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CropWatch No. 94-15, July 22, 1994

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CROP WATCH

University of Nebraska Cooperative Extension
Institute of Agriculture and Natural Resources

No. 94-15
July 22, 1994

Panhandle reports

Mexican bean beetle numbers increasing

High populations of first generation Mexican bean beetle larvae have resulted from an unusually large overwintering adult population in many fields of dry beans in the Panhandle. Overwintering beetles began egg-laying in mid June and continued through about July 10. Fields with significant egg numbers have larvae that are third instars. The amount of damage that has occurred from these larvae has been minimal; however, larval damage will increase dramatically in the third and fourth instar and adult stages. In addition, adults from this generation will spread throughout the field and lay more eggs which will produce the next generation. These adults will be active in late July and early August, and the larvae from the next generation will be active through August into September.

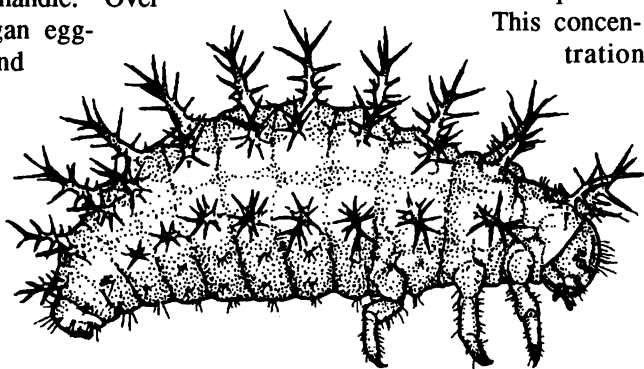
Growers need to inspect their fields to determine the extent of larvae present. Since the eggs are laid in mass, larvae will be concentrated in groups feeding on closely associated plants.

This concentration

damage. No accurate thresholds for Mexican bean beetle feeding are available, but if larvae can be found on about 10-20% of the plants, a treatment will likely be justified, especially if numerous larvae are found on each plant. If this threshold is not reached the beans need to be monitored to ensure that populations do not build up later in the season.

If treatments are necessary several chemicals are available. See EC-92-1537, *Insect Management Guide for Nebraska Sugarbeets, Dry Beans, Sunflowers, Vetch, Potatoes, and Onions* for information on chemicals registered for use on dry beans.

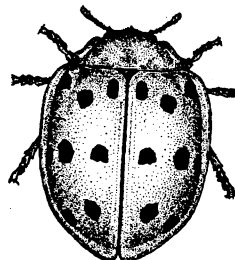
Gary Hein
Extension Entomologist
Scottsbluff



Mexican bean beetle larva

makes scouting bean fields and evaluating potential damage difficult.

The dry beans are beginning to flower and are now more sensitive to defoliation



Mexican bean beetle adult

Nebraska crops ahead of normal

The Nebraska Agricultural Statistics Service reported Monday that Nebraska's corn crop was rated 84% good to excellent, with silking about 10 days ahead of normal. Some storm damaged

plants were reported to be "growing out" of their injuries.

Soybean condition was rated 91% good to excellent, with blooming more than two weeks ahead of normal.

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USDA programs may aid with loss from storms

Green snap, hail, droughts and flooding have left many producers with reduced yields or no crop to harvest this season. For those producers, some USDA farm programs may provide some benefit.

For persons facing low yields, the 0-92 farm program might be of value. Producers can enroll in the 0-92 program until the day before the first normal harvest date. This date for individual program crops is established annually by county ASCS committees. Feed grain producers with poor yields in some or all of their fields should contact their ASCS office to see if the 0-92 program might benefit them.

Haying and grazing of CRP land is permissible in counties which have met certain disaster criteria. All or part of 10 Nebraska counties qualify for haying or grazing of CRP lands. The procedure is different this year than in previous years so caution is recommended before actually haying or grazing. Contact your ASCS office to see if your county qualifies and if you, as an individual producer, are eligible.

Ray Massey
Extension Agricultural Economist
Todd Peterson
Cropping Systems Specialist

Publications

The University of Nebraska Cooperative Extension offers publications, computer software, and videotapes on a variety of subjects from pest scouting, crop production and hail assessment to small business evaluation and record keeping tools. For more information contact you local Extension office.

Wheat stem sawflies found in Nebraska wheat fields

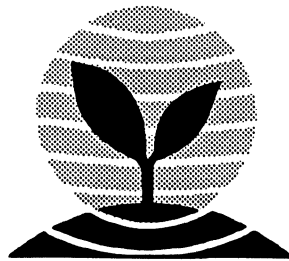
The first significant infestations of wheat stem sawflies in Nebraska have been found in Scotts Bluff County close to the Wyoming border. Growers in some isolated parts of eastern Wyoming have had problems with the sawfly for several years, but the severe problems have not spread into Nebraska. In early July infestations exceeding 50% along the edges of some wheat strips were found in Scotts Bluff County.

Sawfly damage can be readily recognized by the presence of tillers that are lodged at the base at harvest. These tillers will appear to

have been cut evenly across the stem. Also, these tillers if cut longitudinally will be filled with a sawdust-like material. These insects are expected to be a problem only in the western parts of possibly Kimball, Banner and Scotts Bluff counties.

Wheat growers in the Nebraska Panhandle are asked to contact Gary Hein (308-632-1369) or their county Extension office if they noticed damage that appeared to be from the wheat stem sawfly when they harvested their wheat.

Gary Hein
Extension Entomologist
Scottsbluff



CROP WATCH

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Lisa Brown Jasa, Editor

For more information about a particular subject, write the authors at the addresses below:

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Soybean cyst nematode damage evident

Fields infested with soybean cyst nematodes (SCN) and planted to susceptible cultivars are now beginning to show signs and/or symptoms of SCN damage. A survey of fields in a few counties bordering the Missouri River revealed several locations where the "white female" cysts were attached to smaller roots. The pearly white cysts became evident when plants were carefully dug up and the roots gently shaken to remove loose soil.

Above ground symptoms were not obvious in most of the SCN-infested fields; other fields exhibited uneven growth patterns (circular, oblong, or streaked), groups of stunted or unthrifty plants, and leaf yellowing. SCN-colonized root masses appeared slightly necrotic; some seemed to have reduced nodulation.

In order to see the cysts, it is necessary to carefully dig plants so as to not disturb the small plant roots — the site of cyst attachment. Pulling plants commonly results in most of these roots being left in the ground. This greatly reduces the

likelihood of finding many cysts, even if they are present. Although SCN cysts can be seen with the unaided eye, they are much easier to see using a 10X hand lens. The size and shape of the cysts can aid with identification. They are white when young, yellow with age, and brown at maturity, lemon-shaped pin head size structures attached to the surface of small roots.

If SCN is suspected, your local Extension Educator can help you send the plant with attached soil to

the Plant and Pest Diagnostic Laboratory at the University of Nebraska. Be aware that growing season SCN samples can only be used to verify that SCN is active in a field; a second soil collection and nematode analysis in late winter or early spring is necessary to provide critical information on nematode survival rates and to formulate recommendations for future field management strategies.

David S. Wysong
Extension Plant Pathologist

UNL Clinic offers diagnoses

The University of Nebraska Plant and Pest Diagnostic Clinic offers skilled and objective diagnostic services by professionals from the UNL Departments of Plant Pathology, Entomology, Horticulture, and Agronomy (Weed Science).

Samples should consist of enough representative material so that an accurate diagnosis can be made. Generally, diagnostic fees range from \$5 to \$20 per sample.

Responses include diagnoses and recommendations.

To submit a sample, complete a Specimen Identification form, available from local Extension offices or the Diagnostic Clinic. For more information, contact your local Extension office or write the UNL Cooperative Extension Plant and Pest Diagnostic Clinic at 448 Plant Sciences, University of Nebraska, Lincoln, NE 68503-0722.

Kansas crops developing early

Fall crops in Kansas are making good progress with corn, sorghum and soybeans well ahead of average maturity for this date, according to Kansas Agricultural Statistics, Extension Service, and the National Weather Service.

Corn silking has surpassed the half-way mark across the state. Seventy percent of the acreage is in the silking stage, compared to 45% at this time last year and the average of 50%. All districts except the northwest have corn in the dough stage. For the state, 10% of the corn is in the dough stage. Only 3% of the acreage

was at this stage by this time last year, but the average is 10%. Some moderate infestations of spider mites and corn borers are reported in the western and southern districts. Condition of the acreage is rated 63% good to excellent, 36% fair, and 1% poor.

Sorghum stands across the state are 10% headed. This compares to 1% at this time last year and the average of 4%. Chinch bugs are reported in many areas of the state. Most infestations are light but some moderate infestations are reported in the central district. Seventy-two percent of the acreage is in good to excellent

condition, 27% is fair, and 1% poor.

Fifty percent of the state's soybeans are blooming, compared with 15% last year and the average of 25%. Across the state, 5% of the acreage is podded, compared to 2% at this time last year and the average of 5%. Condition of the acreage is 70% good to excellent and 30% fair. Surface soil moisture is rated 42% short to very short, 53% adequate, and 5% surplus. Subsurface moisture is rated 36% short to very short, 62% adequate, and 2% surplus.

National Weather Service
Topeka, KS (July 18)

Computer predicts dates for European corn borer egg-laying

European corn borers are completing the first generation and moths will begin emerging soon. The Nebraska European Corn Borer Software program can be used to predict the timing of egg laying by these moths, based on a sample of first generation larvae and weather data.

Larvae were recently collected from several sites across the state. Larvae must be identified by larval stage (instar) to be used in the program. The data in *Table 1* were used to run the program:

Using 30-year average weather data for each location the program produced the predicted times for egg-laying shown in *Table 2*.

Past research in Nebraska has shown that these predictions are reasonably accurate (within two to three days). Predictions from the first four locations may be somewhat less accurate since the samples were taken when 50% of the larvae were in the first three instars. Later samples provide more accurate predictions and are recommended by the software manual. Actual occurrence of eggs may be somewhat earlier than predicted if temperatures are above average from the larval collection date until mid-August.

Begin sampling for corn borer egg masses when 25 to 50% of egg laying is predicted.

Information on scouting procedures and economic thresholds for second generation European corn borers will be discussed in the next issue of *Crop Watch*.

This software program also contains a management model which leads you through the calculation of an economic threshold for second generation corn borers, based

Table 1. Number of corn borers by stage

Site	Collection date	1st	2nd	3rd	4th	5th	pupae
York	June 27	0	19	67	14	0	0
Holdredge	July 1	5	34	72	69	10	0
Atkinson	July 5	10	31	75	51	19	0
Ainsworth	July 6	2	13	71	43	9	0
Clay Center	July 7	0	0	5	4	58	0
North Platte	July 7	19	45	109	17	0	0
Grant	July 8	0	9	29	24	148	48

Table 2. Percent egg-laying complete by indicated date

Location	5	25	50	75	95
York	7/20	7/24	7/27	7/29	8/3
Holdredge	7/21	7/26	7/30	8/2	8/8
Atkinson	7/25	8/1	8/6	8/10	8/17
Ainsworth	7/27	8/1	8/5	8/9	8/14
Clay Center	7/21	7/24	7/26	7/28	8/5
North Platte	8/3	8/8	8/11	8/15	8/22
Grant	7/18	7/24	7/27	8/1	8/11

on scouting information from individual fields. To run the management model, you need information on the age distribution of first generation corn borer larvae, as shown above. If you plan to use the computer management model, collect a sample of first generation larvae soon.

This computer program, which is sold exclusively in Nebraska (other versions are available in

Kansas and Iowa), runs on IBM-compatible computers. The cost is \$71.23, which includes state sales tax and shipping and handling. Specify whether you want a 5.25" or 3.5" disk. Send checks payable to University of Nebraska to Nebraska ECB Software, 108 ACB, UNL East Campus, Lincoln NE 68583-0918.

Bob Wright, Extension Entomologist, Clay Center

Kansas insect survey report

The following insect survey report was compiled by the Kansas State Department of Agriculture Plant Protection Division.

Alfalfa insects

In a sweep in Wabaunsee County on July 14, alfalfa weevil adults (no larvae) averaged four per 100 sweeps in bloom stage alfalfa.

A moderate infestation of spotted alfalfa aphids was noted in drought-stressed alfalfa at a site in northeast Montgomery County. Problems with this pest seem to occur most often in alfalfa that is under drought stress

Milo and corn insects

No greenbugs were found in three milo fields surveyed in Pottawatomie County in northeast Kansas and Neosho County in southeast Kansas, but counts averaged about 1.2 per plant in one of two fields in Linn County in east central Kansas, 1.2 per plant in a field in Labette County in southeast Kansas and about one per plant in a field in Coffey County in the east Central area.

Corn rootworm beetles averaged about 2.4 per plant on blister stage corn at a site in Pottawatomie County on July 11. Well over 50%

of the population were northern corn rootworms and the rest were western corn rootworms. Beetles averaged 0.5 and 2 per plant in two corn fields surveyed in Logan County July 11 and 0.1 per plant in a field in Thomas County July 12.

About 40% of the leaves were infested and an estimated 30% of the leaf surfaces damaged by two-spotted spider mites in blister stage corn at a site in Edwards County in south central Kansas July 11.

**Kansas Department of Agriculture
Insect Survey Report**

Palmer drought and crop moisture data For the week ending July 16

	temp (f)	prcp (in)	soil moisture upper lower layers	% fld cpc end (in)	pot evap (in)	run off (in)	crop moist index	chang from prev week	month moist anoml (z) index	prelim-p final-f Palmer drouth index	prcip need to end drouth (in)	
Panhandle	70	1.1	0.00	1.98	22	1.18	0.00	-0.87	0.99	-1.98	-3.69 P	5.60
North Central	71	0.9	0.70	5.21	74	1.20	0.00	0.75	-0.34	3.00	2.08 P	—
Northeast	72	1.4	1.00	6.44	74	1.23	0.00	0.37	-0.11	1.46	1.19 P	—
Central	71	1.9	1.00	7.58	78	1.18	0.00	1.00	0.35	2.78	2.75 P	—
East Central	74	0.9	0.61	8.95	96	1.29	0.00	1.15	-0.77	3.57	2.45 P	—
Southwest	70	2.2	1.00	5.13	61	1.13	0.00	0.67	1.11	1.22	1.77 P	—
South Central	72	1.3	1.00	6.86	79	1.19	0.00	0.76	-0.24	2.56	3.62 P	—
Southeast	74	1.0	0.68	7.47	74	1.27	0.00	0.11	-0.30	0.02	1.00 P	—

For more information on using this index, see the July 1, 94-13, issue of *Cropwatch*.

Temp — Average weekly temperature.

Prpc — Average weekly precipitation.

Soil moisture upper layer — Soil moisture in the top layer (water capacity is one inch and layer depth is 6 inches).

Soil moisture lower layer — Soil moisture in the lower layer (water capacity in inches and for a 4.5 foot layer).

Percent field capacity at the end of the week — The percent of field capacity of moisture in the soil at the end of the week.

Pot. Evap. — Potential evapotranspiration using the Thornwaites method.

Run off — Run off in inches at the end of the week.

Crop moisture index — Crop moisture index (CMI) value.

Change from previous week — The difference between last weeks CMI and this weeks CMI (negative values indicate a drying soil).

Month moist Anomil (Z) Index — The monthly moisture anomaly (Z) index.

Prelim./Final Palmer Drouth Index — Either a preliminary or a final Palmer Drought Severity Index (PDSI).

Precip needed to end drouth — The precipitation in inches in addition to normally required precipitation needed to end drought conditions.

Nebraska weather data as of July 17

Accumulated from	Growing degree days*				Precipitation***				Emer Date	Evapotranspiration rates					
	Fahrenheit, Base 50**				7/11-7/17		4/1-7/17			Prior Week	Prior 3 Days	7/17	Next 3 Days	Next Week	Next Days*****
	5/1	5/10	5/20	5/31	Act	%****	Act	%****							
Ainsworth	1339	1269	1089	905	.51	66	11.22	104	5/5	.23	.23	.27	.30*	.34*	2
Alliance	1231	1151	987	836	.49	100	3.82	41	5/5	.31	.26	.31	.33*	.37*	3
Arthur	1284	1208	1046	876	2.32	314	9.99	98	5/5	.26	.22	.24	.30*	.35*	6
Beatrice	1539	1476	1308	1089	.97	15	11.40	89	5/5	.23	.21	.20	.29*	.33*	4
Central City	1505	1442	1262	1038	NA	NA	8.13	65	5/20	.21	.22	.23	.31*	.34*	0
Clay Center	1514	1452	1279	1069	1.14	148	12.24	98	5/5	.22	.21	.23	.30*	.34*	4
Concord	1393	1342	1174	971	2.94	392	11.46	91	5/20	.19	.21	.26	.28*	.31*	0
Curtis	1456	1381	1210	1021	2.41	326	6.88	62	5/5	.28	.26	.28	.34*	.38*	6
Elgin	1389	1334	1163	957	3.23	419	11.38	95	5/20	.21	.22	.25	.30*	.34*	1
Gordon1	224	1154	985	838	1.46	208	9.02	91	5/20	.28	.29	.32	.33*	.35*	1
Grant	1411	1332	1163	977	1.69	269	4.96	48	5/5	.30	.27	.28	.35*	.40*	3
Holdrege	1497	1425	1256	1056	2.74	356	12.59	103	5/5	.26	.25	.27	.32*	.36*	4
Lincoln	1596	1534	1354	1118	2.53	361	12.91	105	5/5	.25	.20	.19	.29*	.34*	4
McCook	1541	1457	1277	1080	3.70	481	8.74	84	5/5	.29	.27	.29	.34*	.38*	6
Mead	1506	1443	1272	1054	NA	NA	15.07	99	5/5	.23	.21	.22	.29*	.32*	2
North Platte	1389	1315	1144	959	3.23	461	10.71	103	5/5	.24	.23	.27	.31*	.35*	5
O'Neill	1341	1278	1110	925	3.35	435	15.87	140	5/20	.23	.22	.26	.30*	.34*	0
Ord	1439	1372	1200	1001	1.97	281	13.23	120	5/20	.22	.21	.25	.30*	.34*	2
Red Cloud	1536	1471	1307	1099	1.18	142	9.46	78	5/20	.27	.26	.25	.33*	.36*	3
Rising City	1485	1427	1260	1040	2.01	287	13.54	121	5/5	.20	.21	.22	.30*	.33*	2
Scottsbluff	1346	1252	1080	910	.63	129	4.06	5	5/5	.27	.23	.28	.33*	.38*	5
Shelton	1523	1457	1274	1054	1.36	216	10.92	93	5/5	.22	.23	.25	.31*	.35*	3
Sidney	1283	1202	1049	885	.94	169	7.24	80	5/5	.32	.27	.34	.34*	.39*	7
Tarnov	1419	1361	1196	992	1.89	245	11.81	94	5/5	.21	.21	.23	.30*	.33*	2
West Point	1492	1428	1254	1034	2.80	411	12.91	98	5/20	.19	.20	.24	.28*	.31*	1

*Tasseling/silking normally begins at approximately: 1200 GDD's (short season); 1300 GDD's (mid season); or 1400 GDD's (long season)

**Base 50 is used for corn, sorghum and soybean production.

***Precipitation is a seven-day summary ending on July 17.

****Percent of normal precipitation levels.

*****Days indicates number of days ahead or behind normal, relative to accumulated growing degree days on July 17.