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INSECT, PLANT DISEASE, & WEED SCIENCE NEWS [No. 92-18] [Aug. 28, 1992]

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Insect Science
Plant Disease
Weed Science
NEWS

No. 92-18
Aug. 28, 1992

UNIVERSITY OF NEBRASKA COOPERATIVE EXTENSION • INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES

Crop development lags

Cool spell expected to continue

Crops continue to significantly lag behind normal growth, with corn, soybeans and sorghum about two to three and one-half weeks behind (see *Table 1*, page 3). Crop models indicate the state corn crop is in the late blister to early dough stages. Soybeans are in pod set and beginning seed fill stages, and sorghum is in the heading stage.

Rapid crop development does not appear to be in the immediate future since the 6-10 day forecast through Sept. 3 calls for below normal temperatures and normal precipitation. If Nebraska receives normal temperatures for the remainder of the growing season, models forecast that corn should mature between Sept. 23 and Oct. 14, soybeans between Sept. 16 and Oct. 7, and sorghum between Sept. 15 and Sept. 29. Maturity will occur before these dates if above normal temperatures are experienced in September. Earliest maturity will occur in the southern sections, with the northern and northwestern sections of Nebraska having the later maturity dates.

Atmospheric scientists have traced this year's cooling trend to the eruption of Mt. Pinatubo in the

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Plant Disease

Fall practices limit wheat diseases

Preventive measures for diseases of winter wheat begin before fall planting. Following a few simple guidelines can help growers reduce the disease threat to their 1993 winter wheat crop:

✦Control volunteer wheat and grassy weeds in stubble fields at least two weeks before fall seeding. This reduces the risk of wheat streak mosaic and barley yellow dwarf diseases.

✦Select varieties that compliment each other in terms of maturity and disease resistance or tolerance to stem rust, leaf rust and wheat streak mosaic.

✦Plant good quality, treated seed into a firm seedbed. All three factors influence the quality of the stand and general health of the crop going into winter.

✦Plant at the proper time for your area. Early planting greatly increases the risk of wheat streak mosaic, soilborne wheat mosaic, barley yellow dwarf and crown and root rot.

John E. Watkins, Lincoln Extension Plant Pathologist

UNIVERSITY OF NEBRASKA-LINCOLN, COOPERATING WITH THE COUNTIES AND THE U.S. DEPARTMENT OF AGRICULTURE

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Cool spell *(Continued from page 1)*

Philippines. Ash blown into the upper reaches of the atmosphere by volcanoes will block incoming solar radiation and cool the lower layers of the atmosphere. For the first half of 1992, a warm phase of the global anomaly called El Nino offset the cooling effect from Pinatubo. Scientists are predicting that the cooling being experienced in the Northern Hemisphere will reached a maximum by late 1992, then temperatures will slowly return to normal by the summer of 1994. The Northern Hemisphere as a whole may be cooler than normal, but isolated areas may be much above or much below normal. The weather has been extremely hot and dry over the western third of the United States, while the remainder of the country has experienced temperatures 3 to 10 degrees below normal this summer.

Because temperatures have been extremely cold since the last week of May, many farmers and researchers are wondering what next year's growing season will bring. Meteorologists do not have the tools to consistently make accurate predictions one month into the future, let alone predict the general weather a year in advance. However, several prominent scientists believe next year's growing season will bring cooler than normal temperatures, with the greatest probability occurring in the first half of the year. If this summer's trend continues into fall and winter, Nebraska stands an excellent chance of entering next season with high soil moisture reserves and increased streamflow into the states reservoir system.

Although an accurate forecast for next year may prove improbable, an important lesson was learned from the freezing temperatures which devastated corn fields across Nebraska in late May. Many Extension agents reported freeze damage "to the row" in fields where farmers had stopped cultivating. Producers should remember that soils in early spring are 5 to 10 degrees cooler one foot below the surface than at 2 inches below the surface. Therefore, cultivation brings the cooler soil to the surface and enhances the susceptibility to freezing temperatures.

Data from this year indicate that a significant portion of the damage to corn occurred to the growing point, which was below the soil surface in most areas. The growing point of corn generally emerges from the soil between the 4- and 6-leaf stages. Cultivation loosens the soil around these growing points and allows freezing air to enter below the soil surface. In uncultivated fields, unloosened soils prevent freezing air to reach growing points below the soil surface. A good practice for farmers is to restrain from cultivating when temperatures are predicted to drop below 40oF in any five-day forecast. Five-day forecasts in spring are not very accurate due to the frequent passage of frontal systems and may significantly underestimate the potential for freezing temperatures. It just isn't worth losing an entire field if cultivation can be delayed a few days until the threat of freezing temperatures has passed.

For more information, see the Extension NebGuide G83-673, *Maturity Dates and freeze Risks Based on Growing Degree Days.*

Al Dutcher, State Climatologist
Department of Agricultural Meteorology, Lincoln

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Lisa Brown Jasa, Editor

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Cool spell *(Continued from page 2)*

Table 1. Average growing degree day (GDD) accumulations for various towns in Nebraska, as of 8/23/92.

	Corn				Soybean				Sorghum			
	Emerge	*GDD*	*Days*	*Mat*	*Emerge*	*GDD*	*Days*	*Mat*	*Emerge*	*GDD*	*Days*	*Mat*
Scottsbluff	5/15	1651	-15	274								
Sidney	5/15	1581	-15	278								
Arthur	5/15	1530	-22	279								
Ainsworth	5/15	1602	-22	273	5/29	1432	-22	260	5/30	1421	-22	269
O'Neill	5/15	1549	-25	281	5/29	1388	-24	263	5/30	1378	-24	271
Halsey	5/15	1576	-22	281	5/29	1415	-21	262	5/30	1405	-20	271
Elgin	5/17	1524	-28	294	5/30	1395	-26	281	5/30	1415	-26	274
Concord	5/17	1640	-23	288	5/30	1502	-21	276	5/29	1514	-21	268
West Point	5/17	1661	-22	284	5/30	1516	-20	274	5/29	1514	-21	266
Gibbon	5/11	1798	-20	278	5/26	1585	-21	270	5/27	1583	-20	263
Ord	5/11	1763	-21	280	5/26	1557	-21	272	5/27	1554	-21	265
Shelton	5/11	1810	-18	277	5/26	1596	-20	269	5/27	1594	-19	263
Lexington	5/11	1857	-15	276	5/26	1646	-16					
Central City	5/14	1751	-23	279	5/26	1583	-23	273	5/25	1586	-23	270
Lincoln	5/14	2017	-12	267	5/26	1828	-13	263	5/25	1832	-13	259
Mead	5/14	1868	-18	275	5/26	1691	-18	269	5/25	1693	-19	266
Rising City	5/14	1751	-23	279	5/26	1594	-22	273	5/25	1596	-23	270
Tarnov	5/14	1741	-22	281	5/26	1580	-22	275	5/25	1583	-23	271
Grant	5/10	1752	-18	271	5/30	1504	-17	276	6/4	1448	-16	271
McCook	5/10	1846	-18	276	5/30	1589	-17	274	6/4	1544	-16	273
North Platte	5/10	1719	-15	274	5/30	1481	-16	278	6/4	1436	-14	273
Holdrege	5/6	1922	-18	272	5/24	1641	-20	271	5/28	1624	-18	269
Red Cloud	5/6	2005	-15	269	5/24	1728	-17	268	5/28	1711	-14	265
Clay Center	5/11	1865	-19	274	5/22	1681	-20	269	5/28	1644	-18	267
Beatrice	5/11	1969	-26	275	5/22	1781	-28	269	5/28	1740	-24	267

Emerge — Average emergence date as reported by Ag Statistics or an Extension agent

GDD — Growing Degree Day units accumulated since average emergence date

Days — Number of days ahead or behind normal growth from average emergence date

Mat — Estimated maturity date for crop given normal growth for the remainder of the growing season, based on the Julian calendar

260 days — Sept. 16
274 days — Sept. 30
288 days — Oct. 14
267 days — Sept. 23
281 days — Oct. 7
295 days — Oct. 21

Anthracnose, rust threaten alfalfa; scout fields for early symptoms

Anthracnose develops in alfalfa stands in late summer and early fall. To identify anthracnose, look for ash gray diamond-shaped lesions with dark brown margins on the lower stem. Usually more than one forms on infected stems, causing the stem to die. When surveying the field, look for dead stems that curl at the tip and may be scattered through the stand. If the incidence of disease is light, these may go unnoticed; however, when severe they are easily seen from a distance. Examining the diseased plants for the presence of the stem lesions is the best method of field diagnosis.

The only effective control for anthracnose is to plant anthracnose resistant or highly resistant varieties.

Another fall disease in alfalfa is rust. Rust usually is not a problem on stands which are cut regularly, but if the third or fourth cuttings are delayed or the field is for seed production, heavy rusting can occur. Rust looks like a dark brown dust that develops in pustules on plants and collects on cutting bars and equipment during harvest.

Rust is not directly toxic to livestock, but heavily rusted alfalfa hay may cause hay fever or allergy symptoms when fed.

John Watkins, Lincoln Extension Plant Pathologist

Plant Disease Clinic update

Diseases diagnosed in the Plant Disease Diagnostic Clinic last week included: *field corn* -- sting nematode (*Belonolaimus* spp.), leaf rust, Maize Chlorotic Mottle Virus; *popcorn* - eye spot; *sorghum* - Sooty Stripe, wind damage; *alfalfa* - Rhizoctonia root rot; *soybeans* - hail damage, Phytophthora root rot; and *dry edible beans* - leaf rust.

Vegetable problems included blossom end rot of tomato and angular leaf spot of cucumber. Diagnoses of tree and shrub samples were Phomopsis twig blight on juniper, cool temperature and/or excessive water and/or storm stress on linden, ash, and mugo pine, and site problems with red oak.

We examined 43 samples the week of Aug. 17-21, which was a slight increase from earlier August weeks.

Diane Merrell, Extension Assistant Plant Pathology, Lincoln

Selecting a farm record book

The following new or revised publications have been released by the University of Nebraska Cooperative Extension. Most are available at your local Extension office or can be ordered by writing Bulletins, 105 ACB, PO Box 830918, University of Nebraska, Lincoln, NE 68583-0918.

EC92-891. Farm Financial Records: Record-Keeping Alternatives for Nebraska Producers. This publications describes the major types of record-keeping systems available to Nebraska farmers including a table comparing seven major types of hand-kept record books. ($1.00)

Insect Science

Latest crop pest tips to be presented at CPMU Conference

The sixth annual Crop Pest Management Update conference will be Dec. 3-4 at the Ramada Inn in Kearney. This conference is designed to provide the agricultural professional with the latest information on field crop pest management. Our target audience includes agrichemical dealers and applicators, crop consultants, extension agents, soil conservationists, industry representatives, and crop producers. The presentations during the two-day conference will include research updates, discussions about alternative management strategies, and new technology reports. A broad spectrum of crop-related topics will be covered, including insect management, weed control, plant disease management, and soil fertility recommendations.

The specific details of the program agenda are now in the process of being confirmed. Program details and preregistration forms will be mailed to those on our mailing list in October. If you have not been on our mailing list for CPMU in the past or your address has changed, please call our secretary, Pat Mattran, at (402) 472-2125 and you will be included in future mailings.

Steve Danielson Extension Entomologist Lincoln

Weed Science

Herbicide tips for establishing alfalfa

Late August is a popular time for seeding alfalfa. With fall seedings, summer annual weed pressures are not usually a problem. However, downy brome, field pennycress and other winter annuals can be a problem, especially with favorable precipitation.

During the first full establishment year, weed problems typically are annual broadleaves and grasses such as downy brome, common lambsquarter, pigweed, foxtail, and velvetleaf. These are usually not found after the first year if a good stand of alfalfa is established. Herbicides, along with good cultural practices, will control many weed seedlings before they limit the forage quality of the alfalfa.

If the fields selected for seeding had a previous crop that was destroyed, you must account for the herbicides used for the previous crop. DO NOT seed alfalfa into fields treated this year with the following herbicides: 1) Triazines such as Atrazine and Bladex, 2) Sulfonylureas such as Classic, Preview, Lorox Plus and, 3) Imidazolinoes such as Scepter, Pursuit, Accent, and Beacon. Always be sure to read and follow label directions for use and understand rotational guidelines prior to herbicide use.

Once the field for the seeding has been selected, prepare a weed-free seedbed that will promote rapid growth of alfalfa seedlings. Normally, weed pressures will not justify a herbicide treatment at planting time. When the alfalfa has reached the seedling stage (at least two trifoliate leaves), apply Poast Plus for downy brome before these grasses reach 4 inches in height. Buctril and 2,4-DB (Butoxone) can be used for field pennycress and other broadleaves in seedling alfalfa before they reach 3 inches in height. Broadleaf herbicides such as Lexone/Sencor cannot be used until the alfalfa is established for one year or more.

Alex Martin
Extension Weeds Specialist
John McNamara
Extension Assistant
Lincoln

Control hemp dogbane and other perennial weeds now

Hemp dogbane, along with most other perennial weeds, can best be controlled in late August or September when it is in the bud stage. At this time, root buds will have a swollen or enlarged appearance. Apply 2,4-D at a 1.0 lb/ active ingredient per acre rate at this time of year so the herbicide can move into the root system of the plant along with the herbicides.

Best control can be achieved if the 2,4-D treatment is made when the plant is not stressed by frost or a lack of moisture. Applications made during a drought or after a frost will not be as effective because plant translocation is slowed. Other perennial weeds, unlike hemp dogbane, retain the ability to maintain active growth even after the first frost.

Do not spray in corn until after the silks have turned brown or sorghum has reached the soft dough stage. Treatments made prior to this time can result in crop injury due to 2,4-D affecting pollination and yield potential.

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