

Farm and Weather Summary

Ken Pecinovsky, farm superintendent

Farm Comments

Field Days and Tours. A total of 1,200 people attended 25 events at the research farm in 2004. These events included field days, tours, meetings, and the annual association meeting. Field days included information on nutrient and tillage management, profitability of various crop rotations, grain marketing strategies, soybean aphid and bean leaf beetle pest updates, soil quality measurement, soybean diseases, ag drainage, and weed shift patterns.

New Projects. Evaluation of soybean fungicides/application timings and white mold soybean variety screening, X.B. Yang; potassium rate study, Antonio Mallarino; and N rate \times corn variety study, Chad Ingels/John Rodacap. Numerous variety studies and cultural practices (planting dates, planting depths, planting populations, row spacings, tillage practices, etc.) were conducted by the Northeast Farm staff.

Crop Season Comments

Oat/legume seeding, spring manure injection, and spring anhydrous nitrogen (N) applications were done the week of April 4. The corn planting began April 16 and was completed May 6. Harvest began October 12 and was completed November 6. Corn yields were above average due to plentiful rainfall and early planting, which slowed down harvest. Corn yields on rotated acres ranged from 175 to 245 bushels/acre and averaged slightly over 200 bushels/acre. Continuous corn yields ranged from 165 to 200 bushels/acre and averaged 185 bushels/acre.

The soybean planting started May 6 and finished on May 19. Harvest began September 13 and was completed October 6 with above-average yields of 58 bushels/acre due to

plentiful rainfall and no yield-damaging insect infestations of economic consequence. Yields from mid- to late-May soybean plantings were slightly reduced due to damping off and other wet soil-related diseases following planting. White mold reduced overall soybean yields slightly.

Weather Comments

Winter 2003–2004. The first measurable snowfall occurred December 4, and the last snow for the season was on March 16 with a total of 29.0 in. recorded (1.25 in. more than the previous winter). The 4-in. soil temperature remained below 50°F after October 25, 2003.

Spring 2004. The frost was out of the top two ft of soil after March 24. Soil temperatures were averaging about 50°F after April 28. Fertilization and tillage work began the first week of April, with most farmers waiting to plant corn until April 24 and most finishing by May 7. The first week of May was dry, followed by 11.24 in. of rainfall for the rest of the month (6.99 in. above the 30-yr average). Soybean plantings were a challenge between rain events after May 7, with severe erosion and flooding occurring on May 21 and May 29. Soybean replanting in northeast Iowa was common for plantings near May 20, because 8.6 in. of rainfall occurred in the last 10 days of May at Nashua, and higher rainfall amounts were recorded in areas north and east of the research farm.

Summer 2004. Rainfall was nearly 2 in. below the long-term average for both June and August, but no crop stress occurred due to ample moisture in May and July and below-normal air temperatures in June, July, and August. The low heat unit accumulation for July and August was a concern in case of an early frost date, but September heat units were above normal, allowing corn and soybeans to reach maturity.

Our first freeze occurred October 2, with a recording of 29°F.

Soybean aphid and bean leaf beetle populations were below economic thresholds throughout the season, contributing to the above-average soybean yields. Above-normal rainfall in July increased the disease incidence of white mold in soybeans, but it did not reduce soybean yields significantly. A total of 2,536 heat units were recorded from May through September, only 39 heat units below the past 10-yr average.

Fall 2004. Rainfall was below normal for October during harvest, but numerous days with drizzle slowed the harvest pace. Below-normal July and August temperatures reduced heat unit accumulation, resulting in a corn harvest in the 21–25% moisture range with above-normal

propane gas usage to dry corn. Soybeans were harvested in the 11–13% moisture range from late September to early October. Farmers who still had soybeans to harvest in mid-October had challenges harvesting them because grain moisture levels increased with the many days with drizzle. August through December rainfall was below average.

Acknowledgments

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Table 1. Monthly rainfall and average temperatures during the 2004 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	1.75	-1.67	7	50.17	+3.02	203	0
May	11.24	+6.99	14	60.4	+1.18	382	0
June	2.92	-2.11	15	66.8	-1.55	509	2
July	6.11	+1.45	11	69.76	-2.48	612	0
August	2.90	-1.93	12	65.82	-3.96	521	0
September	2.24	-0.69	4	65.82	+4.27	512	0
October	1.98	-0.57	13	50.55	+1.41	175	0
November	1.43	-0.50	9	39.87	+5.96		0
Total	30.57	+0.97	85				

*141 frost-free days

1st Freeze – October 2, 2004