

2009

Farm and Weather Summary

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Farm and Weather Summary

Abstract

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Farm Comments

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Weather Comments

Disciplines

Agricultural Science | Agriculture

Farm and Weather Summary

Ken Pecinovsky, farm superintendent

Farm Comments

Field Days and Tours. A total of 1,000 people attended 32 events at the research farm in 2008. These events included field days, tours, meetings, and the annual association meeting. Field days included information on planting date issues related to the wet 2008 spring; management of nutrient, insect, and crop diseases; maintaining profitability in times of high grain prices and high input costs; discussions on the grain needs for an expanding biofuels market and its effects on livestock production due to high feed cost; and the impact of the global recession and crash in crude oil prices on grain markets and biofuels industry.

New Projects. Evaluation of N requirements for crops grown with cover crops, John Sawyer; Evaluation of sulfur rates, John Sawyer; Evaluation of Bt corn traits, Marlin Rice; Expanded studies on fungicide use (foliar, seed treatment, application timings) in corn and soybeans, Alison Robertson, X.B. Yang, and Daren Mueller; and Insecticide and foliar fungicide timing/combinations in soybeans, Alison Robertson.

Crop Season Comments

Late March through early April was too wet and cold for any field work to occur due to persistent rain or snowfall events. Grape pruning occurred the week of April 7. Field work began on April 15, with anhydrous nitrogen (N) and manure injection applications. Seeding of oat/legume plots, alfalfa variety plots, and the first planting dates of corn and soybeans occurred on April 16. Field work during the following two weeks was impossible due to numerous rainfall events. April 30 to May 2 was the next dry period and was used to finish the NH₃

fertilizer applications. Corn planting began May 5 and was finished May 15. Corn harvest began on October 11 and was completed November 20, 12 and 26 days later than 2007, respectively, due to the below normal heat unit accumulation throughout the summer. Corn yields, in general, were above average due to no drought or heat stress, but quite variable due to severe erosion from late June flooding, below normal heat unit accumulation, and delayed emergence due to cool temperatures following delayed plantings. Corn yields on rotated acres ranged from 150 to 250 bushels/acre and averaged 190 bushels/acre. Continuous corn yields ranged from 100 to 225 bushels/acre and averaged 175 bushels/acre. Strong winds (50+ mph) caused severe lodging in select hybrids on October 26, but 50% of the plots had already been harvested, so damage was on less than 5% of the total corn acres.

Soybean planting started on May 15 and was finished on May 22. Harvest began on September 23 and was completed October 10, 13 days later than 2007. Soybean yields were average, but variable due to delayed plantings, wet soil conditions in June, and dry August, with yields ranging from 50 to 70 bushels/acre. All soybeans, except for select soybean plots, were sprayed with an insecticide the first week of August for control of aphids resulting in an average of 5 bushels/acre yield increase. Disease pressure was below normal compared with 2007.

Weather Comments

Winter 2007–2008. The first measurable snowfall occurred November 21, 2007 and the last snow for the season was on April 12, 2008 with a total of 45.75 in. recorded (8.25 in. more than the previous winter). The 4-in. soil temperature remained below 50°F after November 1, 2007. On December 1, a 3 in.

snowfall followed by 1 in. of rain caused farm yards to be slippery from a sheet of ice that did not melt until the second week of March. This ice sheet also was responsible for isolated patches of alfalfa winterkill throughout northeast Iowa.

Spring 2008. The frost was out of the top 2 ft of soil after April 6, about 2 weeks later than 2007. The 4 in. average soil temperature remained above 50°F on May 1, two weeks later than 2007. There were only 3 days in April that fertilization and tillage work were possible due to 8.94 in. of rain and below normal air temperatures. A rainfall of 4.05 in. the night of April 24 caused severe erosion, despite minimal field work completed. There were 24 days in May that field work was possible, allowing for timely planting.

Summer 2008. The farm received 6.09 in of rain from June 5 to June 8, causing severe gully erosion and waterway damage. Many areas of Iowa and Minnesota recorded up to twice this amount of rainfall in the same time period, causing historic flooding and damage. Yellow, N-deficient corn after fall-applied manure or anhydrous N was widespread due to de-nitrification or leaching and most producers applied additional N in June. Spring-applied N provided optimal N for heavy black soils, but producers with light, sandy soils or poorly drained soils still had N losses, reducing corn yields. August rainfall was 3.57 in. below the long-term average, but

no drought stress occurred due to below normal air temperatures. Corn maturity was an issue in late August, but September heat unit accumulation plus a late October frost (2 weeks later than normal) helped get the crop to physiological maturity. Our first plant-killing freeze occurred October 21, with a recording of 27°F (17 days later than average). Soybean aphid populations were high in 2008, but arrived later with populations similar to the past odd years of 2003, 2005, and 2007. Most soybean fields were sprayed in early August, contributing to the average to above average soybean yields. A total of 2,596 heat units were recorded from May through September.

Fall 2008. Harvest was delayed for corn because of high grain moisture due to the late maturity from below normal heat unit accumulation. Delays in grain drying also slowed harvest because of harvesting wetter corn than in the previous 10+ years with above-normal propane prices and gas usage to dry corn. Since harvest was delayed, a small amount of fall N applications were made in mid-November with the ground freezing on November 25, stopping most tillage/fertilizing operations.

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Table 1. Monthly rainfall and average temperatures during the 2008 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	8.94	+5.59	11	45.64	-1.67	114	0
May	4.33	-0.14	12	57.42	-1.74	315	0
June	9.38	+4.31	14	68.76	+0.27	560	0
July	5.96	+1.21	12	72.79	+0.83	693	2
August	1.42	-3.57	6	69.18	-0.59	602	0
September	2.47	-0.74	11	63.08	+0.97	426	0
October	2.61	+0.04	10	49.14	-0.23	198	0
November	1.79	-0.08	9	36.37	+1.97		0
Total	36.9	+6.62	85				2

*171 frost-free days