



Farm and Weather Summary

Cody Schneider—farm co-manager

Farm Comments

With the persistence of the Covid-19 pandemic, the farms continue to operate with Covid-19 protocols, which allowed the farms to open up to in-person visitors and field days late spring.

After five years of service, Dominic Snyder, co-manager, took a new position with a private company. Dominic provided expertise in horticulture, irrigation, and managed research projects at Muscatine Island Research and Demonstration Farm (MIRF). He will be missed by all and we wish him the best of luck.

Field Days and Tours. The Southeast Iowa Agricultural Research Association's (SEIARA) annual meeting was held virtually March 3. The Southeast Iowa Research and Demonstration Farm (SERF) welcomed its first in-person visitors in over a year by hosting the Keota 5th graders May 14. Students learned about corn and soybean development, tile drainage, and research equipment at SERF.

SERF's spring field day was delayed and became the Agronomy Summer Workshop, held July 13. Topics included carbon markets, integrated weed management, and a herbicide demo. The fall field day was held September 9, which included topics on research farm updates, utilizing tile drainage to increase productivity, corn rootworm management strategies and demo, and integrated weed management strategies in soybean.

SERF was able to host the annual high school Ag Exploration event September 29-30, with 140 students from nine different schools attending. The goals of this annual event are to engage students in hands-on learning, get students excited to enter careers in agriculture, teach students skills they can use at home, and provide networking opportunities.

Lastly, SERF hosted Leadership Iowa for a session on challenges and advancements in agriculture. There was a total of 680 visitors to SERF and 50 visitors to MIRF in 2021.

Developments. Fundraising for the new Research and Learning Center continued in 2021. In October, SEIARA was awarded a \$200,000 grant from the Washington County Riverboat Foundation. Fundraising efforts have reached \$430,000. At the December board meeting a decision was made to hire Greiner Buildings, to construct the shell of the building and farm staff would be the general contractor. Groundbreaking was December 15. Funding for the new facility is still \$20,000 under the projected cost. Donations can be made by contacting the Johnson County ISU Extension and Outreach office or emailing seiarai@iastate.edu with questions.

Equipment. SERF had several equipment upgrades in 2021. The corn head was upgraded to a JD 693. A used Brent 744 wagon was purchased from the Ames research farm. Equipment was purchased to upgrade the UAN applicator with Ag Leader liquid control. A new greenhouse cover was put on MIRF's greenhouse.

SERF New Projects. Corn rootworm management evaluation, R. Vittetoe; Enlist herbicide demo, S. Jungman; Integrated weed management demo, V. Schmitt; Ostara fertilizer study, M. Castellano; Raspberry variety demo, C. Hesselting; Tar spot corn hybrid x fungicide, A. Robertson.

MIRF New Projects. Corn fungicide timing in corn-soybean rotation, C. Schneider; Nematodes that feed on corn seed treatment trial, S. Wiggs; Muskmelon variety trial, A. Nair; Mung bean variety trial, A. Singh; Mung bean root study, A. Singh; Ostara fertilizer study, M. Castellano; Soybean seed treatment, C. Schneider.

Crop Season Comments

Favorable spring weather allowed an early start to fieldwork. Fieldwork began with plowing organics April 5. Rye cover crops going to corn were terminated April 6, with about 8 in. of growth. Nitrogen was applied April 19.

Planting began April 23. Crops planted the last week of April emerged quickly with about eight days to emerge. Equipment was moved to MIRF April 29 to plant corn and soybean, returning to SERF May 1. By May 7, crops were 90% planted, anything not planted was intentionally delayed.

Crops planted the first week of May took nearly 15 days to emerge with a very cold stretch of weather. Soil temperatures dipped below 50°F at 4 in. May 9. Due to cold weather and extended stretch of precipitation, there was no fieldwork from May 9 until the first week of June.

Harvest started September 23 on some early soybean. Soybean yields were variable due to excess rain. Yields ranged between 55 and 80 bushels/acre, depending on slope and drainage, with a farm average of 64 bushels/acre.

Corn harvest started September 29. Corn yields were the lowest yields observed in the last five years, due to excess spring rain and extended periods of soil saturation in late May and again in late June. SERF bulk corn in soybean rotation yielded 210 bushel/acre and continuous corn yields ranged between 150 and 180 bushel/acre. Significant variability in yield was observed in both corn and soybean. Above normal fall temperatures caused a quick dry down of grain moisture. Harvest moistures ranged between 17% and 15%.

MIRF had late season issues with tar spot in corn, shutting the plant down around black layer causing poor stalk strength and lodging. Irrigated bulk corn yielded 13% below normal with an average of 200 bushel/acre. Irrigated bulk soybean averaged 60 bushel/acre.

Harvest was done November 4 and fall tillage and fertilizer was completed December 3.

Weather Comments

Winter 2020-21. The moisture was adequate/surplus going into spring.

Spring 2021. March started with above normal temperatures, with average temperatures in April. There was a cold stretch of weather and excess rain in May, with 10 days of recorded rainfall and 1.36 in. above normal.

Summer 2021. Excess rain continued in June, with nine days of recorded rainfall totaling 1.56 in. above normal. With much of Iowa in a drought, SERF recorded 4.07 in. above normal rainfall in May, June, and July.

Fall 2021. Conditions turned dry quickly with 3.77 in. below normal rainfall for the months of August and September. Above normal temperatures allowed an early start to harvest.

Table 1. Monthly rainfall and average temperatures.

Month	Rainfall, inches		Temperature				Days 90° or above
		Deviation from normal	High	Deviation from normal	Low 2021	Deviation from normal	
March	2.00	-0.14	44.5	4.7	0	+3.5	0
April	3.25	-0.09	52.4	0.9	0	-0.3	0
May	6.28	1.36	66.7	3.9	0	-6.7	0
June	6.46	1.59	75.1	3.0	9	-0.8	14
July	4.75	1.12	74.8	-0.4	5	-3.3	10
August	1.60	-2.51	74.8	1.5	5	-1.6	6
September	2.05	-1.26	69.9	4.0	2	-1.7	3
October	4.45	1.71	58.2	4.9	0	+2.7	0
Total	30.84	1.77	21				33

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