

# Western Research Farm Summary

**RFR-A1639**

**Western Iowa Experimental Farm Association  
Founded 1946**

## Officers

Chairperson .....	James Else, Mapleton
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Jason Yockey .....	Woodbury County
Rich Pope .....	Woodbury County
Steve Burress .....	At large

## Western Research Farm

Chris Beedle .....	Superintendent
Mark Honeyman .....	Coordinator, Research Farms
Tim Goode .....	Manager, Research Farms
	103 Curtiss Hall, ISU
	513 Farm House Lane
	Ames, IA 50011

## Farm and Weather Summary

Chris Beedle, farm superintendent

### Farm Comments

*Developments.* Equipment changes during 2016 included purchases of a used John Deere 9300 no-till drill and a new zero-turn lawn mower. The no-till drill is a 10 ft grain drill on 6-in. centers. The drill has seed boxes for small grains as well as grasses. The drill will be used to plant cover crops, improve pastures, and seed alfalfa. The new zero-turn lawn mower is a Scag Cheetah with a rear discharge deck. The mower will be a great tool for keeping the farm in good condition.

Numerous general farm maintenance activities occurred. Large-scale repairs to the cattle feedlot started in the fall 2016. New 5-strand high-tensile barbed wire fence was added around the new cover crop grazing study. Terrace cleaning and several dirt leveling projects were done this year. Finally, approximately 3,500 ft of water line was laid from the cattle lot to the east to bring needed water to the east side of the farm.

*Summer Intern:* Jessica Menke, Whiting, Iowa, was the summer intern at the farm. Jessica is a student at Iowa State University pursuing her BS in animal science. She helped with the day-to-day activities at the farm. Jessica designed and put together the farm Facebook page, set up and tended a booth at the Monona County Fair, and helped in gathering data in several projects hosted at the farm.

*Labor.* Gary Zima, Onawa, Iowa, was a helper at the farm. Gary helped with the day-to-day activities and played a key role in data collection of the Monarch Butterfly/Pollinator Project.

Harry Riesberg, Castana, Iowa, helps year-round at the farm and is a vital component to

the day-to-day operation of the farm. A special thanks to Jessica, Gary, and Harry.

*Field days and tours.* Five events were held during the year, with a total of 430 people visiting the farm or attending a meeting. The Annual Meeting, Crop Update Informational meeting, and Manure Applicator Certification Training were held in late February. Rich Pope, Association secretary, and I talked to kids about equipment safety at the annual Progressive Ag Farm Safety Day in April. Finally, the Monona County Extension Special Swine Project kids were hosted at the farm in June.

*New projects.* A cover crop grazing study was started in the fall of 2016 with the planting of rye in corn stalks in November and new fence construction around the grazing area. Other project developments were under the ISU On-Farm Cooperator Trials, which completed three trials started in the spring of 2016.

*Livestock.* Livestock production in 2016 included a group of 42 heifers pastured during the summer and then shipped to another farm for feeding. These heifers were part of the McNay Research Farm beef cattle breeding trial.

Swine production consisted of finishing 672 pigs. The pigs were weighed every 28 days and scanned for muscle and fat deposition several times. Loins were collected for further testing with assistance from Tyson Fresh Meats of Storm Lake.

### Crop Season Comments

At the farm, corn planting started May 5 and was completed May 15. Corn harvest started October 17 and was completed November 8, with an average yield of 201 bushels/acre. Soybeans were planted between May 18 and May 22. Soybean harvest started October 15 and was completed October 16, with an

average yield of 67 bushels/acre. These corn and soybean yields were 6.5 percent and 18.3 percent, respectively, above the 5-year farm averages. Alfalfa yields averaged 4.46 tons/acre with three cuttings harvested, and were .27 ton/acre below the 5-year farm average.

The year began with cold weather during January and above normal temperatures in February and March. April and May were near normal (Table 1).

Recorded soil temperatures at the farm indicated the soil thawed across western Iowa the second week of April.

A relatively wet April and May for western Iowa delayed planting for much of the area.

June was unseasonably warm and dry for much of the area. A 1.28-in. rainfall in June and 10 days above 90°F made for hot and dry conditions. Most of the state was unseasonably dry for June. The second half of July through September brought wetter conditions and good growing conditions for the area.

A long growing season allowed crops to reach full maturity (Table 2), and a dry and warm October and November allowed crops to dry down naturally. October and November had many favorable days for harvest.

#### **Acknowledgements**

We would like to thank all members, sustaining members, and donors who support the Western Research and Demonstration Farm through donations of time, money, and products. Their support has made many of this year's trials possible.

#### **Sustaining Members**

Community Bank, Dunlap  
 First State Bank, Mapleton  
 Sloan State Bank, Sloan and Whiting  
 Iowa-Nebraska State Bank, S. Sioux City  
 Valley Bank, Mapleton and Danbury  
 Western Iowa Power Cooperative  
 Soil and Water Conservation Districts of:  
 Crawford County  
 Harrison County  
 Monona County  
 Woodbury County

#### **Donors**

Van Wall Implement  
 Sullivan Supply, Inc.  
 Wyffels Hybrids, Inc. (Mike Lage)  
 Millborn Seed (Greg Jochum)

**Research Farm Projects**

<b><u>Project</u></b>	<b><u>Project Leader</u></b>
Effects of dietary protein on intramuscular fat of finishing pigs in bedded hoop barns	M. Honeyman/D. Stender
Monarch butterfly/milkweed project	R. Hellmich
Grazing cover crops	D. Loy/E. Lundy
U.S. Weather Service weather station	
Air temps; hi, lo, current	
Soil temps; 1, 2, 8, 20, 40 in.	
Daily precipitation	
Severe weather spotter	
Iowa MesoNet weather station	
<i>(real time data online)</i>	
Air temperature	
Relative humidity	
Precipitation	
Wind: speed & direction	
Solar radiation	
Soil temperature	
Soil moisture	
Demonstrations:	
Manure settlement basin	
Composting livestock mortalities	
Composting hoop buildings manure pack	
Swine finishing in hoop buildings	
On-Farm Cooperator Trials	
<i>(see articles elsewhere in this report for details)</i>	
Corn Population	
Fungicide	

**Table 1. Monthly precipitation, average temperature, and departure from normal for 2016.**

	<u>Precipitation</u>		<u>Temperature</u>		<u>Days 90°F or above</u>	<u>Nights 32°F or below</u>
	<u>Total</u>	<u>Departure*</u>	<u>Mean</u>	<u>Departure*</u>		
January	0.42	-0.17	18	-3		31
February	0.46	-0.21	29	+4		26
March	2.05	+0.36	42	+5		18
April	6.40	+2.94	50	0		9
May	4.95	+0.51	59	-2		0
June	1.28	-3.74	74	+3	10	0
July	4.74	+0.40	73	-1	2	0
August	3.71	-0.46	72	0	1	0
September	3.65	+0.64	66	+2		0
October	1.13	-0.87	54	+2		2
November	2.04	+0.66	45	+8		10
December	1.28	+0.30	22	-3		31
<b>Total</b>	<b>32.11</b>	<b>+0.36</b>	<b>n/a</b>	<b>n/a</b>	<b>13</b>	<b>127</b>

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

**Table 2. Monthly growing degree day units (GDD base 50) for the 2016 growing season April 1 to September 30.**

	<u>GDD monthly</u>		<u>GDD accumulation</u>	
	<u>Total</u>	<u>Departure*</u>	<u>Total</u>	<u>Departure*</u>
April	123	+3	123	+3
May	321	-50	444	-47
June	732	+114	1,176	+67
July	724	-24	1,900	+43
August	692	+5	2,592	+48
September	499	+62	3,091	+110

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