

Southeast Research Farm Summary 2019

RFR-A1984

Southeast Iowa Agricultural Research Association

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 Manager, Research Farms..... Tim Goode

103 Curtiss Hall
 513 Farm House Lane, ISU

Farm and Weather Summary

Myron Rees and Cody Schneider
farm co-managers

Farm Comments

Developments. The Southeast Research Farm (SERF) is catching up with technology in a big way. With major assistance from the ISU Ag Engineering/Agronomy Farm, Boone, Iowa, SERF built a new 3-point, 8-row vacuum planter with electric drive, hydraulic down force, and hydraulic row cleaners. The JD 7430 was updated to accommodate the planter, including auto steer and RTK guidance. The farm also acquired a JD 7730 tractor with guidance. Additionally, a yield monitoring system was installed on the combine to collect data on bulk acres. These major upgrades now allow GPS mapping of all operations. Major repair work was completed on the soil finisher and a head mover was acquired to aid moving to and from the ISU Muscatine Island Research Farm (MIRF). The farm is currently working on plans and fundraising for a research and learning center.

After 19 years of seasonal employment, Chad Hesseltine accepted a full-time position to share with SERF and MIRF and take over the farmer cooperator trials.

Myron Rees, Cody Schneider, and Dominic Snyder have accepted new leadership roles as co-managers of SERF and MIRF.

Field days and tours. The annual spring and fall field days were held June 20 and September 5, respectively. Spring field day topics included prairie strips, crop yield and soil nitrogen prediction, and herbicide technology and resistance management. Topics for the fall field day included edge-of-field practices for water quality, market facilitation program and crop markets, and

current crop conditions and harvest challenges. On November 19, a prairie STRIPS field day focused on conservation practices and prescribed burning 101.

Henry County Leadership Group held a meeting April 16. Kirkwood Community College students visited the farm September 3 to learn more about the research farm system and research conducted at the farm. With strong support from extension staff and area ag businesses, the farm sponsored Ag Exploration Day. Nine high schools brought 130 students to the farm to engage in hands-on learning, hear about opportunities within the agriculture industry, and meet with ISU and community college representatives. A video highlighting the day can be found at: <https://crops.extension.iastate.edu/video/south-east-iowa-ag-exploration-day>. In January, two WACO Community High School students spent a week at the farm job shadowing.

The farm had several special visitors this year. Governor Kim Reynolds toured the farm August 21. There was discussion on current ag challenges and how research at ISU Research Farms is helping find solutions to those challenges. Dean Dan Robison visited July 12 and met with extension staff, area ag businesses, and a select group of FFA members and producers. SERF had 670 visitors for the year.

New projects. Cover crop seeding rate by seeding method, M. Licht/A. Robertson; Long-term nitrogen by crop rotation study, S. Archontoulis.

Crop Season Comments

Corn planting started April 22. Rain and cold moved in April 25. There was no fieldwork in May due to rain 25 of 31 days, totaling over 11 in. Corn planting resumed with a majority

of the acres planted between June 3 and June 10. Twenty-five acres of April planted plots were drowned out and had to be replanted. All soybean was planted between June 10 and 12.

Studies lost due to rain and date were Miscanthus N trials, soybean date of planting, planter comparison, and herbicide demo.

Summer months were dry. Weed control issues emerged in soybean acres. Most soybean acres were row cultivated.

Corn harvest was drawn out starting October 9. Due to delayed planting, black layer was generally mid-October with 111-day corn. Yields were better than expected for the late planting. Corn came off the combine ranging from 18 to 29 percent moisture. Average delivered moisture was 22 percent. Final yields were 172 bushels/acre corn and 60 bushels/acre soybean. Harvest was completed November 13 and tillage work completed November 20.

Weather Comments

Winter 2018-19. The moisture was adequate/surplus going into spring.

Spring 2019. No fieldwork happened in May. Abnormal rainfall in volume (11 in.) and frequency (25 of 31 days). May was cooler than normal. Majority of crops were planted in June.

Summer 2019. Below normal rainfall June, July, and August. There were 23 days at or above 90°F.

Fall 2019. Harvest was delayed due to late planting. Corn moisture levels were high throughout. Fall tillage was completed. Moisture was adequate going into winter.

Acknowledgements

Thanks to ISU Extension and Outreach researchers, MIRF and SERF staff, local agribusinesses, Nutrien Ag Solutions, Agriland FS, and Sandeen Seeds/Pioneer. Thanks also to the Southeast Iowa Agricultural Research Association for strong, continuing partnership.

Table 1. Southeast Research and Demonstration Farm, Crawfordsville, monthly rainfall and average temperatures for 2019.

Month	Rainfall (in.)		Temperature (°F)		Days 90° or above
	2019	Deviation from normal	2019	Deviation from normal	
March	1.65	-0.47	35.9	-3.6	0
April	3.74	0.33	51.9	0.3	0
May	11.55	6.65	60.6	-2.2	1
June	3.25	-1.52	72.2	0.3	4
July	1.40	-2.16	78.1	2.9	13
August	3.10	-1.22	71.4	-1.9	1
September	5.55	2.27	71.4	5.6	3
October	<u>2.25</u>	<u>-0.46</u>	50.2	-3.1	<u>1</u>
Totals	32.49	3.42			23

Research Farm Projects

<u>Project</u>	<u>Project Leader</u>
Automated weather station	E. Taylor
Carbon sequestration study	M. Al-Kaisi
Cardinal corn fungicide study	A. Robertson
Continuous corn insecticide evaluations	P. Weber
Corn breeding trials	J. Edwards
Corn performance testing	J. Rouse
Corn population trial	SERF/C. Schneider
Corn seed treatment	A. Robertson
Cover crop seeding rate x method	A. Robertson/M. Licht
Forecast and Assessment of Cropping Systems	S. Archontoulis
Infurrow fungicide trial	A. Robertson
K sidedress study in corn	A. Mallarino
K sidedress study in soybeans	A. Mallarino
Kalona soil tillage study	K. Tebockhorst
Long-term nitrogen by crop rotation study	S. Archontoulis
Milkweed demonstration	R. Hellmich
Miscanthus production study	E. Heaton/N. Boersma
Native prairie grass demonstration	M. Rees
Nira soil tillage study	K. Tebockhorst
Nitrogen rate x crop rotation x drainage	M. Castellano
Nut tree demonstration	Iowa Nut Growers Association
Orchard demonstration	P. O'Malley
Organic soybean variety trial	K. Delate
P and K placement within tillage systems	A. Mallarino
Pollinator habitat	R. Hellmich
Science-based trials of rowcrops integrated with prairie strips (STRIPS)	M. Helmers
Singh soybean breeding	B. Scott
Sorghum biomass trial	M. Salas
Soybean date of planting	M. Rees
Soybean performance testing	J. Rouse
Soybean predictive model trial	D. Mueller/S. Wiggs
Soybean R3 fungicide trial	SERF/C. Schneider
Soybean seed treatment trial	A. Robertson/J. Shriver
Statewide soybean fungicide trial	D. Mueller/S. Wiggs
Subsurface drainage study	M. Helmers/K. Tebockhorst
Switchgrass biomass production demo	K. Tebockhorst
Wetland demonstration for nitrate removal	K. Tebockhorst
Windbreak demonstration	M. Rees