Weather and Growing Season Summary

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Weather Summary

The 2009 growing season resulted in mean monthly temperatures that varied from -8°F to +7°F from the 30-year average (Table 1). This year there were a total of four days above 90°F, down from 10 days in 2007 and up from 2 in 2008. Overall, 2009 was a cooler year than normal. In western Iowa, this growing season will be remembered for the combination of cooler and wetter weather conditions during the growing season.

Precipitation was generally less than the 30-year average in 2009, but wetter during June, July, August, and October (Figure 1). More than 17 in. of rain fell in June, July, and August with another 4 inches in October. Rains did not come until after planting and also caused harvest delays. There are a considerable number of 2009 corn acres that will not be harvested until the spring of 2010 due to the wet October conditions and lack of in-field grain drying conditions.

With temperatures below normal throughout the growing season, it was expected that growing degree days would accumulate below the 5-year average for the entire season (Figure 2). Typically, it is desirable to be ahead on growing degree days prior to tassel and then be behind on growing degree days during grain fill.

Growing Season

The growing season started with spring field operations on time. Then with June rains, herbicide applications were delayed due to wet and sometimes flooded conditions. Hay harvest was delayed, but not to the extent experienced in 2008. Harvest conditions were challenging again in 2009 due to untimely rainfall starting in late September through October. As a result, harvest was delayed and completion was pushed into November and the spring of 2010.

Crop Yield and Quality

Corn and soybean yields were much better than expected across the area, considering the cooler and wetter than normal conditions. Lodging started to occur in November but most was not severe. Fall field operations and nutrient applications were cut short with December snows. Lack of time for fall harvest and fertilizer applications will lead to a larger workload for field operations in the spring.

Table 1. Monthly precipitation, average monthly temperature, and departure from normal for 2009.

	Precipitation		Temperature		Days 90°F	Nights 28°F
	Total	Departure*	Mean	Departure*	Or above	Or below
January	0.43	- 0.19	17	- 5		31
February	0.53	- 0.12	27	1		23
March	1.59	- 0.37	37	0		14
April	1.22	- 2.15	47	- 3		5
May	1.39	- 2.84	61	0		
June	5.75	1.02	68	- 2	3	
July	6.05	2.01	69	- 6		
August	5.70	2.08	68	- 4	1	
September	1.26	- 1.70	63	- 2		
October	4.02	1.70	44	- 8		3
November	0.27	- 1.18	44	7		3
December	0.84	0.04	18	- 6		30
Total	29.05	- 1.54	n/a	n/a	n/a	n/a

*Departure from 30-year average as recorded at the ISU Western Research Farm weather station. When inaccurate data were available from the ISU Western Research Farm weather station, data were retrieved from Iowa Department of Agriculture and Land Stewardship, Climatology Bureau and National Agricultural Statistics Service, Crop and Weather reports.

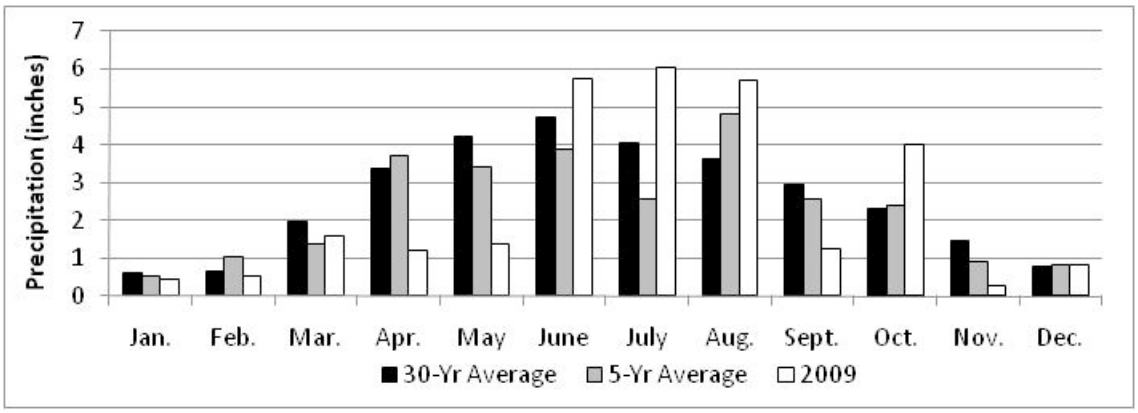

Figure 1. 2009 monthly average precipitation compared to 30-year, and 5-year average precipitation recorded at the ISU Western Research Farm weather station.

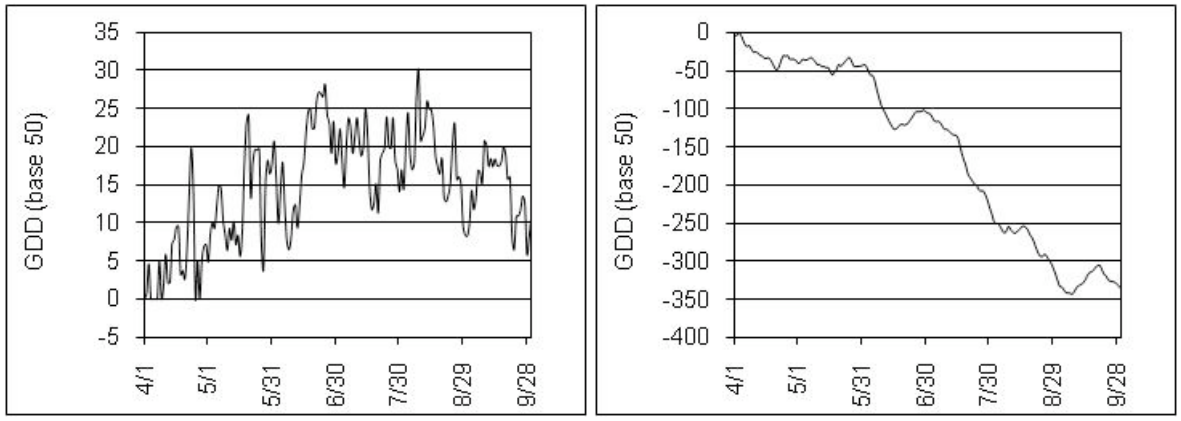

Figure 2. Daily growing degree day units (GDD base 50) for the 2009 growing season from April 1 to September 30 (left) and 2009 cumulative growing degree day (GDD base 50) deviation from the 5-year average (right) based on ISU Western Research Farm weather station high and low temperatures.