

SOYBEAN APHID UPDATE

We continue to get several calls daily about the soybean aphid (also known as the Chinese aphid or Asian Aphid). It is fair to say that probably every county east of Highway 81 and quite a few, if not all, of the counties west of Highway 81 have soybean aphids in at least some fields. In fact, in fields east of Highway 81, if you looked long enough you could likely find at least a few soybean aphids in nearly every field. Here are our observations (and others') and considerations if aphids are detected in your fields:

Numbers here at the Haskell Ag Lab appear, in general, to be higher in dryland than in irrigated soybeans. The aphids tend to be in the newer leaves on the top of the plant, favoring the leaflets that have just expanded or are not even fully expanded yet. Once populations reach over 200 or so per plant, some aphids will be seen on the stems as well. As is common with most insect pests, some varieties seem to be "favored" by the aphid.

The aphids did not appear until about 2-3 weeks ago and with the soybeans currently in the R3 stage or later, there will probably not be a significant yield reduction in the vast majority of fields. That being said, with our limited experience we advise growers to be extremely watchful over the next couple of weeks to observe what is happening with the aphid. We are sure we will get questions on when it will be economical to treat. Looking at data from other state's trials, we have come up with a "rule of thumb" estimate as to the number of aphids needed before considering treating with an insecticide.

If 200 or more aphids per plant are present in 75% or more of the soybeans, it may be advisable to treat. We regard this as a very conservative estimate. Anything lower than this will likely not respond to an insecticide treatment. Remember this is a field average. There will be "hot spots" where numbers could be considerably higher. Try to be objective and consider the field as a whole rather than to concentrate on the worst part of the field to make your decision. One field in South Dakota experienced yield advantages from 2 to 11 bushels when treated on August 9, 2002 in the R5 stage. However, the plants averaged nearly 1000 aphids per plant in this field.

Insecticide control was very good with all treatments in the South Dakota trial, experiencing over 90% control. Rates used were Lorsban and Furadan at 8 oz per acre, Warrior at 1.92 and 3.20 oz per acre,

Asana at 5.8 and 9.6 oz per acre, and Mustang at 3.2 and 4.0 oz per acre. The lower rates worked as well as the higher rates in this trial. At this time of year, resurgence of the aphid population or possible spider mite flare-up will probably not be a problem.

SOYBEAN CYST NEMATODE FIELD DAY

The University of Nebraska Cooperative Extension and Pioneer are holding a Soybean Cyst Nematode Field Day on Monday, August 25, at 10:00 AM in Pierce County. A luncheon meal and refreshments will follow the meeting. The field is located 1 mile west of Weetown on Highway 98, 1 mile south and ½ mile west. From Pierce, go 3 miles east, 1 mile south, and ½ mile east. Follow the signs to the meeting location.

Speaking at the meeting will be John Wilson, Burt Co. Extension Educator, who has been a leader in raising awareness of the nematode, and Leon Streit, a Pioneer Agronomist. Identification of the problem and solutions will be discussed.

SOYBEAN CYST NEMATODE

In our meetings with growers and consultants over the last few years, we have often heard the comment that some area soybean fields are not yielding as well as they have in the past, or that they have not reached yield expectations relative to the type of soil and varieties planted. While many different causes can reduce soybean yields, recent discoveries suggest that you should consider looking into the soybean cyst nematode as a potential yield-robbing problem.

The soybean cyst nematode (SCN) is the most serious pest of soybeans in the United States, causing farmers millions of dollars in losses each year. It is a “stealth” pest in that often SCNs will reveal no specific symptoms and its effects are often not dramatic. Many farmers do not know their fields are infested with SCNs until a severe problem develops. Up to 30% yield losses can occur without obvious symptoms.

Previously, SCNs had been known to occur in eastern Nebraska along the Missouri River; however, new information indicates a larger range across the state, particularly in northeast Nebraska. Recently, UNL plant pathologists reviewed the occurrence based on UNL and private lab records. Positive SCN samples were found across more counties than previously reported. New counties with SCNs were Boyd, Pierce, Antelope, Nance, Boone, Cedar, and Thurston. It is likely that most counties in northeast Nebraska now have SCNs in at least a few fields. Based on this information it would be good to check your fields for soybean cyst nematodes, particularly if you have a field that has been dragging in yield recently.

There are two ways to check for soybean cyst nematode. 1) Examining the roots or 2) submitting a soil sample to a laboratory. On the roots, cysts will appear as cream to brown-colored bodies, which are pinhead in size. They should be present on the roots anytime after the Fourth of July. If you decide to take a soil sample for soybean cyst nematode, this can be done at any time of the year, but populations will be highest at harvest. Often people take soil samples after harvest when things slow down.

Once in a field, soybean cyst nematode will never go away. The key to keeping soybean fields at high production levels is to keep the population of soybean cyst nematode low. Populations are given as the number of SCN eggs per 100 cubic centimeters (cc) of soil (roughly half a coffee cup). Very high populations of soybean cyst nematode will develop in fields that are not managed properly. This is especially true in fields with sandy soils. If the nematodes are not detected soon enough and numbers become high, fields will need to be rotated to a non-host crop for several years. If there is a history of soybean cyst nematode in a field, choose a variety resistant to it. Unfortunately, most varieties in Nebraska have the same sources of resistance. This makes it difficult to rotate sources of resistance, which is recommended as part of an overall management strategy. However, more seed companies are making more SCN resistant soybeans available in Nebraska. If you cannot find a different source of resistance, at least rotate varieties. The most common source of resistance - PI88788 - is not the same in all varieties. The recommended rotation for fields infected with soybean cyst nematode is a six-year corn/soybean rotation (SCN resistant soybean - corn - SCN resistant soybean - corn - susceptible soybean - corn). The susceptible soybean is placed in the rotation so that SCN populations don't develop their own resistance to the resistant soybean plant.

In fields found positive for soybean cyst nematode; plan to monitor the population every few years. Populations can and do change.

Contributing Authors:

Keith J. Jarvi, Editor & IPM Extension Assistant
Charles A. Shapiro, Ext. Soils Specialist
William L. Kranz, Ext. Irrigation Specialist
Stevan Knezevic, Integrated Weed Mgmt. Spec.
Tom Hunt, Extension Entomologist
Dick DeLoughery, Ext. Non-Pt. Pollution Program

8/13/2003

CROP WATER USE SUMMARY

Ending on 8/12/2003

GDD @ Matur.=Acum. GDD at Maturity

---Station---	---Crop---	----Past-----					---Future--			---Stage----	GDD @
		mon/da	---GDD-	---inches	per	day-----	3days	week	3days		
AINSWORTH	Corn	5 1	1770.	0.28	0.27	0.29	0.27	0.26	Dough	7	2450.
AINSWORTH	Corn	5 10	1715.	0.28	0.27	0.29	0.27	0.26	Dough	7	2450.
AINSWORTH	Corn	5 25	1577.	0.28	0.27	0.29	0.27	0.26	Blister	6	2450.
AINSWORTH	Soybean	5 15	1679.	0.28	0.27	0.29	0.27	0.25	Full Seed		2360.
AINSWORTH	Soybean	5 25	1577.	0.28	0.27	0.29	0.27	0.26	Beg Seed		2360.
AINSWORTH	Soybean	6 5	1430.	0.28	0.27	0.29	0.27	0.26	Full Pod		2360.
AINSWORTH	Potato	5 15	2171.	0.21	0.19	0.20	0.19	0.17	Tuber bulk		3655.
AINSWORTH	Potato	5 30	1924.	0.22	0.21	0.23	0.21	0.20	Tuberization		3655.
AINSWORTH	Alfalfa	5 15	2339.	0.26	0.25	0.27	0.25	0.23	Full Cov		4900.
AINSWORTH	Grass	5 15	2339.	0.26	0.25	0.27	0.25	0.23	Nr Full Cov		5000.
BRUNSWICK	Corn	5 1	1815.	0.24	0.24	0.25	0.24	0.23	Dough	7	2450.
BRUNSWICK	Corn	5 10	1755.	0.24	0.24	0.25	0.24	0.23	Dough	7	2450.
BRUNSWICK	Corn	5 25	1626.	0.24	0.24	0.25	0.24	0.23	Blister	6	2450.
BRUNSWICK	Soybean	5 15	1722.	0.24	0.24	0.24	0.23	0.22	Full Seed		2360.
BRUNSWICK	Soybean	5 25	1626.	0.24	0.24	0.25	0.24	0.23	Beg Seed		2360.
BRUNSWICK	Soybean	6 5	1490.	0.24	0.24	0.25	0.24	0.23	Beg Seed		2360.
BRUNSWICK	Potato	5 15	2212.	0.18	0.17	0.17	0.16	0.15	Tuber bulk		3655.
BRUNSWICK	Potato	5 30	1989.	0.19	0.19	0.20	0.19	0.17	Tuberization		3655.
BRUNSWICK	Alfalfa	5 15	2347.	0.22	0.22	0.23	0.22	0.21	Full Cov		4900.
BRUNSWICK	Grass	5 15	2347.	0.22	0.22	0.23	0.22	0.21	Nr Full Cov		5000.
CENTRALCITY	Corn	5 1	1891.	0.23	0.22	0.21	0.21	0.21	Dough	7	2450.
CENTRALCITY	Corn	5 10	1823.	0.23	0.22	0.21	0.21	0.21	Dough	7	2450.
CENTRALCITY	Corn	5 25	1671.	0.23	0.22	0.21	0.21	0.21	Blister	6	2450.
CENTRALCITY	Soybean	5 15	1777.	0.22	0.21	0.20	0.19	0.18	Full Seed		2360.
CENTRALCITY	Soybean	5 25	1671.	0.23	0.22	0.21	0.21	0.20	Beg Seed		2360.
CENTRALCITY	Soybean	6 5	1519.	0.23	0.22	0.21	0.21	0.21	Beg Seed		2360.
CENTRALCITY	Potato	5 15	2281.	0.16	0.14	0.14	0.14	0.13	Tuber bulk		3655.
CENTRALCITY	Potato	5 30	2039.	0.18	0.17	0.16	0.16	0.15	Tuber bulk		3655.
CENTRALCITY	Alfalfa	5 15	2406.	0.21	0.20	0.19	0.19	0.19	Full Cov		4900.
CENTRALCITY	Grass	5 15	2406.	0.21	0.20	0.19	0.19	0.19	Nr Full Cov		5000.
ELGIN	Corn	5 1	1801.	0.27	0.25	0.25	0.25	0.24	Dough	7	2450.
ELGIN	Corn	5 10	1745.	0.27	0.25	0.25	0.25	0.24	Dough	7	2450.
ELGIN	Corn	5 25	1615.	0.27	0.25	0.25	0.25	0.24	Blister	6	2450.
ELGIN	Soybean	5 15	1710.	0.27	0.25	0.25	0.24	0.23	Full Seed		2360.
ELGIN	Soybean	5 25	1615.	0.27	0.25	0.25	0.25	0.24	Beg Seed		2360.
ELGIN	Soybean	6 5	1476.	0.27	0.25	0.25	0.25	0.24	Beg Seed		2360.
ELGIN	Potato	5 15	2192.	0.19	0.18	0.17	0.17	0.16	Tuber bulk		3655.
ELGIN	Potato	5 30	1964.	0.21	0.20	0.20	0.19	0.18	Tuberization		3655.
ELGIN	Alfalfa	5 15	2357.	0.24	0.23	0.23	0.22	0.22	Full Cov		4900.
ELGIN	Grass	5 15	2357.	0.24	0.23	0.23	0.22	0.22	Nr Full Cov		5000.
MONROE	Corn	5 1	1951.	0.26	0.25	0.28	0.25	0.22	beg Dent	8	2450.
MONROE	Corn	5 10	1883.	0.26	0.26	0.28	0.25	0.23	Dough	7	2450.
MONROE	Corn	5 25	1739.	0.26	0.26	0.28	0.26	0.23	Dough	7	2450.
MONROE	Soybean	5 15	1841.	0.25	0.23	0.25	0.22	0.19	Full Seed		2360.
MONROE	Soybean	5 25	1739.	0.26	0.25	0.27	0.24	0.21	Full Seed		2360.
MONROE	Soybean	6 5	1587.	0.26	0.26	0.28	0.26	0.23	Beg Seed		2360.
MONROE	Potato	5 15	2360.	0.17	0.16	0.17	0.15	0.14	Tuber bulk		3655.
MONROE	Potato	5 30	2118.	0.20	0.19	0.20	0.18	0.16	Tuber bulk		3655.

MONROE	Alfalfa	5	15	2465.	0.24	0.23	0.26	0.23	0.21	Full Cov	4900.
MONROE	Grass	5	15	2465.	0.24	0.23	0.26	0.23	0.21	Nr Full Cov	5000.
CONCORD (NE)	Corn	5	1	1757.	0.23	0.24	0.27	0.25	0.23	Dough	7 2450.
CONCORD (NE)	Corn	5	10	1697.	0.23	0.24	0.27	0.25	0.23	Dough	7 2450.
CONCORD (NE)	Corn	5	25	1577.	0.23	0.24	0.27	0.25	0.23	Blister	6 2450.
CONCORD (NE)	Soybean	5	15	1666.	0.23	0.24	0.27	0.24	0.22	Beg Seed	2360.
CONCORD (NE)	Soybean	5	25	1577.	0.23	0.24	0.27	0.25	0.23	Beg Seed	2360.
CONCORD (NE)	Soybean	6	5	1446.	0.23	0.24	0.27	0.25	0.23	Beg Seed	2360.
CONCORD (NE)	Potato	5	15	2124.	0.17	0.18	0.19	0.18	0.16	Tuber bulk	3655.
CONCORD (NE)	Potato	5	30	1904.	0.18	0.19	0.21	0.19	0.18	Tuberization	3655.
CONCORD (NE)	Alfalfa	5	15	2341.	0.21	0.22	0.24	0.22	0.21	Full Cov	4900.
CONCORD (NE)	Grass	5	15	2341.	0.21	0.22	0.24	0.22	0.21	Nr Full Cov	5000.
ONEILL	Corn	5	1	1762.	0.30	0.28	0.31	0.28	0.26	Dough	7 2450.
ONEILL	Corn	5	10	1707.	0.30	0.28	0.31	0.28	0.26	Dough	7 2450.
ONEILL	Corn	5	25	1581.	0.30	0.28	0.31	0.28	0.26	Blister	6 2450.
ONEILL	Soybean	5	15	1676.	0.30	0.28	0.31	0.28	0.25	Beg Seed	2360.
ONEILL	Soybean	5	25	1581.	0.30	0.28	0.31	0.28	0.26	Beg Seed	2360.
ONEILL	Soybean	6	5	1447.	0.30	0.28	0.31	0.28	0.26	Beg Seed	2360.
ONEILL	Potato	5	15	2159.	0.22	0.20	0.22	0.20	0.18	Tuber bulk	3655.
ONEILL	Potato	5	30	1938.	0.23	0.22	0.24	0.22	0.20	Tuberization	3655.
ONEILL	Alfalfa	5	15	2305.	0.27	0.25	0.28	0.26	0.24	Full Cov	4900.
ONEILL	Grass	5	15	2305.	0.27	0.25	0.28	0.26	0.24	Nr Full Cov	5000.
WESTPOINT	Corn	5	1	1857.	0.24	0.25	0.28	0.25	0.22	Dough	7 2450.
WESTPOINT	Corn	5	10	1795.	0.24	0.25	0.28	0.25	0.23	Dough	7 2450.
WESTPOINT	Corn	5	25	1669.	0.24	0.25	0.28	0.25	0.23	Blister	6 2450.
WESTPOINT	Soybean	5	15	1758.	0.24	0.24	0.26	0.23	0.20	Full Seed	2360.
WESTPOINT	Soybean	5	25	1669.	0.24	0.25	0.28	0.25	0.22	Beg Seed	2360.
WESTPOINT	Soybean	6	5	1527.	0.24	0.25	0.28	0.25	0.23	Beg Seed	2360.
WESTPOINT	Potato	5	15	2252.	0.17	0.17	0.18	0.16	0.14	Tuber bulk	3655.
WESTPOINT	Potato	5	30	2033.	0.19	0.19	0.21	0.19	0.16	Tuber bulk	3655.
WESTPOINT	Alfalfa	5	15	2382.	0.22	0.23	0.25	0.23	0.21	Full Cov	4900.
WESTPOINT	Grass	5	15	2382.	0.22	0.23	0.25	0.23	0.21	Nr Full Cov	5000.
MEAD	Corn	5	1	1898.	0.22	0.23	0.24	0.23	0.21	Dough	7 2450.
MEAD	Corn	5	10	1826.	0.22	0.23	0.24	0.23	0.21	Dough	7 2450.
MEAD	Corn	5	25	1680.	0.22	0.23	0.24	0.23	0.22	Dough	7 2450.
MEAD	Soybean	5	15	1781.	0.22	0.22	0.22	0.21	0.19	Full Seed	2360.
MEAD	Soybean	5	25	1680.	0.22	0.23	0.24	0.22	0.20	Full Seed	2360.
MEAD	Soybean	6	5	1526.	0.22	0.23	0.24	0.23	0.22	Beg Seed	2360.
MEAD	Potato	5	15	2290.	0.15	0.15	0.16	0.14	0.13	Tuber bulk	3655.
MEAD	Potato	5	30	2053.	0.17	0.17	0.18	0.17	0.15	Tuber bulk	3655.
MEAD	Alfalfa	4	15	2857.	0.20	0.21	0.22	0.21	0.20	Full Cov	4900.
MEAD	Grass	4	15	2857.	0.20	0.20	0.21	0.20	0.18	Full Cover	5000.
YORK	Corn	5	1	1922.	0.24	0.23	0.22	0.22	0.21	beg Dent	8 2450.
YORK	Corn	5	10	1852.	0.24	0.23	0.22	0.22	0.22	Dough	7 2450.
YORK	Corn	5	25	1696.	0.24	0.23	0.22	0.22	0.22	Dough	7 2450.
YORK	Soybean	5	15	1805.	0.23	0.21	0.20	0.20	0.19	Full Seed	2360.
YORK	Soybean	5	25	1696.	0.24	0.23	0.22	0.22	0.21	Full Seed	2360.
YORK	Soybean	6	5	1547.	0.24	0.23	0.22	0.22	0.22	Beg Seed	2360.
YORK	Potato	5	15	2329.	0.16	0.15	0.14	0.14	0.13	Tuber bulk	3655.
YORK	Potato	5	30	2089.	0.19	0.17	0.17	0.16	0.15	Tuber bulk	3655.
YORK	Alfalfa	4	15	2871.	0.22	0.21	0.20	0.20	0.20	Full Cov	4900.
YORK	Grass	4	15	2871.	0.21	0.20	0.20	0.19	0.19	Full Cover	5000.