most likely will not be a major factor in yields.

Because of the cool, wet weather black chaff also is widespread and could affect seed quality of the more susceptible varieties. Black chaff is a bacterial disease that causes a black discoloration of the glumes and awns. The extent of black chaff development will vary considerably among wheat varieties. Loose smut and head scab are occurring sporadically in some fields.

So far the incidence of scab is low, but this disease bears watching. While black chaff causes discoloration of all of the head, scab may only affect portions of it. Scab symptoms range from premature death of individual florets or groups of florets to premature death of the entire head. Scab-infected heads will usually show a salmon colored ring at the base of the floret or along the crease of the glume. The salmon orange ring is a sign of the scab-causing fungus. **To reemphasize the point, at present, the incidence of scab in eastern and central Nebraska is low.**

The bright yellow flag leaves evident in most wheat fields are symptoms of barley yellow dwarf. This virus disease is transmitted by aphids. Because of the high incidence, infection probably occurred last fall. Since we have had good growing conditions for wheat, I don't think barley yellow dwarf will have a significant impact on yields. Some varieties are more tolerant of it than others.

With harvest four to six weeks away, diseases will continue to develop, particularly if there is cool wet weather. In spite of a high incidence of disease activity, the wheat crop is not being stressed which allows it to tolerate a higher level of disease.

John E. Watkins, Extension Plant Pathologist



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*When rains delayed soybean treatment*

## Tackle weeds postemergence

The recent weather has been ideal for weed growth. To save time during the busy planting season, some growers planted soybeans without using a herbicide. Weeds in soybeans planted in mid to late May are reaching the stage when they should be controlled. Weeds between rows can be controlled with a cultivator, but weeds within the row or drilled soybeans are best controlled with herbicides.

Success with postemergence herbicides hinges on timing the application. Timing depends more on the weed growth stage than on the crop stage; small weeds are more readily controlled than large ones. Apply herbicides when most susceptible weeds are less than 4 inches tall. Nitrogen solutions (28-0-0) increase the activity of many herbicides against broadleaf weeds particularly velvetleaf, but weed size limitations remain. Taller weeds are defoliated, but they often recover.

The spectrum of weeds controlled varies with herbicide. Basagran is effective against cocklebur, smartweed, sunflower, and velvetleaf. Blazer, Cobra and Reflex control black nightshade, pigweed, and smartweed. A combination of Basagran and Blazer is often used for broader spectrum control. Galaxy is a premix combination of Basagran and Blazer. Classic is effective against cocklebur, smartweed, sunflower, and provides pigweed suppression. Pinnacle's weed spectrum is similar to Classic except it is more effective against pigweed and has less soil persistence than Classic. Classic and Pinnacle also control velvetleaf when a nitrogen solution is used as an additive. Resource is particu-

lary effective against velvetleaf.

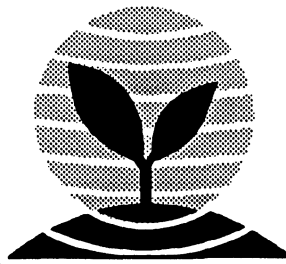
Scepter controls cocklebur, pigweed, and sunflower. Pursuit is effective against most annual broadleaf weeds and many grasses, especially shattercane. The weed spectrum of Cobra and Reflex is similar to Blazer, with one difference being greater effectiveness against velvetleaf. Classic, Pursuit, Reflex and Scepter have crop rotation restrictions — consult the label.

Assure, Fusilade, Fusion, Poast Plus, and Select have excellent crop safety; soybean injury is not a concern with these herbicides.

Treat annual grasses before they tiller. Tillering often occurs by the time grasses are 4 inches tall. Grasses treated after tillering usually recover and regrow from the crown. Combining broadleaf herbicides with these materials often results in reduced grass control, particularly yellow foxtail.

**NOTE: Volunteer corn and shattercane** are very susceptible to these herbicides. Good control can be achieved in plants up to 18 inches tall.

*(Continued on page 98)*



# CROPWATCH

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Lisa Brown Jasa, Editor

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# Bean leaf beetles damaging soybeans

Bean leaf beetles have been observed damaging seedling soybeans in those few fields that were planted several days to a few weeks ago and have plants now emerging. This is not really a surprise since this insect is traditionally more of a problem in fields that have the first soybeans up in the neighborhood. The bean leaf beetle overwinters in the adult stage and moves first to alfalfa in the spring prior to moving to soybeans (and other bean species) as these crops become available. They seem to be able to find beans rather quickly and gather in large numbers to feed when even a few plants in a small isolated location are emerging.

Growers and consultants are asking what can be done to limit feeding damage and potential stand losses. There is no easy answer, especially this year, because many soybeans won't emerge for several days. Beetles will likely continue to migrate into fields that have emerged or emerging beans and cause concern until most of the soybeans in a neighborhood have emerged and they have dispersed over a large area. Therefore, an insecticide treatment that is applied now will probably kill many of the beetles present in the field at the time of application and for a few days afterward. Once the residual effect of the insecticide is no longer protecting the plants (i.e. after three or four days for most of the registered insecticides), they can and probably will be reinfested with new migrating beetles and retreatment will need to be considered. These beetles spend most of their time on the plants. Plants must be emerged so that the insecticide spray droplets can be deposited on them or be eaten or walked on by the beetles in order to achieve any kind of control.

Table 1. Economic thresholds for bean leaf beetle on seedling (VC) soybean, assuming an approximate 36.6 bu/acre yield potential and 30-inch row spacing with approximately seven plants/foot.

Crop value, \$/bu	Pest management costs, \$/a			
	\$6	\$8	\$10	\$12
\$5	3	4	5	6
\$6	3	4	5	5
\$7	2	3	3	4
\$8	2	3	3	4

To add more confusion to this issue, there are no established thresholds to help determine whether a treatment is needed on emerging soybeans. The economic thresholds that have been worked out begin at VC stage which is when the cotyledons have fully unfolded and the unifoliate or simple leaves have unrolled so that leaf edges are not touching. (see Table 1)

If your beans are not yet at this stage, you will need to use your own judgement regarding treatment. For a list of insecticides registered for bean leaf beetle control in soybeans, refer to EC95-1511, *Insect Management Guide for Nebraska Wheat, Soybeans and Small Grains*, available at your University of Nebraska Extension Office.

Steve Danielson  
Extension Entomologist

## 1st generation European borers, rootworms in corn

A few European corn borer moths had been caught in light traps in eastern and south-central Nebraska as of June 12. There have been no reports of egg masses and it's too early to tell whether the first generation will be much of a problem. Much of the corn will not be susceptible to the corn borer for several days or weeks even with ideal weather. Scouting for whorl feeding and presence of larvae is not necessary until corn is 18 inches tall extended leaf height. Shorter corn is protected by a substance that we refer to as DIMBOA which is toxic to the corn borer larvae.

We have not been notified of

any corn rootworm larvae that have hatched from overwintering eggs. They usually hatch in early June, however, the cool weather and soil conditions have led to delayed hatching. We don't know exactly how the delay will affect extent of damage; however it will affect timing of treatments.

Ignore the calendar this season when it comes to developing a pest management strategy. Base decisions on what is occurring in your fields and remember that the crops and pests may not be synchronized as usual.

Steve Danielson  
Extension Entomologist

## Control weeds in pastures now

Normally, late June is the best time to treat broom snakeweed, vervain, goldenrod sagebrush, snow-on-the-mountain, western ironweed, and western ragweed. There is a tendency to treat too late rather than to early.

A good guideline for most perennials is to mow or apply the herbicide when weeds are in the early flower bud stage. Biennial thistles should be treated in May before flower stalk elongation and annual weeds including sunflower should be treated by mid June.

The most commonly used treatments are Ally, 2,4-D ester and a combination of 2,4-D and Banvel. Tordon is available for tough weeds and Crossbow is effective on woody plants. Grazing restrictions are minimal with the exception of milking dairy animals.

Uneven terrain often makes uniform herbicide application difficult on grazing land. A marking system helps eliminate missed strips. Use care when applying herbicides near sensitive crops, gardens, windbreaks, and farmsteads. Injurious drift can occur for 0.5 mile or more.

**John McNamara**  
Extension Assistant

Weed Science  
**Alex Martin**

Extension Weeds Specialist

## Kansas update

Hatch of first generation chinch bugs was observed in wheat in Riley and Franklin counties last week. Growers who have planted or plan to plant sorghum near or adjacent to wheat are encouraged to begin checking their wheat for chinch bug nymphs.

Kansas Department of  
Agriculture Insect Survey Report

## Herbicide rainfast periods

The onset of planting season is consequently followed by postemergence treatments for weeds which may have escaped an earlier soil applied treatment, or may have emerged after the planting time applications were made. At this time of the season, the likelihood rain washing the treatment off of targeted weeds is a concern. The following table describes how long a treatment requires until it is "rainfast", or time required between application and rain for the to perform effectively.

<i>Herbicide</i>	<i>Rainfast (Hours)</i>	<i>Herbicide</i>	<i>Rainfast (Hours)</i>
Accent	4	Extrazine II	4
Ally	4	Fusilade 2000	1
Assure II	1	Gramoxone	.5
Assert	3	Harmony Extra	4
Atrazine	4	Hoelon	1
Avenge	6	Laddok	4
Banvel	4	Landmaster\	
Basagran/Scope	4	Landmaster BW	6
Basis	4	Marksman	4
Beacon	4	MCPA	1
Bicep	4	Option/Whip	1
Bladex	4	Permit	4
Blazer	6	Pinnacle	1
Bronco	6	Poast/Poast Plus	1
Bronate	1	Pursuit	1
Buctril	1	Reflex	4
Buctril/Atrazine	1	Rescue	6
Butyrac 200	6	Resource	1
Concert	1	Resolve	4
Curtail	8	Rezult	4
Curtail M	8	Roundup/Rascal	6
Clarity	4	Shotgun	6
Classic	1	Scepter	2
Cobra	5	Stinger	8
Exceed	4	Synchrony	1
Express	4	Tackle	6
Tordon	2	2,4-D	1

## Postemergence in soybeans *(Continued from page 96)*

Spray additives are required with these herbicides. Additives include crop oil concentrate, nonionic surfactants, fertilizer solutions, and ammonium sulfate. Each herbicide has specific additive requirements -- consult the label for details. In some cases, lesser herbicide rates are required with

certain additives. Nitrogen solution (28-0-0) improves the activity of most broadleaf herbicides against velvetleaf.

**Alex Martin**  
Extension Weeds Specialist  
**John McNamara**  
Extension Assistant  
Weed Science

# Grazing restrictions for pasture herbicides

Hard to control pasture weeds such as musk thistle, leafy spurge, and spotted knapweed can be controlled with a number of herbicide treatments, once the grazing season has begun. Many of these treatments require that the

animals be withheld from the treated areas for various periods of time after treatment. The following table defines these restrictions and the time frames involved with various herbicide applications.

Herbicides	Products	lb/ai	Lactating Dairy Animals		Beef and Non-Lactating Dairy Animals		
			Before Grazing	Before Hay Harvest	Before Grazing	Before Hay Harvest	Removal Before Slaughter
Stinger 3E (Clopyralid)	0.66 to 1.31 pt	0.25 to 0.5	0	0	0	0	0
Banvel 4S (Dicamba)	Up to 1 pt	0.5	7 days	37 days	0	0	30 days
	Up to 2 pt	1.0	21 days	51 days	0	0	30 days
	Up to 4 pt	2.0	40 days	70 days	0	0	30 days
	Up to 16 pt	8.0	60 days	90 days	0	0	30 days
Roundup/Rascal (Glyphosphate)							
Spot or Wiper <sup>1</sup>	Any labeled rate	—	14 days	14 days	14 days	14 days	0
Broadcast	Any labeled rate	—	8 weeks	8 weeks	8 weeks	8 weeks	0
Ally (Metsulfuron)	0.10 to 0.30 oz	0.06 to 0.18 oz	0	0	0	0	0
Gramoxone Extra (paraquat <sup>2</sup> )	0.8 to 1.5 pt	0.25 to 0.47	1 month	1 month	1 month	1 month	0
Tordon 22K (Picloram <sup>3</sup> )	1/2 to 2 pt	0.125 to 0.5	14 days	14 days	0	14 days	3 days
Weed-Out 2,4-D	—	1.0 to 2.0	7 days	0	0	0	0
2,4-D/MCPA <sup>4</sup>	—	0.5 to 2.0	7-14 days	30 days	0-7 days	0-30 days	0
Spike 20P (Tebuthiuron)	1/2 oz/45 sq ft	—	0 <sup>7</sup>	1 year <sup>7</sup>	0 <sup>7</sup>	year <sup>7</sup>	0 <sup>7</sup>
Crossbow 3S Triclopyr +2,4-D	1 to 6 qt	0.75 to 4.50	1 year	1 year	0 <sup>5</sup>	1 year	3 days
Curtail	2.0 to 4.0 pt	—	14 days	30 days	0	30 days	7 days <sup>8</sup>

<sup>1</sup>Do not treat more than one-tenth of any given acre at one time with spot or wiper applications. Remove livestock before application.

<sup>2</sup>Restrictions based on the degree of new seedling establishment before grazing. Suggested at least 6 inches of grass or legume seedling growth which is approximately one month. Late fall seeding may require three to five months before the suggested 6-inch height is reached.

<sup>3</sup>Remove livestock to untreated grass pasture for seven days before transferring livestock to broadleaf crop or pasture areas. Removal before slaughter statement only applies to animals grazing treated forage for two weeks immediately after application. Use only west of Mississippi River.

<sup>4</sup>Be sure to check individual product labels for restrictions and use rates due to the large number of formulations available.

<sup>5</sup>One year if more than 1.5 gal/A rate used.

<sup>7</sup>If no more than 20 lbs per acre used.

<sup>8</sup>Withdrawal not needed if two weeks or more time elapsed since application.

<sup>9</sup>Remove livestock to untreated grass pasture for seven days before transferring to broadleaf crop or pasture areas.

### Treat injured crops with special care

Producers run a greater than normal crop injury risk when applying postemergence herbicides to crops damaged by wind, hail, and blowing sand and soil. The bruised and damaged tissue permits increased herbicide uptake. Waiting several days for the crop to recover from storm damage reduces the risk of herbicide injury. However, don't wait too long because the weeds also will be growing.

Herbicides posing the greatest risk to corn and sorghum include 2,4-D, Banvel, and Bladex. Atrazine can be used postemergence on corn that is not severely damaged, but not on sorghum. Basagran and Laddok should be fairly safe on corn and sorghum. Buctril and Buctril-Atrazine do not pose an unusual risk on storm damaged crops. Storm damaged soybeans should not be treated with Basagran, Blazer, Cobra, Classic, Galaxy, Pinnacle, Pursuit, or Resource until they recover. Assure, Fusilade, Fusion and Poast Plus are relatively safe.

**John McNamara**  
Ext. Assistant, Weed Science  
**Alex Martin**  
Extension Weeds Specialist

### Weather update

An upper air pattern change should give farmers a window of opportunity to complete planting. The atmosphere has reverted to a more normal summer pattern, as a high pressure ridge has replaced the huge trough that has dominated the western United States.

It will take a couple of weeks for rivers to return to normal since a huge snowpack from Colorado and Wyoming will be feeding the Platte River and its tributaries.

**Al Dutcher**  
Agricultural Meteorology

### Growing degree day accumulations (June 11)

Location	3/1 32°F	4/1 32°F	3/1 40°F	4/1 40°F	1/1 48°F	5/14 50°F	5/28 50°F	6/10 50°F
Ainsworth	1588	1260	1009	802	720	264	165	16
Alliance	1447	1134	924	716	631	193	118	15
Arthur	1537	1204	983	755	710	219	136	14
Beatrice	1996	1592	1336	1081	920	344	214	21
Central City	1843	1488	1208	989	827	312	192	18
Clay Center	1874	1491	1248	1003	864	316	196	20
Concord	1686	1407	1083	924	672	300	174	15
Curtis	1767	1403	1150	917	850	271	170	18
Elgin	1653	1358	1052	877	693	285	170	14
Gordon	1418	1120	885	687	585	198	119	13
Grant	1641	1298	1072	838	811	246	155	17
Holdrege	1877	1471	1249	980	929	306	191	21
Lincoln	2072	1664	1377	1128	936	361	219	21
McCook	1886	1496	1246	984	957	303	189	20
Mead	1929	1578	1284	1072	867	353	213	20
North Platte	1700	1342	1102	871	825	261	165	18
O'Neill	1623	1327	1048	855	714	279	172	16
Ord	1712	1370	1116	895	768	277	172	17
Red Cloud	1982	1564	1329	1060	939	331	206	21
Rising City	1830	1485	1199	991	799	323	197	18
Scottsbluff	1552	1211	1003	775	703	208	133	17
Shelton	1868	1475	1236	985	873	306	188	19
Sidney	1488	1151	950	724	666	189	115	13
Tarnov	1719	1417	1124	939	748	308	186	17
West Point	1782	1483	1164	989	752	323	188	16

### Precipitation

	6/5-6/11			9/1-6/11		
	Act.	Nrm.	%	Act.	Nrm.	%
Ainsworth	1.22	.84	145	20.13	14.16	142
Alliance	2.16	.70	309	13.09	10.61	123
Arthur	1.77	.71	250	13.74	11.60	118
Beatrice	.26	.98	27	22.17	19.89	111
Central City	.70	.93	75	14.47	18.20	80
Clay Center	.28	.93	30	20.49	18.15	113
Concord	.50	.98	51	20.89	18.94	110
Curtis	.67	.91	74	10.38	12.81	81
Gordon	2.56	.77	332	15.28	11.17	137
Grant	.67	.84	80	12.98	11.96	109
Holdrege	.66	.98	67	18.26	16.29	112
Lincoln	.58	.91	64	19.46	19.17	101
McCook	.83	.77	107	11.83	12.93	92
Mead	.51	1.12	46	18.61	24.05	77
North Platte	.43	.80	54	13.31	12.39	107
O'Neill	.71	.91	78	20.20	14.99	135
Ord	1.73	.91	190	20.39	15.37	133
Red Cloud	.08	.91	9	20.01	17.26	116
Rising City	.51	.98	52	21.11	17.48	121
Scottsbluff	1.46	.63	231	12.00	10.47	115
Shelton	.81	.91	89	17.81	16.77	106
Sidney	2.17	.73	297	19.02	9.96	191
Tarnov	.94	1.05	90	20.04	16.92	118