

Soybean Aphid Update

Yes, it appears the soybean aphids are finally going to up and leave area soybean fields. In untreated plots at the Haskell Ag lab, numbers have dropped from over 1000 per plant to 300, with the combination of predators, parasitoids and maturing beans finally making a significant dent in populations. We are in great need of numbers, yield data, and other information to help us understand the impact of soybean aphids in area fields. For example, we do not know how harmful the aphids are in irrigated fields, where moisture shortages are not a concern. Not knowing the true impact of aphids in irrigated fields could cause significant overtreating. Ideally we would need aphid numbers at the time of treatment, date of treatment, variety, irrigated or dryland, and yield data from untreated and treated areas. We will of course get data from our plots at the Haskell Ag lab, but the more data we receive the better our knowledge will be in the future. (KJ)

Don't Stop Irrigating Soybeans Too Soon This Season

Continuing drought and lagging crop development in several areas of Nebraska make it especially important for soybean growers to carefully plan their final irrigations and not stop watering too soon. Final irrigations need to be based on soybean plant needs and not dates on the calendar, especially for crops planted late.

While irrigation has ended for corn, soybean irrigation may still be needed for the next couple of weeks in the eastern two-thirds of the state. Peak moisture needs of soybeans usually follow those of corn by about three weeks. Most of the soybean crop's water needs are during pod fill. Irrigation will help with pod fill, but not add any more pods.

Producers often are surprised at how many inches of water are needed to finish out the soybean crop. Timing also is important. Shutting off too early reduces bean size, sometimes greatly reducing yield. Irrigating later than necessary reduces room for storing off-season precipitation, increases the potential for leaching nitrogen and adds to production costs. Finding a balance between the two requires knowing how much water is available in the root zone and how much more water the crop will need to reach maturity. Water requirements to reach maturity depend on the crop growth stage. It's especially important to note that even though soybeans may appear to be shutting down when they start turning yellow, they still need about two inches of water to reach maturity. The last irrigation usually can be applied two to four weeks before soybeans are mature, depending on the water-holding capacity of the soil. This will leave room for storing off-season precipitation. For more information on predicting final irrigations, including determining soil moisture, consult Nebraska Cooperative Extension NebGuide G82-602-A, Predicting the Last Irrigation for Corn, Grain Sorghum and Soybeans, available online at <http://ianrpubs.unl.edu/irrigation/g602.htm>, or G84-690-A, Estimating Soil Moisture by Appearance and Feel, available online at <http://ianrpubs.unl.edu/irrigation/g690.htm>. Both are also available at local extension offices.

More details about scheduling the last irrigation, including a worksheet to help determine last irrigation, are available in Crop Watch, Extension's crop production newsletter, on the Web at <http://cropwatch.unl.edu/archives/2004/crop04-20.htm#irrigation>. (BK)

Helping Cattle Adapt To And Cope With Winter Stress

Cattle producers that are under-prepared for cold, wet fall and winter weather often see decreased feed efficiencies and fewer cattle feeding profits. For every animal that dies as a result of climatic effects, the overall economic loss to the feedyard can approach several thousand dollars. This includes the dead animal, plus the loss of performance of other cattle in the feedlot. Rarely are environmental conditions perfect for feeding cattle, however, differences between a good winter for feeding cattle and a bad winter for feeding cattle can be small. As opposed to a winter that is just cold or snowy, the combination of climatic factors and how often environmental conditions change are of greater concern.

In general, winters that result in significant stress in cattle fall into two categories: 1. Winters in which we have above normal snow and snowstorms are particularly stressful if there are three to five significant snow events during the season, and periods in which snowstorms occur at five to ten day intervals. Under these conditions, which are particularly stressful on animals, temperatures often cycle between slightly above normal to well below normal, with sudden drops in temperature accompanied by high winds and blizzard conditions. 2. Winters that usually cause even greater problems for cattle feeders are those in which we have early and above normal moisture. These winters can even be accompanied by normal to above normal temperatures. Above normal late fall precipitation frequently results in muddy lot conditions. If moisture continues throughout the winter, feedlot surfaces and cattle never get dry, resulting in poor cattle performance and compromised immunity in young cattle into spring.

In the early 1980's and 1990's we experienced very wet winters, while during the winter of 1996-97, the Northern Plains suffered from frequent snowstorms and high winds. Also, in 2000-01, many cattle feeders had to contend with muddy pens from late fall into spring, as a result of an above normal moisture pattern and limited freezing of feedlot surfaces. While producers can't eliminate cold stress, using bedding, providing wind protection, and increasing pen space can help cattle adapt to cold conditions.

Providing a small amount of bedding for cattle during very cold and/or wet days can make a big improvement in gain and feed efficiency. When used properly, bedding can increase returns \$10-15/head, above bedding costs, during bad winters. If you're going to use bedding, put it in the pen after you feed, not before. Regardless of season, dry areas are always needed to allow animals to spread out and lay down. Dry feedlot surfaces will allow cattle to stay dry and the hair coat to insulate the cattle against cold conditions. The more you concentrate the animals, the more problems you will have if wet weather persists. Under wet conditions, pen space requirements need to be doubled from ~200 to 400 ft² of space per animal. Also, providing windbreaks for newly received cattle will help get new cattle on feed and other cattle to stay on feed. Cattle that are within 45 days of harvest are very susceptible to going off-feed under both heat and cold stress and can also benefit from shelterbelts. Cattle that are to be finished in January and February will generally benefit from being fed in pens with wind protection. Wind protection is less important for cattle that have been accustomed to feedlot conditions, eating well and finished in warmer months of the year. Dr. Terry Mader, University of Nebraska Beef Cattle Specialist

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

9/ 9/2004

CROP WATER USE SUMMARY

Ending on 9/ 8/2004

GDD @ Matur.=Acum. GDD at Maturity

--Station--	Crop	-Emerg mon/da	Accum -GDD-	----Past-----			--Future--		---Stage----	GDD @
				week	3days	day	3days	week		
				inches	per	day	day		---Descrip---	Matur
AINSWORTH	Alfalfa	4 1	3441.	0.23	0.25	0.27	0.25	0.22	Full Cov	5000.
AINSWORTH	Corn	5 10	2011.	0.25	0.27	0.30	0.27	0.24	Dough 7	2600.
AINSWORTH	Corn	5 10	2011.	0.25	0.27	0.30	0.27	0.25	Dough 7	2700.
AINSWORTH	Corn	5 10	2011.	0.25	0.27	0.30	0.27	0.25	Dough 7	2800.
AINSWORTH	Corn	5 1	2127.	0.25	0.27	0.30	0.26	0.24	beg Dent 8	2700.
AINSWORTH	Grass	4 1	3441.	0.18	0.20	0.21	0.19	0.17	Full Cover	5000.
AINSWORTH	Potato	5 25	2430.	0.02	0.01	0.02	0.01	0.01	Mature	2400.
AINSWORTH	Soybean	5 25	1869.	0.24	0.26	0.28	0.25	0.22	Full Seed	2550.
AINSWORTH	Soybean	6 5	1731.	0.25	0.27	0.30	0.27	0.24	Beg Seed	2550.
AINSWORTH	Wheat	4 1	3441.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
BRUNSWICK	Alfalfa	4 1	3591.	0.28	0.25	0.29	0.25	0.23	Full Cov	5000.
BRUNSWICK	Corn	5 10	2114.	0.31	0.27	0.30	0.26	0.24	beg Dent 8	2600.
BRUNSWICK	Corn	5 10	2114.	0.31	0.28	0.31	0.27	0.24	beg Dent 8	2700.
BRUNSWICK	Corn	5 10	2114.	0.31	0.28	0.31	0.28	0.25	Dough 7	2800.
BRUNSWICK	Corn	5 1	2226.	0.30	0.27	0.30	0.26	0.23	beg Dent 8	2700.
BRUNSWICK	Grass	4 1	3591.	0.22	0.19	0.21	0.19	0.17	Full Cover	5000.
BRUNSWICK	Potato	5 25	2505.	0.01	0.00	0.04	0.02	0.01	Mature	2400.
BRUNSWICK	Soybean	5 25	1950.	0.29	0.25	0.28	0.24	0.22	Full Seed	2550.
BRUNSWICK	Soybean	6 5	1801.	0.31	0.28	0.31	0.27	0.24	Full Seed	2550.
BRUNSWICK	Wheat	4 1	3591.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
CENTRALCITY	Alfalfa	4 1	3732.	0.26	0.23	0.24	0.22	0.21	Full Cov	5000.
CENTRALCITY	Corn	5 10	2207.	0.27	0.23	0.25	0.22	0.20	beg Dent 8	2600.
CENTRALCITY	Corn	5 10	2207.	0.28	0.24	0.25	0.23	0.21	beg Dent 8	2700.
CENTRALCITY	Corn	5 10	2207.	0.29	0.25	0.26	0.24	0.22	beg Dent 8	2800.
CENTRALCITY	Corn	5 1	2346.	0.27	0.23	0.24	0.21	0.19	beg Dent 8	2700.
CENTRALCITY	Grass	4 1	3732.	0.20	0.17	0.18	0.16	0.15	Full Cover	5000.
CENTRALCITY	Potato	5 25	2586.	0.00	0.00	0.00	0.00	0.00	Mature	2400.
CENTRALCITY	Soybean	5 25	2011.	0.25	0.21	0.23	0.20	0.18	Full Seed	2550.
CENTRALCITY	Soybean	6 5	1843.	0.28	0.24	0.25	0.23	0.21	Full Seed	2550.
CENTRALCITY	Wheat	4 1	3732.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
ELGIN	Alfalfa	4 1	3559.	0.28	0.25	0.29	0.26	0.24	Full Cov	5000.
ELGIN	Corn	5 10	2058.	0.30	0.28	0.31	0.28	0.26	beg Dent 8	2600.
ELGIN	Corn	5 10	2058.	0.31	0.28	0.31	0.28	0.26	Dough 7	2700.
ELGIN	Corn	5 10	2058.	0.31	0.28	0.31	0.28	0.27	Dough 7	2800.
ELGIN	Corn	5 1	2173.	0.30	0.27	0.30	0.27	0.25	beg Dent 8	2700.
ELGIN	Grass	4 1	3559.	0.22	0.19	0.22	0.20	0.18	Full Cover	5000.
ELGIN	Potato	5 25	2464.	0.01	0.00	0.03	0.02	0.01	Mature	2400.
ELGIN	Soybean	5 25	1906.	0.29	0.26	0.29	0.26	0.23	Full Seed	2550.
ELGIN	Soybean	6 5	1762.	0.31	0.28	0.31	0.28	0.26	Full Seed	2550.
ELGIN	Wheat	4 1	3559.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
MEADAGROFARM	Alfalfa	4 1	3821.	0.22	0.19	0.18	0.18	0.18	Full Cov	5000.
MEADAGROFARM	Corn	5 10	2272.	0.22	0.19	0.18	0.17	0.17	beg Dent 8	2600.
MEADAGROFARM	Corn	5 10	2272.	0.23	0.20	0.18	0.18	0.18	beg Dent 8	2700.
MEADAGROFARM	Corn	5 10	2272.	0.24	0.21	0.19	0.19	0.19	beg Dent 8	2800.
MEADAGROFARM	Corn	5 1	2412.	0.21	0.18	0.16	0.16	0.15	fullDent 9	2700.
MEADAGROFARM	Grass	4 1	3821.	0.16	0.14	0.13	0.13	0.13	Full Cover	5000.
MEADAGROFARM	Potato	5 25	2611.	0.00	0.00	0.00	0.00	0.00	Mature	2400.
MEADAGROFARM	Soybean	5 25	2051.	0.21	0.18	0.16	0.16	0.14	Full Seed	2550.
MEADAGROFARM	Soybean	6 5	1887.	0.23	0.20	0.18	0.18	0.18	Full Seed	2550.
MEADAGROFARM	Wheat	4 1	3821.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
MONROE	Alfalfa	4 1	3799.	0.26	0.22	0.23	0.21	0.20	Full Cov	5000.
MONROE	Corn	5 10	2245.	0.27	0.22	0.22	0.21	0.19	beg Dent 8	2600.
MONROE	Corn	5 10	2245.	0.28	0.23	0.23	0.22	0.21	beg Dent 8	2700.
MONROE	Corn	5 10	2245.	0.29	0.24	0.24	0.22	0.21	beg Dent 8	2800.

MONROE	Corn	5	1	2385.	0.26	0.21	0.21	0.20	0.18	fullDent 9	2700.
MONROE	Grass	4	1	3799.	0.19	0.16	0.16	0.15	0.14	Full Cover	5000.
MONROE	Potato	5	25	2627.	0.00	0.00	0.00	0.00	0.00	Mature	2400.
MONROE	Soybean	5	25	2052.	0.25	0.20	0.20	0.18	0.16	Full Seed	2550.
MONROE	Soybean	6	5	1885.	0.28	0.23	0.23	0.21	0.20	Full Seed	2550.
MONROE	Wheat	4	1	3799.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
CONCORD(NE)	Alfalfa	4	1	3534.	0.25	0.22	0.22	0.20	0.20	Full Cov	5000.
CONCORD(NE)	Corn	5	10	2022.	0.27	0.25	0.24	0.22	0.22	beg Dent 8	2600.
CONCORD(NE)	Corn	5	10	2022.	0.27	0.25	0.24	0.23	0.22	Dough 7	2700.
CONCORD(NE)	Corn	5	10	2022.	0.27	0.25	0.24	0.23	0.22	Dough 7	2800.
CONCORD(NE)	Corn	5	1	2130.	0.27	0.24	0.23	0.22	0.21	beg Dent 8	2700.
CONCORD(NE)	Grass	4	1	3534.	0.19	0.17	0.16	0.16	0.15	Full Cover	5000.
CONCORD(NE)	Potato	5	25	2403.	0.02	0.02	0.02	0.01	0.01	Mature	2400.
CONCORD(NE)	Soybean	5	25	1873.	0.26	0.23	0.22	0.21	0.20	Full Seed	2550.
CONCORD(NE)	Soybean	6	5	1735.	0.27	0.25	0.24	0.22	0.22	Beg Seed	2550.
CONCORD(NE)	Wheat	4	1	3534.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
ONEILL	Alfalfa	4	1	3495.	0.32	0.29	0.34	0.29	0.25	Full Cov	5000.
ONEILL	Corn	5	10	2041.	0.35	0.32	0.37	0.31	0.27	beg Dent 8	2600.
ONEILL	Corn	5	10	2041.	0.35	0.32	0.37	0.32	0.27	Dough 7	2700.
ONEILL	Corn	5	10	2041.	0.35	0.32	0.37	0.32	0.28	Dough 7	2800.
ONEILL	Corn	5	1	2151.	0.35	0.31	0.36	0.31	0.26	beg Dent 8	2700.
ONEILL	Grass	4	1	3495.	0.25	0.22	0.26	0.22	0.19	Full Cover	5000.
ONEILL	Potato	5	25	2467.	0.02	0.00	0.03	0.02	0.01	Mature	2400.
ONEILL	Soybean	5	25	1889.	0.33	0.29	0.34	0.29	0.25	Full Seed	2550.
ONEILL	Soybean	6	5	1754.	0.35	0.32	0.37	0.31	0.27	Beg Seed	2550.
ONEILL	Wheat	4	1	3495.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
WESTPOINT	Alfalfa	4	1	3676.	0.23	0.20	0.20	0.19	0.19	Full Cov	5000.
WESTPOINT	Corn	5	10	2152.	0.24	0.21	0.20	0.20	0.19	beg Dent 8	2600.
WESTPOINT	Corn	5	10	2152.	0.25	0.22	0.21	0.20	0.20	beg Dent 8	2700.
WESTPOINT	Corn	5	10	2152.	0.25	0.22	0.21	0.21	0.20	beg Dent 8	2800.
WESTPOINT	Corn	5	1	2265.	0.24	0.21	0.20	0.19	0.19	beg Dent 8	2700.
WESTPOINT	Grass	4	1	3676.	0.17	0.15	0.14	0.14	0.14	Full Cover	5000.
WESTPOINT	Potato	5	25	2519.	0.00	0.00	0.03	0.02	0.01	Mature	2400.
WESTPOINT	Soybean	5	25	1971.	0.23	0.19	0.19	0.18	0.17	Full Seed	2550.
WESTPOINT	Soybean	6	5	1815.	0.25	0.21	0.21	0.20	0.19	Full Seed	2550.
WESTPOINT	Wheat	4	1	3676.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
YORK	Alfalfa	4	1	3786.	0.23	0.21	0.20	0.19	0.19	Full Cov	5000.
YORK	Corn	5	10	2268.	0.24	0.21	0.20	0.19	0.18	beg Dent 8	2600.
YORK	Corn	5	10	2268.	0.24	0.21	0.20	0.20	0.19	beg Dent 8	2700.
YORK	Corn	5	10	2268.	0.25	0.22	0.21	0.20	0.20	beg Dent 8	2800.
YORK	Corn	5	1	2406.	0.23	0.20	0.18	0.18	0.17	fullDent 9	2700.
YORK	Grass	4	1	3786.	0.17	0.15	0.14	0.14	0.14	Full Cover	5000.
YORK	Potato	5	25	2629.	0.00	0.00	0.00	0.00	0.00	Mature	2400.
YORK	Soybean	5	25	2057.	0.22	0.19	0.18	0.17	0.15	Full Seed	2550.
YORK	Soybean	6	5	1891.	0.24	0.21	0.20	0.20	0.19	Full Seed	2550.
YORK	Wheat	4	1	3786.	0.00	0.00	0.00	0.00	0.00	Mature	1800.
BERESFORD	Alfalfa	4	1	3561.	0.20	0.18	0.20	0.19	0.19	Full Cov	5000.
BERESFORD	Corn	5	10	2052.	0.22	0.19	0.22	0.21	0.20	beg Dent 8	2600.
BERESFORD	Corn	5	10	2052.	0.22	0.19	0.22	0.21	0.21	Dough 7	2700.
BERESFORD	Corn	5	10	2052.	0.22	0.19	0.22	0.21	0.21	Dough 7	2800.
BERESFORD	Corn	5	1	2160.	0.22	0.19	0.22	0.21	0.20	beg Dent 8	2700.
BERESFORD	Grass	4	1	3561.	0.16	0.13	0.15	0.15	0.14	Full Cover	5000.
BERESFORD	Potato	5	25	2421.	0.02	0.01	0.02	0.01	0.01	Mature	2400.
BERESFORD	Soybean	5	25	1893.	0.21	0.18	0.21	0.19	0.19	Full Seed	2550.
BERESFORD	Soybean	6	5	1751.	0.22	0.19	0.22	0.21	0.20	Beg Seed	2550.
BERESFORD	Wheat	4	1	3561.	0.00	0.00	0.00	0.00	0.00	Mature	1800.