

Farm and Weather Summary

Dallas Maxwell, superintendent

Farm Comments

Developments. A strong wind storm in June destroyed a cattle hoop barn and caused windbreak damage. A new FIMS bunk system was installed in the cattle barn, which allows measurement of individual steer feed intake.

Field days and tours. The farms held four events with a total of 1,030 people attending the various field days, conferences, classes, and group tours. Among the farm events were the Armstrong Field Day, Demonstration Garden Field Day, Wyffels Ag Career Day, IWCC and FFA soil judging contest, and a Nitrogen Field Day led by Aaron Saeugling, extension crop specialist.

New projects. Soybean herbicide trial, M. Owen; FIMS bunk system installed, D. Loy, E. Lundy, and G. Dahlke; numerous on-farm trials.

Livestock. Winter snowfall was below normal. Temperatures were moderate early, but changed quickly to sub-zero temperatures for the end of 2017.

Crop Season Comments

Corn planting was slightly delayed due to weather, but was completed in early May. Harvest started late September but the soybeans struggled to dry down due to the August/September precipitation and high

humidity. Yields were good with corn averaging 194 bushels/acre and soybean averaging 60 bushels/acre.

Weather Comments

Winter 2016-2017. Last winter was fairly mild with little snow accumulation and above normal temps.

Spring 2017. Spring operations started in late March thanks to favorable weather conditions. April/May conditions caused planting challenges because the number of field working days was reduced due to rainfall events. The staff worked together efficiently and all corn was planted by early May and soybean by mid-May.

Summer 2017. Summer ended a little warmer than average and with above normal precipitation. June brought a storm with high winds damaging windbreaks and a cattle hoop barn, but caused little damage to crops. July was very dry, which hurt some crop yields. Pastures and hay also were damaged during this period.

Fall 2017. Harvest season was challenging due to above normal rainfall in August, September, and October. Crops were slow to dry down, but harvest was completed by mid-November. Due to a dry November and early December, fall tillage and fertilization was completed.

Table 1. Armstrong Research and Demonstration Farm, Lewis, monthly rainfall and average temperatures for 2017.

Month	Rainfall (in.)		Temperature (°F)		Days 90° or above
	2017	Deviation from normal*	2017	Deviation from normal	
March	3.00	+1.30	39.4	+2.6	0
April	4.63	+2.70	51.4	+2.3	0
May	6.54	+2.64	60.3	-0.6	1
June	5.67	+0.67	72.2	+1.7	6
July	1.03	-2.37	75.5	+1.2	3
August	7.61	+3.61	68.0	-3.8	0
September	2.49	-1.01	67.8	+1.1	1
October	<u>5.13</u>	<u>+2.73</u>	53.6	+2.0	<u>0</u>
Totals	36.10	+10.27			11

*Normal rainfall hand recorded at the Armstrong Research Farm every day at 8:00 A.M.

Research Farm Projects

Biochar biomass study on marginal soils	D. Laird
Black cutworm moth monitoring	A. Sisson
Corn fungicide “Cardinal” trial	A. Robertson
Corn hybrid x date of planting study	M. Licht
Corn rootworm research	P. Weber
Cover crop x tillage and N starter	J. Sawyer
Cover crops seeding into standing corn and soybeans	E. Juchems
FACTS (yield forecasting) study, corn	S. Archontoulis
FACTS (yield forecasting) study, soybean	S. Archontoulis
Feedlot runoff study	S. Shouse
Herbicide trial	M. Owen
Home demonstration garden	C. Haynes
ISU bull development project	J. Williams/J. Reecy
K-fertility x placement study	A. Mallarino
Long-term organic rotation study	K. Delate
Long-term tillage/crop rotation study	M. Al-Kaisi
Milkweed species demo	R. Hellmich
Monarch habitat (ARF and N-K)	R. Hellmich
Neonic trial	D. Mueller
Nitrogen rates x nitrogen application timing study	J. Sawyer
Nitrogen rates/crop rotation study	J. Sawyer
On-farm corn and soybean management studies	J. Rogers/A. Saeugling
Organic grape study	K. Delate
Organic oat trial	K. Delate
Organic soybean disease control study	K. Delate
Organic vegetable production with cover crops	K. Delate
Phosphorous x placement study	A. Mallarino
Potassium x corn hybrid (old K) study	A. Mallarino
Sorghum as a biomass crop	M. Fernandez
Soybean breeding study (4)	D. Singh
Soybean cultivar x date of planting study	M. Licht
Soybean fungicide evaluations	D. Mueller
Standability study	A. Robertson
Stine corn and soybean variety trial	Stine Seed
STRIPS bowl (ARF and N-K)	M. Helmers
True armyworm moth monitoring	A. Sisson
Weather station	E. Taylor
Wyffels variety trial	Wyffels Seed
Grazing demonstration	D. Maxwell

Acknowledgements

Shivvers Manufacturing	Atlantic News Telegraph
Atlantic Chamber of Commerce	KMA Radio, Shenandoah
KJAN Radio, Atlantic	Dennis Jipsen Seeds
Landus Coop, Atlantic	East Pottawattamie SWCD
Practical Farmers of Iowa	Cass County Master Gardeners
Iowa Beef Center	Iowa Farmer Today
Leopold Center for Sustainable Agriculture	Scoular Grain
Farm Bureau	Stine Seed
Tri-County Steer Futurity	Farm Credit Services, Red Oak
Lyman Vet Clinic	21 st Century Coop
Wyffels Hybrids	Mike Muhlbauer
Marlin Rossell	Beck's Hybrids
AgriVision, Massena	Lindeman Ford Tractor, Atlantic
Pioneer Seed Co.	BASF/ASA
Sandbothe Firestone	Cass County NRCS
Iowa Western Community College	Lamb Tiling
Southwest Iowa Tiling	

The mention of firm names or trade products does not imply that they are endorsed over other firms or similar products not mentioned.

Armstrong Research and Demonstration Farm
53020 Hitchcock Avenue
Lewis, IA 51544
712-769-2402

Directions: 11 miles southwest of Atlantic on Highway 6, then ½ mile south on M53 and ¾ mile east on gravel.

Directions to Neely-Kinyon Farm: from Greenfield and the intersection of Highways 92 and 25, go south 2 miles on Highway 25, ½ mile east and ¼ mile north.

Information on Experiments in Previous Annual Progress Reports

Corn Date of Planting and Maturity in Southwest Iowa RFR-A1674	ISRF16-12
Evaluation of the Efficiency of Aglime and Pelleted Aglime in a Southwest Iowa Acid Soil RFR-A1686	ISRF16-12
Corn Yield Response to Nitrogen Fertilizer Application Timing in Southwest Iowa RFR-A16105	ISRF16-12
Soybean Date of Planting and Maturity in Southwest Iowa RFR-A1675	ISRF16-12
Comparison of Organic and Conventional Crops at the Neely-Kinyon Long-Term Agroecological Research Site RFR-A1690	ISRF16-12
Grain Drying Energy Use RFR-A1676.....	ISRF16-12
Effect of Foliar Fungicides on Standability of Corn RFR-A16113	ISRF16-12
On-Farm Corn and Soybean Fertilizer Trials RFR-A1657.....	ISRF16-12
Comparison of Untreated Mature Switchgrass and Cornstalks as Roughage in Beef Cattle Feedlot Diets A.S. Leaflet R2953	ISRF15-12
Effect of Calcium Hydroxide Treatment on Switch Grass A.S. Leaflet R2943	ISRF15-12
On-Farm Corn, Soybean, and Alfalfa Fertilizer Trial RFR-A1557	ISRF15-12
Monarch Oviposition and Larval Survival on Nine Native Milkweed Species RFR-A1508	ISRF15-12
Integrating Strips of Native Prairie into Rowcrop Agricultural Fields RFR-A1572	ISRF15-12
Cover Crop Options and Mixes for the Upper Midwest: Is a Winter Rye Monoculture the Only Option RFR-A1526.....	ISRF15-12
Iowa Soils RFR-A1507	ISRF15-12
Chronology of the Wallace Foundation for Rural Research and Development, Armstrong Research Farm, and Neely-Kinyon Research farm RFR-A1501	ISRF15-12
On-Farm Sulfur Fertilization of Corn and Soybean Trials RFR-A1560	ISRF15-12
Long-term Tillage and Crop Rotation Effects on Soil Carbon and Soil Productivity RFR-A1548.....	ISRF15-12
Effectiveness of Foliar Fungicides by Timing on Northern Leaf Blight on Hybrid Corn in Southwest Iowa RFR-A1465.....	ISRF14-12
On-Farm Corn Row Spacing Trials RFR-A1433	ISRF14-12
Effects of Label Dose Permethrin Use in Yearling Angus Beef Bulls on Reproductive Function and Testicular Histopathology A.S. Leaflet R2958	ISRF14-12
Corn and Soybean Yield Response to Micronutrients in Southwest Iowa RFR-A1466	ISRF14-12
Attracting Beneficial Insects to Iowa Agricultural Crops Through Floral Provisioning RFR-A1339.....	ISRF13-12
Evaluation of Tillage, Residue, and Fungicide on Disease Incidence in Continuous Corn Production Systems RFR-A1371	ISRF13-12
Corn and Soybean Production with a Winter Rye Cover Crop-A1280	ISRF12-12
Seasonal and Rotational Influences on Corn Nitrogen Requirements RFR-A1264	ISRF12-12
Broadcast and Band Phosphorus and Potassium Placement for Corn and Soybean Managed with Till or No Till RFR-A1197	ISRF11-12