Farm, Weather, and Research Summary

Matthew Schnabel—farm superintendent

Farm Comments

Field days and tours. Six field day events were held this year, including the North Central Iowa Research Association annual meeting, summer field day, herbicide demonstration field day, corn rootworm trait demonstration field day, regional 4-H field day, and the fall field day. A total of 550 people visited the farm.

New projects. Planting depth in corn and soybeans, herbicide demonstration in corn, corn rootworm trait demonstration in corn, and nitrogen application timing in corn.

Crop Season Comments

Oats were drilled April 11 and 27, including the long-term nitrogen rotation study and oat variety trials. Oats were harvested July 28. Yields averaged between 110 to 135 bushels/acre with above average test weights.

Corn planting started May 15 and was completed June 14. Harvest began October 7 and finished November 2 with average yields of 200 to 250 bushels/acre. Due to later planting dates, rain moistures were slightly higher compared with past years. Grain test weight was average.

Soybean planting started May 15 and was completed June 14. Harvest was September 28 to October 9 with average yields of 55 to 65 bushels/acre.

Farm yields were above average for all crops, with average to above average test weights.

Weather Comments

Winter. At the start of the year, the groundwater level was lower than normal. The winter started cooler than usual, as January averaged 10.6°F, February 16°F, and March 34°F, all below long-term trends. In January, February, and March, precipitation was below normal. Frost penetrated to 18 in. below the soil surface, which is slightly deeper than average.

Spring. April temperatures were below normal averaging 41.2°F. The average temperature for May was 60°F, which is typical. Precipitation was 2.13 in. above normal in April with 5.33 in. received. May precipitation was below the long-term average of 4.1 in. at 2.3 in. Most of the corn and soybean were planted in the middle and end of May as conditions were wet in April and the first week of May.

Summer. June was warmer than normal, while July and August had temperatures below the long-term normal. Precipitation was below average in June and July while slightly above average in August.

Fall. The first hard frost was October 8 when the temperature dropped to 24°F. Cover crops were drilled September 29 and October 28. Most of the corn reached maturity in early October. Fertilizer and tillage were completed November 28.

Overall, 23 in. of precipitation was measured for the year, making this the driest year since 2012 and before that 1989. The previous year total was 29.8 in. The 5- and 30-year average at the farm are 39 in. and 34.6 in., respectively.

During the growing season (March-October), every month had below normal precipitation except April and August. (Table 1). Deviation from normal temperatures varied depending on the month, with three months being above normal and five months below (Table 1). Total growing degree days (GDD) was below the 30- and 5-year average (Figure 1).

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Table 1. Monthly rainfall and average temperatures.

	Rainfall, inches		Temperature, °F		Days
Month	2022	Deviation from normal	2021	Deviation from normal	90°F or above
March	1.32	-0.56	34.0	-0.6	0
April	5.33	2.13	41.2	-6.6	0
May	2.26	-1.83	60.0	0.1	4
June	3.63	-1.45	70.1	0.5	5
July	1.61	-2.41	71.8	-1.0	1
August	4.32	0.45	69.4	-0.9	2
September	1.26	-1.96	63.0	0.3	1
October	0.50	-1.72	48.7	-1.5	0
Totals	20.23	-7.35			13

Research Project	**Project Lead**
Seasonal and rotational influence on corn N requirements	S. Archontoulis
Herbicide demonstration in soybean and corn	Corteva
Demonstration shrub row	C. Haynes
Milkweed demonstration garden	R. Hellmich
Automated weather station	D. Herzmann
Aphid suction trap	E. Hodgson
Planting date and hybrid maturity in soybean	Iowa Soybean Association
Long-term tillage for corn and soybean	M. Licht
Long Term Nitrogen Crop Rotation Study	A. Mallarino
Fungicide and insecticide applications on soybean	D. Mueller
Mung bean dentinal plots	
SDS in soybean	
White mold in soybean	
Foliar fertilizer on corn	Northern Research and Demonstration Farm
Plantimg Depth corn and soybean	
Nitrogen and sulfur in corn	
Harvest timing in corn	
Planting date for corn and soybean	
Soybean date of planting and population	
Soybean seed treatment	
Weed identification garden	
Cereal rye variety trial	Practical Farmers of Iowa
Oat variety trial	
Herbicide demonstration in corn	A. Rieck-Hinz
Corn Rootworm Management Demonstration	
Application timing of fungicide on corn	A. Robertson
Physoderma in corn	