

Farm and Weather Summary

Ken Pecinovsky, farm superintendent

Farm Comments

Field Days and Tours. A total of 1,400 people attended 25 events at the research farm in 2006. These events included field days, tours, meetings, and the annual association meeting. Field days included information on nutrient, insect and crop disease management, corn breeding improvements, green snap corn research, farm policy/ag law changes, and improving farm profitability.

New Projects. Evaluation of K rates with non Bt and Bt rootworm corn varieties, A. Mallarino; Sulfur rates on alfalfa, B. Lang; Evaluation of Herculex[®] and Yield Gard[®] Bt rootworm technologies, J. Tollefson; White mold fungicide study, X.B. Yang; Corn and soybean district yield test show plot, J. Rouse; Corn hybrid X crop rotation study, Green snap X corn variety studies, Fixed vs. flex ear corn population study, and Twin row corn comparison, R. Elmore; Nitrogen rate × ASNT, J. Sawyer; and Grape berry moth monitoring, L. Naeve. Numerous variety and cultural practice (planting dates, planting depths, planting populations, row spacings, and tillage practices) studies were conducted by the Northeast Research Farm staff.

Crop Season Comments

Oat/legume seeding occurred the last week of March. Spring manure injection and spring anhydrous nitrogen (N) applications were started the first week of April. Corn planting began April 15 and was completed May 8. Harvest began October 9 and was completed November 6. Corn yields were above average due to early planting and no heat stress, despite below normal rainfall for May through August. Corn yields on rotated acres ranged from 165 to 245 bushels/acre and averaged 195 bushels/acre. Continuous corn yields ranged from 155 to 245

bushels/acre and averaged 180 bushels/acre. European corn borer and northern corn rootworm populations were below economic thresholds in 2006 contributing to high corn yields, as compared with 2005 when levels of both insects were economically damaging.

The soybean planting began May 6 and was completed on May 17. Harvest began September 25 and was completed October 6 with average to above average yields ranging from 55 to 75 bushels/acre. Soybean yields varied due to moisture holding capacity of the soil, related to below normal rainfall from May through August. Soybean aphids, bean leaf beetles, and soybean diseases were present, but levels were below economic thresholds requiring pesticides, so no economic yield reductions occurred.

Weather Comments

Winter 2005–2006. The first measurable snowfall occurred November 15, and the last snow for the season was on March 23 with a total for the winter of 28.5 in. recorded (4.75 in. more than the previous winter). The 4-in. soil temperature remained below 50°F after November 4, 2005.

Spring 2006. The frost was out of the top 2 ft of soil after March 5. Soil temperatures were averaging about 50°F after April 10. Fertilization and tillage work began the first week of April, with most farmers waiting to plant corn until April 23 and most finishing by April 28. May precipitation measured 1.33 in. (3.14 in. below the 30-yr average), averaging 0.10 in. per rain event on 13 days.

Summer 2006. May through August rainfall was 8.32 in. below the long-term average, but no crop stress occurred due to ample moisture in the soil profile. Soil moisture was adequate because of 6.62 in. of rain in September 2005

and winter snowfall that was absorbed by unfrozen soil throughout the winter. Air temperatures and heat unit accumulation were above normal for May through August providing ample time for grain to reach maturity. Our first plant-killing freeze occurred October 11, with a recording of 26°F (one week later than the average frost date).

Soybean aphid and bean leaf beetle populations were present, but below economic thresholds throughout the season. This contributed to the average to above-average soybean yields. A total of 2,670 heat units were recorded from May through September, 82 heat units more than the past 12-yr average.

Fall 2006. Rainfall was below normal for October during harvest, allowing ample time for corn and soybean harvest. Above-normal May through August temperatures accelerated heat unit accumulation, resulting in a corn grain at harvest in the 15–20% moisture range. Soybeans were harvested in the 11–13% moisture range from late September to early October.

One of the most interesting surprises in agriculture during 2006 was the surge in the renewable fuels industry, specifically ethanol.

There was “talk” all last summer that corn prices would be high starting in 2006 due to ethanol demand, but grain prices didn’t increase until harvest started. This surprised farmers, because national corn yields were above trend line. Cash prices for corn near Nashua ranged from \$1.60/bushel in mid-August 2006 to \$3.97/bushel as of February 22, 2007. Soybean prices ranged from \$4.53/bushel on September 9, 2006 to \$7.11/bushel on February 22, 2007. The major increase in corn prices is due to future demand for corn for the ethanol market as well as for livestock feed usage and grain exports. As of January 2007, 111 ethanol plants are in operation in the United States and 75 additional plants are in the “planning stages” for construction. The high corn prices offered are also trying to “buy” an additional 10 million acres of corn in 2007 to satisfy demand.

Acknowledgments

We thank the Northeast Iowa Agricultural Experimental Association members, ISU researchers, ISU extension staff, and agribusiness people for their support. We value the vision, leadership, hard work, and financial support that have been contributed to the establishment and success of the association and the research farm.

Table 1. Monthly rainfall and average temperatures during the 2006 growing season.

Month	Rainfall (in.)			Temperature (°F)*			
	NERF	Departure from normal	No. days of rain	NERF	Departure from normal	Growing degree days	Days 90°F+
April	4.79	+1.49	14	52.64	+5.10	203	0
May	1.33	-3.14	13	60.63	+1.51	382	2
June	4.55	-0.41	11	69.01	+0.55	509	0
July	2.31	-2.56	12	74.58	+2.59	612	8
August	2.68	-2.21	9	71.04	+1.49	521	0
September	4.94	+1.77	11	59.59	-2.43	512	0
October	1.51	-0.99	6	46.70	-2.34	175	0
November	1.90	+0.06	6	38.19	+4.23		0
Total	24.01	-5.99	82				10

*184 frost-free days

1st Freeze – October 11, 2006