


1-1-2015

Weather and Growing Season Summary, 2014

Chris Beedle

Iowa State University, beedlec@iastate.edu

Follow this and additional works at: http://lib.dr.iastate.edu/farms_reports

 Part of the [Agricultural Science Commons](#), [Agriculture Commons](#), [Agronomy and Crop Sciences Commons](#), [Meteorology Commons](#), and the [Natural Resources and Conservation Commons](#)

Recommended Citation

Beedle, Chris, "Weather and Growing Season Summary, 2014" (2015). *Iowa State Research Farm Progress Reports*. 2262.
http://lib.dr.iastate.edu/farms_reports/2262

This report is brought to you for free and open access by Iowa State University Digital Repository. It has been accepted for inclusion in Iowa State Research Farm Progress Reports by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

Weather and Growing Season Summary, 2014

Abstract

Cool and wet seemed to be the rule for most of 2014, with several weather records broken over the course of the year.

Keywords

Agronomy

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences | Meteorology | Natural Resources and Conservation

Weather and Growing Season Summary, 2014

RFR-A1437

Chris Beedle, ag specialist
ISU Western Research Farm

Weather Summary

Cool and wet seemed to be the rule for most of 2014, with several weather records broken over the course of the year.

Average temperatures were 45.4°F, which is 2.7°F below normal. This ranks as the sixth coolest year in 142 years of records. The year began with the coldest winter season in 35 years. The prolonged duration of cold, along with relatively dry soils, allowed the ground to freeze to unusual depths. Soils under roadways froze up to 5 1/2 ft and led to hundreds of water main breaks across the state. A hard freeze was recorded over much of northwestern Iowa on May 16 with the temperature falling to 24°F at Spencer. This was the lowest temperature recorded so late in the spring since 1963. There was only an average of three days of temperatures exceeding 90°F or above with 97°F being the high for the summer.

Heavy rain was widespread across northern and eastern Iowa for the month of June with widespread flooding. June precipitation totals were above normal at every Iowa reporting point with Merville in Woodbury County reporting the most rain of 18.70 in. The statewide average precipitation for June was 9.92 in. and was the fourth highest calendar month total in 142 years of state records.

Annual precipitation totals varied from about 25 in. at Hawarden and Spirit Lake in the northwest to a little over 55 in. at Greenfield.

Growing Season

Iowa entered the year with drought concerns, due to the unusually dry weather occurring during the second half of 2013. January through March precipitation was below normal. However, April brought normal to above normal precipitation for most of the state, except for the far northwest corner of the state, which recorded one of the driest springs on record. Frequent rains and cold soil temperatures during April delayed the planting season. However, drier weather in May allowed for a quick catch up. Heavy rains and flooding in June drowned/washed out some crops and required some replanting. Fortunately, rain subsided across most of the state in July and brought a relatively quick end to flooding issues across Iowa. However, wet weather redeveloped across much of the southwest one-third of Iowa during August and persisted in the same areas through mid-October. Soil moisture levels at the end of the growing season were the greatest since 2010. The driest soils were in northwest Iowa, but even their moisture levels were better than at the end of the three previous seasons. Very wet soils prevailed over a broad swath of central and southwest Iowa.

Crop Yield and Quality

Cold soils and frequent rains in mid and late April got planting off to a slow start. However, much drier weather in May allowed rapid planting progress. The heavy rains and flooding washed out some crops in June and necessitated some replanting, particularly in northern areas. However, growing conditions were nearly ideal during July with no damaging heat during the critical reproductive phase of crop development. The 2014 harvest got off to a slow start due to frequent rain in September and early October. Additionally, crop maturity and grain dry-down was slowed by the cool growing season, thus giving even

less incentive to get into the fields early. Much drier weather from mid-October to early November allowed the harvest to be completed in a timely manner.

Preliminary USDA data indicated Iowa enjoyed a record corn yield of 183 bushels/acre and the second highest soybean yield of record at 52 bushels/acre. If realized,

the corn yield will be two bushels/acre greater than the previous high yield set in 2004 and 2009. The statewide average soybean yield is estimated to be one-half bushel/acre less than the record yield of 2005.

Information rendered from Iowa Department of Agriculture & Land Stewardship.

Table 1. Monthly precipitation, average temperature, and departure from normal for 2014.

	Precipitation		Temperature		Days 90°F Or above	Nights 32°F Or below
	Total	Departure*	Mean	Departure*		
January	0.06	-0.55	22	-6		31
February	0.54	-0.16	26	-10		28
March	0.43	-1.48	37	-6		28
April	2.68	-0.92	50	-2		12
May	7.92	+3.49	61	-1	1	1
June	10.33	+5.45	70	+1		
July	5.47	+1.33	74	-4	1	
August	7.88	+3.66	72	0		
September	3.93	+1.03	64	-1		
October	2.39	+0.05	52	0		5
November	0.34	-1.01	37	-7		22
December	1.95	+1.05	24	+4		27
Total	43.92	11.94	n/a	n/a	2	154

*Departure from 30-year average as recorded at the ISU Western Research Farm weather station.

Table 2. Monthly growing degree day units (GDD base 50) for the 2014 growing season April 1 to September 30.

	GDD monthly		GDD accumulation	
	Total	Departure*	Total	Departure*
April	199	-4	199	-4
May	413	+22	612	+18
June	621	+18	1233	+36
July	604	-124	1837	-88
August	671	-8	2508	-96
September	435	-19	2943	-115

*Departure from 30-year average as recorded at the ISU Western Research Farm weather station.