

Armstrong and Neely-Kinyon Research Farms Summary

RFR-A16114

Wallace Foundation for Rural Research and Development

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Farm Superintendent Dallas Maxwell Crops Specialist Dan Schaben
Administrative Specialist..... Paulette Cambridge Iowa On-Farm Ag Specialist ... Jim Rogers
Agricultural SpecialistRandy Breach Mark Honeyman Farms Coordinator
Tim Goode Farms Manager
103 Curtiss Hall
513 Farm House Lane, ISU

Farm and Weather Summary

Dallas Maxwell, superintendent

Farm Comments

Developments. The farm acquired a new weigh wagon for On-Farm studies and had extensive tiling work done at the Neely-Kinyon Farm. Donations received totaled more than \$28,500 for both farms.

Field days and tours. The farms held four events with a total of 931 people attending the various field days, conferences, classes, and group tours. Among the farm events were the Wyffels Ag Career Day, IWCC and FFA soil judging contest, and a Weed Field Day led by Aaron Saeugling, extension crop specialist.

New projects. Standability trial, A. Robertson; FACTS (yield forecasting), S. Archontoulis; Soybean breeding, D. Singh; True Army Worm Moth monitoring, A. Sisson; STRIPS bowl study (N/K), M. Helmers; Monarch habitat, R. Hellmich; Monarch Habitat (NK), R. Hellmich; Herbicide rates trial, A. Saeugling and J. Rogers; Cover crop demonstration, A. Saeugling and J. Rogers.

Livestock. Winter snowfall was below normal. Temperatures were moderate with rain in December and January instead of snow. Muddy lots and ice were challenges in the feedlots.

Crop Season Comments

Corn planting was slightly delayed due to weather, but ended up being completed by early May. Harvest started late September with soybean struggling to dry due to the August precipitation and high humidity.

Yields were good with corn averaging 198 bushels/acre and soybean averaging 64 bushels/acre.

Weather Comments

Winter 2015-2016. Last winter seemed to get off to a slow start with an unusually warm December that included over 4.5 in. of rain. Temperatures returned to normal January-February, with approximately 14 in. of snowfall.

Spring 2016. Spring operations started mid-March thanks to favorable weather conditions. April-May conditions caused planting challenges as field working days were reduced due to rainfall events. The staff worked together efficiently and all corn was planted by May 7 and soybean by May 20.

Summer 2016. Except for a “mini” drought experienced June 1-19, rainfall was very favorable for the growing season. The growing season average temperature was 62.8°F. 2016 recorded 17 days over 90°F, which was more than double the amount of days over 90°F in 2015. The Armstrong Farm recorded 11 in. more rain than the Neely-Kinyon Farm.

Fall 2016. October was tricky for harvest. The farm recorded almost 3 in. of rain in October. The soybean struggled to dry down due to late summer rainfall and high humidity during October. The favorable weather in November led to fall field work getting done in a timely fashion.

Table 1. Armstrong Research and Demonstration Farm, Lewis, monthly rainfall and average temperature for 2016.

Month	Rainfall (in.)		Temperature (°F)		Days 90° or above
	2016	Deviation from normal*	2016	Deviation from normal*	
March	1.37	-0.33	44.3	+7.5	0
April	6.66	+3.96	51.2	+2.1	0
May	7.84	+3.94	60.6	-0.3	0
June	2.84	-2.16	75.3	+4.8	9
July	6.89	+3.49	73.5	-0.8	1
August	5.39	+1.39	72.4	+0.6	4
September	5.19	+1.69	68.3	+1.6	3
October	<u>2.96</u>	<u>+0.56</u>	56.9	+5.3	<u>0</u>
Totals	39.14	+12.54			17

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

Research Farm Projects

Bio char biomass study on marginal soils	D. Laird
Black cutworm moth monitoring	A. Sisson
Blackberry trellising study	G. Nonnecke
Corn fungicide “Cardinal” trial	A. Robertson
Corn hybrid x date of planting study	M. Licht
Corn rootworm research	P. Weber
Cover crop demonstration	A. Saeugling/J. Rogers
Cover crop x tillage & N starter	J. Sawyer
Cover crops seeding into standing corn and soybeans	E. Juchems
Crop residue removal research	M. Al-Kaisi/A. Mallarino/J. Sawyer
Evaluation of farm energy usage for drying corn	M. Hanna
FACTS (yield forecasting) study	S. Archontoulis
Feedlot runoff study	S. Shouse
Herbicide rate trial	A. Saeugling/J. Rogers
Home demonstration garden	C. Haynes
ISU bull development project	J. Williams/J. Reecy
K-fertility x placement study	A. Mallarino
Lime study	A. Mallarino
Long term organic rotation study	K. Delate
Long-term tillage/crop rotation study (3)	M. Al-Kaisi
Miscanthus grass establishment study-Armstrong	E. Heaton
Monarch habitat (ARF and N-K)	R. Hellmich
Neonicotinoid 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 (6)	J. Rogers/A. Saeugling
Organic grape study	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
Starter application study	M. Licht
STRIPS bowl (ARF and N-K)	M. Helmers
True armyworm moth monitoring	A. Sisson
Weather station	E. Taylor

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
Cyclone Seed and Chemical	Spring Meadows Nursery
Tri-County Steer Futurity	Farm Credit Services, Red Oak
Lyman Vet Clinic	21 st Century Coop
Wyffels Hybrids	Mike Muhlbauer
Marlin Rossell	Becks 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

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
Soybean Date of Planting and Maturity in Southwest Iowa RFR-A1565	ISRF15-12
Cover Crop Options and Mixes for the Upper Midwest: Is a Winter Rye Monoculture the Only Option RFR-A1526	ISRF15-12
Corn Date of Planting and Maturity in Southwest Iowa RFR-A1564	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
Comparison of Organic and Conventional Crops at the Neely-Kinyon Long-term Agroecological Research Site RFR-A1568	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
Elite Soybean Test—South RFR-A1376	ISRF14-12
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
Diesel Fuel Consumption During Field Operations RFR-A1374	ISRF13-12
Phosphorous Availability in Beef Cattle Manure for Corn and Soybean RFR-1386	ISRF13-12
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
Comparison of Ivermectin and Extended-release Eprinomectin Deworming Treatment on Stocker and Subsequent Feedlot Performance and Carcass Characteristics of Fall-born Angus Heifers RFR-A1370	ISRF13-12
Corn and Soybean Production with a Winter Rye Cover Crop-A1280	ISRF12-12
Potassium Uptake and Recycling to the Soil in Corn and Soybean RFR-A1298	ISRF12-12
Seasonal and Rotational Influences on Corn Nitrogen Requirements RFR-A1264	ISRF12-12
Weed Management Programs in No-tillage Soybean RFR-1281	ISRF12-12
Broadcast and Band Phosphorus and Potassium Placement for Corn and Soybean Managed with Till or No Till RFR-A1197	ISRF11-12