

SOYBEAN APHID UPDATE

Quite a bit has happened on the soybean aphid front in northeast Nebraska over the last week. We observed a real jump in populations during the week of August 10 through 16. During that time some growers have opted to spray their fields and some have not. We have been “treated” to an amazing example of the reproductive potential of the aphids. Talking to quite a few consultants, growers and dealers has led us to conclude that populations have not been very high until that week.

Should you treat or not? A heavy rainfall may wash aphids off the plant, but the weather forecast as of this writing (Tuesday AM) is not very promising. Several fields scouted on Monday and Tuesday showed a huge leap in lady beetle and parasitoid numbers and we believe that many aphid populations are now stabilizing or even declining. Looking for predators, especially lady beetles, is now going to become a key decision making factor. How many lady beetles will be needed to stabilize or reduce aphid populations? Fields where we believe the aphid populations were being reduced had several hundred aphids per plant and 1 or more lady beetles per foot of row visible on the tops of the soybean plant.

The hot weather of the last few days may have reduced the aphids’ reproductive potential. The aphids prefer moderate temperatures for the most rapid reproduction. When will they leave the fields? That is the big question, which unfortunately we have no sure answer for.

The Catch-22 is that the longer you wait to treat, the less likely the return on investment as the beans continue to mature and the aphids get nearer the time where they will leave the fields to search for overwintering sites. At the current time with most beans in the R5 stage we feel that at least 400 or more aphids per plant would be necessary to get a possible economic return from treating (this is assuming that populations are still increasing in that particular field). Fields that are delayed in maturity (less than R5) may benefit more from treating as the yield potential may be affected more.

The bottom line is that this is a brand new problem behaving in a way that has not been seen before. We can only make educated guesses, put out test plots, and make careful observations that will help in future decision making.

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

8/20/2003

CROP WATER USE SUMMARY

Ending on 8/19/2003

GDD @ Matur.=Acum. GDD at Maturity

--Station--	-Crop---	----Past-----		--Future--		---Stage---	GDD @			
		-Emerg	Accum	week	3days			day	3days	week
		mon/da	-GDD-	----inches		per	day----	---Descrip--	Matur	
AINSWORTH	Corn	5 1	1939.	0.32	0.31	0.33	0.29	0.27	beg Dent 8	2450.
AINSWORTH	Corn	5 10	1885.	0.32	0.31	0.33	0.30	0.27	Dough 7	2450.
AINSWORTH	Corn	5 25	1747.	0.32	0.31	0.33	0.30	0.28	Dough 7	2450.
AINSWORTH	Soybean	5 15	1848.	0.30	0.28	0.29	0.26	0.22	Full Seed	2360.
AINSWORTH	Soybean	5 25	1747.	0.31	0.30	0.31	0.28	0.25	Full Seed	2360.
AINSWORTH	Soybean	6 5	1599.	0.32	0.31	0.33	0.30	0.27	Beg Seed	2360.
AINSWORTH	Potato	5 15	2391.	0.20	0.19	0.20	0.18	0.16	Tuber bulk	3655.
AINSWORTH	Potato	5 30	2144.	0.24	0.23	0.23	0.21	0.19	Tuber bulk	3655.
AINSWORTH	Alfalfa	5 15	2548.	0.29	0.28	0.30	0.27	0.25	Full Cov	4900.
AINSWORTH	Grass	5 15	2548.	0.29	0.28	0.30	0.27	0.25	Nr Full Cov	5000.
BRUNSWICK	Corn	5 1	1991.	0.33	0.35	0.33	0.28	0.25	beg Dent 8	2450.
BRUNSWICK	Corn	5 10	1931.	0.34	0.36	0.34	0.29	0.26	beg Dent 8	2450.
BRUNSWICK	Corn	5 25	1802.	0.34	0.36	0.34	0.30	0.27	Dough 7	2450.
BRUNSWICK	Soybean	5 15	1898.	0.30	0.31	0.29	0.24	0.19	Full Seed	2360.
BRUNSWICK	Soybean	5 25	1802.	0.32	0.33	0.31	0.27	0.23	Full Seed	2360.
BRUNSWICK	Soybean	6 5	1666.	0.34	0.36	0.34	0.29	0.26	Beg Seed	2360.
BRUNSWICK	Potato	5 15	2442.	0.21	0.21	0.20	0.17	0.14	Tuber bulk	3655.
BRUNSWICK	Potato	5 30	2219.	0.24	0.25	0.23	0.20	0.17	Tuber bulk	3655.
BRUNSWICK	Alfalfa	5 15	2563.	0.31	0.33	0.31	0.27	0.24	Full Cov	4900.
BRUNSWICK	Grass	5 15	2563.	0.31	0.33	0.31	0.27	0.24	Nr Full Cov	5000.
CENTRALCITY	Corn	5 1	2064.	0.24	0.23	0.20	0.19	0.19	beg Dent 8	2450.
CENTRALCITY	Corn	5 10	1996.	0.24	0.24	0.21	0.20	0.19	beg Dent 8	2450.
CENTRALCITY	Corn	5 25	1844.	0.25	0.24	0.22	0.21	0.21	Dough 7	2450.
CENTRALCITY	Soybean	5 15	1950.	0.21	0.20	0.17	0.15	0.12	Beg Mature	2360.
CENTRALCITY	Soybean	5 25	1844.	0.23	0.22	0.19	0.18	0.17	Full Seed	2360.
CENTRALCITY	Soybean	6 5	1692.	0.25	0.24	0.21	0.20	0.20	Full Seed	2360.
CENTRALCITY	Potato	5 15	2507.	0.15	0.14	0.12	0.11	0.10	Tuber bulk	3655.
CENTRALCITY	Potato	5 30	2264.	0.17	0.16	0.14	0.14	0.13	Tuber bulk	3655.
CENTRALCITY	Alfalfa	5 15	2619.	0.22	0.22	0.20	0.19	0.19	Full Cov	4900.
CENTRALCITY	Grass	5 15	2619.	0.22	0.22	0.20	0.19	0.19	Full Cover	5000.
ELGIN	Corn	5 1	1974.	0.35	0.37	0.33	0.29	0.26	beg Dent 8	2450.
ELGIN	Corn	5 10	1918.	0.35	0.37	0.33	0.30	0.27	Dough 7	2450.
ELGIN	Corn	5 25	1788.	0.35	0.37	0.33	0.30	0.27	Dough 7	2450.
ELGIN	Soybean	5 15	1882.	0.32	0.33	0.29	0.25	0.20	Full Seed	2360.
ELGIN	Soybean	5 25	1788.	0.34	0.35	0.31	0.27	0.24	Full Seed	2360.
ELGIN	Soybean	6 5	1649.	0.35	0.37	0.33	0.30	0.27	Beg Seed	2360.

ELGIN	Potato	5	15	2418.	0.22	0.23	0.20	0.17	0.15	Tuber bulk	3655.
ELGIN	Potato	5	30	2190.	0.26	0.26	0.23	0.20	0.18	Tuber bulk	3655.
ELGIN	Alfalfa	5	15	2571.	0.32	0.34	0.30	0.27	0.25	Full Cov	4900.
ELGIN	Grass	5	15	2571.	0.32	0.34	0.30	0.27	0.25	Nr Full Cov	5000.
MONROE	Corn	5	1	2133.	0.28	0.28	0.24	0.21	0.19	beg Dent 8	2450.
MONROE	Corn	5	10	2065.	0.29	0.29	0.25	0.22	0.20	beg Dent 8	2450.
MONROE	Corn	5	25	1921.	0.30	0.31	0.26	0.24	0.22	beg Dent 8	2450.
MONROE	Soybean	5	15	2022.	0.23	0.20	0.15	0.12	0.09	Beg Mature	2360.
MONROE	Soybean	5	25	1921.	0.27	0.26	0.22	0.19	0.15	Full Seed	2360.
MONROE	Soybean	6	5	1769.	0.30	0.29	0.25	0.22	0.20	Full Seed	2360.
MONROE	Potato	5	15	2594.	0.17	0.16	0.13	0.12	0.10	Tuber bulk	3655.
MONROE	Potato	5	30	2351.	0.20	0.20	0.16	0.15	0.13	Tuber bulk	3655.
MONROE	Alfalfa	5	15	2686.	0.27	0.28	0.24	0.22	0.21	Full Cov	4900.
MONROE	Grass	5	15	2686.	0.27	0.28	0.24	0.22	0.20	Full Cover	5000.
CONCORD (NE)	Corn	5	1	1927.	0.28	0.28	0.26	0.24	0.23	beg Dent 8	2450.
CONCORD (NE)	Corn	5	10	1867.	0.28	0.28	0.26	0.24	0.24	Dough 7	2450.
CONCORD (NE)	Corn	5	25	1747.	0.28	0.28	0.26	0.25	0.24	Dough 7	2450.
CONCORD (NE)	Soybean	5	15	1835.	0.27	0.25	0.23	0.21	0.20	Full Seed	2360.
CONCORD (NE)	Soybean	5	25	1747.	0.28	0.27	0.24	0.23	0.22	Full Seed	2360.
CONCORD (NE)	Soybean	6	5	1616.	0.28	0.28	0.26	0.24	0.23	Beg Seed	2360.
CONCORD (NE)	Potato	5	15	2344.	0.19	0.18	0.16	0.15	0.14	Tuber bulk	3655.
CONCORD (NE)	Potato	5	30	2123.	0.21	0.21	0.19	0.17	0.16	Tuber bulk	3655.
CONCORD (NE)	Alfalfa	5	15	2552.	0.26	0.25	0.23	0.22	0.22	Full Cov	4900.
CONCORD (NE)	Grass	5	15	2552.	0.26	0.25	0.23	0.22	0.22	Nr Full Cov	5000.
ONEILL	Corn	5	1	1932.	0.37	0.37	0.39	0.33	0.29	beg Dent 8	2450.
ONEILL	Corn	5	10	1877.	0.37	0.37	0.39	0.33	0.29	Dough 7	2450.
ONEILL	Corn	5	25	1750.	0.37	0.37	0.39	0.34	0.30	Dough 7	2450.
ONEILL	Soybean	5	15	1845.	0.34	0.33	0.34	0.29	0.24	Full Seed	2360.
ONEILL	Soybean	5	25	1750.	0.36	0.36	0.37	0.31	0.27	Full Seed	2360.
ONEILL	Soybean	6	5	1616.	0.37	0.37	0.39	0.34	0.29	Beg Seed	2360.
ONEILL	Potato	5	15	2381.	0.24	0.23	0.24	0.20	0.17	Tuber bulk	3655.
ONEILL	Potato	5	30	2160.	0.27	0.27	0.27	0.23	0.20	Tuber bulk	3655.
ONEILL	Alfalfa	5	15	2514.	0.33	0.34	0.35	0.30	0.27	Full Cov	4900.
ONEILL	Grass	5	15	2514.	0.33	0.34	0.35	0.30	0.27	Nr Full Cov	5000.
WESTPOINT	Corn	5	1	2027.	0.28	0.28	0.22	0.21	0.20	beg Dent 8	2450.
WESTPOINT	Corn	5	10	1966.	0.28	0.28	0.23	0.21	0.21	beg Dent 8	2450.
WESTPOINT	Corn	5	25	1839.	0.29	0.29	0.23	0.22	0.22	Dough 7	2450.
WESTPOINT	Soybean	5	15	1928.	0.25	0.24	0.19	0.17	0.14	Full Seed	2360.
WESTPOINT	Soybean	5	25	1839.	0.27	0.26	0.21	0.19	0.17	Full Seed	2360.
WESTPOINT	Soybean	6	5	1697.	0.28	0.28	0.23	0.22	0.20	Full Seed	2360.
WESTPOINT	Potato	5	15	2479.	0.17	0.17	0.13	0.12	0.11	Tuber bulk	3655.
WESTPOINT	Potato	5	30	2260.	0.20	0.19	0.15	0.14	0.14	Tuber bulk	3655.
WESTPOINT	Alfalfa	5	15	2592.	0.26	0.26	0.21	0.20	0.20	Full Cov	4900.
WESTPOINT	Grass	5	15	2592.	0.26	0.26	0.21	0.20	0.20	Nr Full Cov	5000.
MEAD	Corn	5	1	2067.	0.26	0.26	0.20	0.19	0.18	beg Dent 8	2450.
MEAD	Corn	5	10	1996.	0.27	0.27	0.21	0.20	0.19	beg Dent 8	2450.
MEAD	Corn	5	25	1849.	0.27	0.27	0.21	0.21	0.20	Dough 7	2450.
MEAD	Soybean	5	15	1950.	0.23	0.22	0.16	0.15	0.12	Beg Mature	2360.
MEAD	Soybean	5	25	1849.	0.25	0.25	0.19	0.18	0.16	Full Seed	2360.
MEAD	Soybean	6	5	1695.	0.27	0.27	0.21	0.20	0.19	Full Seed	2360.
MEAD	Potato	5	15	2518.	0.16	0.15	0.12	0.11	0.10	Tuber bulk	3655.
MEAD	Potato	5	30	2281.	0.19	0.18	0.14	0.13	0.13	Tuber bulk	3655.
MEAD	Alfalfa	4	15	3065.	0.25	0.25	0.19	0.19	0.19	Full Cov	4900.
MEAD	Grass	4	15	3065.	0.23	0.23	0.18	0.17	0.17	Full Cover	5000.