

Western Research Farm Summary

RFR-A1896

**Western Iowa Experimental Farm Association
Founded 1946**

Officers

Chairperson	James Else, Mapleton
Vice Chairperson	Linda Herman, Pisgah
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Crawford County	Open
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Monona County	James Else
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Woodbury County	Rich Pope
At large	Steve Burress

Western Research Farm

Superintendent	Chris Beedle
Associate Dean for Operations	Mark Honeyman
Farms Manager	Tim Goode
	103 Curtiss Hall
	513 Farm House Lane, ISU

Farm and Weather Summary

Chris Beedle, farm superintendent

Farm Comments

Developments. Equipment changes during 2018 included purchase of a used 22 ft Eby Maverick livestock trailer for hauling pigs and cattle, transfer of a grapple bucket, and purchase of a 25 ft high deck gooseneck trailer.

Numerous general farm maintenance activities occurred. Repairs to the cattle feedlot and removal and replacement of pasture fence continues. Terrace cleaning and several dirt leveling projects also were completed.

Summer intern. Caleb Clemon, Soldier, Iowa, began a summer internship at the farm. Due to a severe car accident he was out of work until October and returned to school for the 2019 spring semester. Caleb will continue his education at Iowa State University pursuing a B.S. in agricultural business. He helped with the day-to-day activities at the farm, including gathering data in several projects.

Labor. Gary Zima, Onawa, Iowa, assisted with daily activities. Gary played a key role in data collection of the Monarch butterfly/pollinator project. He also was essential to the new demonstration garden at the Monona County Fair Grounds.

Harry Riesberg, Castana, Iowa, continues year-round assistance and performs many tasks vital to the operation of the farm.

A special thanks to Caleb, Gary, and Harry.

Field days and tours. Four events were held during the year, with a total of 425 people visiting the farm or attending a meeting. The annual meeting and crop update meeting were held in late February. The Monona County Extension special swine project for youth was

held in June. Cynthia Haynes led a field day in August for the demonstration garden. In November, the Fall Grazing Cover Crops Tour was held.

New projects. The cover crop grazing study that started in spring 2017 was modified to include fall grazing. Calves were turned out for 13 days in the fall. A new pig project began feeding antibiotic-free pigs, comparing 4-phase feeding and 8-phase feeding. Other project developments included completing three On-Farm cooperator trials.

Livestock. Livestock production in 2018 included a group of 59 heifers in the cover crop grazing study pastured during the summer and then shipped to the Allee farm for finishing. These heifers were part of the McNay Research Farm beef cattle breeding project.

Swine production consisted of finishing approximately 900 head spanning two projects. The pigs were weighed every 28 days. Following final weigh day, data were collected at the processing plant. The pigs were marketed for a niche pork market.

Crop Season Comments

Corn planting started May 29 and was completed May 31. Corn harvest started November 4 and was completed November 11, with an average yield of 175 bushels/acre. Soybeans were planted between June 6 and June 17. Soybean harvest started November 12 and was completed November 14, with an average yield of 54 bushels/acre. These corn and soybean yields were 11 percent and 4 percent, respectively, below the 5-yr farm averages. Alfalfa yields averaged 5.25 tons/acre with three cuttings harvested, and were 0.02 ton/acre above the 5-yr farm average.

The year began with a colder and wetter than normal January and February. Near normal temperatures in March led into the coldest April on record. A sudden change came in May with unseasonably warm temperatures (Table 1).

Ground temperatures delayed planting until warmer weather in May. June and August were unseasonably wet, with 6.18 and 7.68 in. of rain, respectively, and only seven days above 90°F. Most of the state was unseasonably wet for the entire growing season and carried into the fall harvest, delaying it significantly.

Though the farm had plenty of growing degree day (GDD) units this summer (Table 2), a slow start to the spring and a wet fall made it a challenging growing year.

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

Research Farm Projects

<u>Project</u>	<u>Project Leader</u>
Effects of dietary protein on intramuscular fat of finishing pigs in bedded hoop barns	M. Honeyman/D. Stender
Monarch project/milkweed demonstration	R. Hellmich
Grazing cover crops with beef cattle	D. Loy/E. Lundy
Feeding pigs for niche pork market	M. Honeyman/P. Lammers/ C. Beedle
Iowa MesoNet weather station <i>(real time data online)</i>	
Air temperature	
Relative humidity	
Precipitation	
Wind: speed and 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	
Soybean population	
Sulfur on alfalfa	

Table 1. Monthly precipitation, average temperature, and departure from normal for 2018.

	<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	1.16	+0.55	20.8	-0.4		29
February	1.33	+0.69	20.6	-5.0		28
March	5.16	+3.51	36.7	-0.7		24
April	1.06	-2.31	41.6	-8.2		17
May	4.18	-0.41	68.0	+7.2	5	
June	6.18	+1.66	74.3	+3.7	7	
July	3.45	-0.86	73.9	+0.2	5	
August	7.68	+3.38	71.9	0.0	0	
September	5.22	+2.21	65.4	+1.0	2	
October	2.17	-0.02	48.6	-3.7		6
November	1.22	-0.16	30.4	-7.2		24
December	2.80	+1.82	27.5	+2.7		29
Total	41.61	+10.06	n/a	n/a	19	157

*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 2018 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	137	+17	137	+17
May	536	+168	673	+185
June	702	+81	1,375	+266
July	723	-24	2,098	+242
August	675	-13	2,773	+230
September	480	+40	3,253	+270

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