

Armstrong and Neely-Kinyon Research Farms Summary

RFR-A1955

Wallace Foundation for Rural Research and Development

President.....Allan Tiarks, Council Bluffs, West Pottawattamie County*
 President Elect Alan Spencer, Stanton, Montgomery County
 Treasurer Dan Rossell, Griswold, Cass County*
 Secretary Brittany Elmquist, Audubon, Audubon County

Directors

Adair County..... Vacant
 Adams County Dan Morgan, Corning
 Audubon County.....Joe/Brittany Elmquist, Audubon
 Carroll County Vacant
 Cass County* Dan Rossell, Griswold
 Cass County* Brent Bierbaum, Griswold
 Clarke County Vacant
 Crawford County Rod Backhaus, Manilla
 Decatur County Vacant
 Fremont County David Trowbridge, Tabor
 Madison County..... Vacant
 Mills County Tom Pollock, Malvern
 Montgomery County.....Alan Spencer, Stanton
 Page County Vacant
 West Pottawattamie County* Allan Tiarks, Council Bluffs
 East Pottawattamie County* Darrell Stamp, Walnut
 East Pottawattamie County Mark Schnepel, Carson
 Shelby County.....Don Hummel, Atlantic
 Taylor County*Kevin Barker, Lenox
 Taylor County* Vacant
 Union County..... Vacant

*Co-directors

Bookkeeper RaeLyn Barkley
 At-Large Darrell Busby, Gil/Ardyth Gillespie
 Advisors Alan Ladd, Mark Honeyman
 Ex Officio..... Varel Bailey, Dave Williams, Steve Hansen, Mark Bentley,
 Garry Pellett, Clark BreDahl

Staff

Farm Superintendent..... Dallas Maxwell
 Administrative Specialist..... RaeLyn Barkley
 Agricultural Specialist Randy Breach
 Crops Specialist John Beckman
 On-Farm Ag Specialist Jim Rogers
 Associate Dean..... Mark Honeyman
 Farms Manager Tim Goode

103 Curtiss Hall
 513 Farm House Lane, ISU

Farm and Weather Summary

Dallas Maxwell, superintendent

Farm Comments

Developments. There was a cool, wet start to the growing season, then a cool, wet finish. Construction of the new cattle hoop was completed. The barn and granary were torn down and plans for new shop and machine shed construction have begun.

Field days and tours. The farms held five events with a total of 1,403 people attending the various field days, conferences, classes, and group tours. Among the farm events were the Armstrong Field Day with new CALS Dean Robison, Neely-Kinyon Field Day, Demonstration Garden Field Day, IWCC and FFA soil judging contest, BASF FFA Field Day, BASF Field Day, Ag 4 All Field Day, and gall midge meeting.

New projects. Soybean breeders, B. Scott; ICPT, J. Rouse/G. Marzen; ISA soybean DOP, J. Rogers/A. Saeugling; Irrigating FACTS soybeans, S. Archontoulis; High quality beef project, D. Loy/E. Lundy; numerous on-farm trials; numerous BASF demonstrations.

Livestock. Continuous snow and moisture caused muddy lots in the spring. Winter snowfall was more than normal and temperatures were moderate. Moisture during summer and fall caused muddy feedlots to continue.

Crop Season Comments

Corn planting was done in a timely fashion, even with cool and wet conditions. Crops were slow to emerge with cool spring temperatures. The slow canopy closure led to late-season weed pressure in soybean. Harvest started late September and dealt with corn dry-down issues and late-season lodging due to high wind gusts. Harvest was completed in late October and fall tillage and fertilization was completed mid-November. Corn average yield was a record high with 202 bushels/acre and the soybean crop yielded 61 bushels/acre, even with disease and insect pressure.

Weather Comments

Winter 2018-2019. Winter was fairly cold with considerable snow accumulation and below normal temps. Muddy feedlot conditions occurred.

Spring 2019. Spring operations started mid-April, but due to cooler temperatures and wetter conditions, planting was slowed. Moisture was above average, especially in May.

Summer 2019. Moderate temperatures throughout the summer with a drier July and more rainfall in early September. Crops dealt with diseases and insect pressure.

Fall 2019. September had above normal rain followed by cooler temperatures in October. Soybean dried down well, however, corn had issues drying down, causing delays in harvest. Harvest was completed in late October and fall tillage and fertilization was finished mid-November.

Table 1. Armstrong Research and Demonstration Farm, Lewis, 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	2.98	+1.26	32.90	-3.9	0
April	1.48	+1.15	51.54	+2.4	0
May	6.76	-2.83	59.21	-1.7	0
June	3.58	+1.37	73.30	+2.8	3
July	4.71	-1.34	75.07	+8.0	4
August	4.83	-0.26	71.47	-0.4	1
September	7.34	+4.07	70.79	+4.1	1
October	<u>4.89</u>	<u>+2.51</u>	47.38	-4.3	<u>0</u>
Totals	36.57	+5.93			9

*Normal rainfall hand recorded at the Armstrong Research Farm daily at 8 a.m.

Research Farm Projects

<u>Research Project</u>	<u>Project Leader</u>
BASF soybean DOP Trial	M. Licht
BASF soybean trials	BASF
Black cutworm moth monitoring	A. Sisson
Corn fungicide “Cardinal” trial	A. Robertson
Corn rootworm research	A. Sisson
Cover crops seeding into standing corn and soybeans	E. Juchems
Dekalb variety trial	C. Waters
Ecological study–University of Maryland	A. Dixon
FACTS (yield forecasting) study, corn	S. Archontoulis
FACTS (yield forecasting) study, soybean	S. Archontoulis
Forage test plot research	E. Lundy
Herbicide trial	D. Franzenburg
High quality beef study FIMS	D. Loy/E. Lundy
Home demonstration garden	C. Haynes
Iowa Crop Performance Test Trial, corn and soybean	J. Rouse/G. Marzen
Iowa Soybean Association DOP Trial	M. Witt
ISU HQB project FIMS	D. Loy/E. Lundy
K-fertility x placement study	A. Mallarino
K-sidedress study	A. Mallarino
Long-term nitrogen/crop rotation study	S. Archontoulis
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
On-farm corn and soybean management studies	J. Rogers/A. Saeugling
Organic corn breeding	P. Scott
Organic grape study	K. Delate
Organic vegetable production with cover crops	K. Delate
Phosphorous x placement study	A. Mallarino
Sorghum as a biomass crop	M. Fernandez
Soybean Breeders	B. Scott
Soybean fungicide evaluations	D. Mueller
STRIPS bowl (ARF and N-K)	M. Helmers
True armyworm moth monitoring	A. Sisson
Weather station	ISRF
Wyffels variety trial	Wyffels Seed

Acknowledgements

Tony Leighton	Atlantic News Telegraph
Atlantic Chamber of Commerce	KMA Radio, Shenandoah
KJAN Radio, Atlantic	HTS Ag
Landus Cooperative, 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	Fox Welding
Tri-County Steer Futurity	Farm Credit Services, Red Oak
Lyman Vet Clinic	21 st Century Coop
Wyffels Hybrids	Mike Muhlbauer
Marlin Rossell	Waters Farm Supply, Cumberland
AgriVision, Massena	Lindeman Ford Tractor, Atlantic
Pioneer Seed Co.	BASF/ASA
Sandbothe Firestone	Cass County NRCS
Iowa Western Community College	Lamb Tiling
Glen Jones	Weirich Welding
Southwest Iowa Tiling	Dennis Jipsen
Adam Johnson	Pierce Pump
Farm Service Cooperative, Oakland	Rick Larsen

The mention of firm names or trade products does not imply 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 Yield Response to Tillage and Nitrogen Fertilizer Rate RFR-A1852	ISRF18-12
Soybean Date of Planting and Maturity RFR-A1891	ISRF18-12
Corn Date of Planting and Maturity RFR-A1891	ISRF18-12
Seasonal and Rotational Influences on Corn Nitrogen Requirements RFR-A1853	ISRF18-12
Long-term Tillage and Crop Rotation Effects on Soil Carbon and Soil Productivity in Southwest Iowa RFR-A1877	ISRF18-12
Demonstrating Cover Crop Mixtures on Iowa Farmland: Management, Soil Health, and Water Quality Benefits RFR-A1867	ISRF18-12
On-Farm Corn and Soybean Planter Demonstration Trials RFR-A1840	ISRF18-12
Evaluation of Foliar Fungicides on Soybeans in Southwest Iowa RFR-A17100	ISRF17-12
Comparison of Organic and Conventional Crops at the Neely-Kinyon Long-Term Agroecological Research Site RFR-A1788	ISRF17-12
On-Farm Corn and Soybean Fungicide Demonstration Trials RFR-A1749	ISRF17-12
On-Farm Corn and Soybean Fertilizer Demonstration Trial RFR-A1733	ISRF17-12
Effectiveness of Foliar Fungicides by Timing on Gray Leaf Spot on Hybrid Corn in Southwest Iowa RFR-A1792	ISRF17-12
Effects of Label Dose Permethrin Use in Yearling Angus Beef Bulls In-Season Forecasting of Plant Growth, Soil Water-Nitrogen, And Grain Yield in Southwest Iowa RFR-A1794	ISRF17-12
On-Farm Cover Crop Demonstration Trials	ISRF17-12
Evaluation of the Efficiency of Aglime and Pelleted Aglime in a Southwest Iowa Acid Soil RFR-A1686	ISRF16-12
Grain Drying Energy Use RFR-A1676	ISRF16-12
Effect of Foliar Fungicides on Standability of Corn RFR-A16113	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
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
on Reproductive Function and Testicular Histopathology A.S. Leaflet R2958	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
Broadcast and Band Phosphorus and Potassium Placement for Corn and Soybean Managed with Till or No Till RFR-A1197	ISRF11-12