

# Armstrong and Neely-Kinyon Research Farms Summary

RFR-A15104

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 Ex Officio..... Varel Bailey, Dave Williams, Steve Hansen, Mark Bentley,  
 Garry Pellett, Clark BreDahl

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Interim Farm Superintendent ..... Dallas Maxwell  
 Farm Superintendent (retired)... Bernie Havlovic  
 Iowa On-Farm Ag Specialist ..... Jim Rogers  
 Livestock Specialist ..... Randy Breach  
 Crops Specialist ..... Dan Schaben  
 Paulette Cambridge ..... Admin Specialist  
 Mark Honeyman ..... Farms Coordinator  
 Tim Goode ..... Farms Manager  
 103 Curtiss Hall, ISU

## Farm and Weather Summary

Dallas Maxwell, interim superintendent

### Farm Comments

*Developments.* The farm purchased a used Hagie high-boy sprayer this year along with another 350 bushel Kilbros grain wagon.

*Field days and tours.* The farms held nine events with a total of 1,060 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.* Starter application study, M. Licht; Nitrogen  $\times$  timing study, J. Sawyer; PRNT study, D. Barker; Black cutworm moth monitoring, A. Sisson; STRIPS bowl study, M. Helmers; Lime study, A. Mallarino; Herbicide rates trial, A. Saeugling, and J. Rogers; Cover crop demonstration, A. Saeugling and J. Rogers; Grass finish beef demonstration, M. Honeyman.

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

### Crop Season Comments

Corn planting started on time, but due to rain, was challenging to get finished. Harvest started late September with crops slowly

drying, but changed quickly after the first of October. Yields were good with corn averaging 203 bushels/acre and soybeans averaging 59 bushels/acre.

### Weather Comments

*Winter 2014-2015.* Below normal snowfall amounts and record setting low temperatures persisted throughout the winter. Spring arrived bringing more moisture, which challenged early fieldwork.

*Spring 2015.* The cool, wet spring extended the fieldwork and planting dates some. There were enough breaks in the weather that most crops in this area were planted in a timely manner.

*Summer 2015.* During the growing season, we had measurable precipitation every week until September. For the growing season, the average temperature was slightly above normal, but only seven days were above 90°F. Therefore, we were slightly behind on heat units for the season. Surrounding areas had more moisture than the Armstrong Farm, including the Neely-Kinyon Farm.

*Fall 2015.* October gave us three good weeks of harvest weather, which was needed for grain dry down. The rains started and continued off and on through December. Soil moisture conditions were near capacity at season's end.

**Table 1. Armstrong Research and Demonstration Farm, Lewis, monthly rainfall and average temperature for 2015.**

Month	Rainfall (in.)	Deviation from normal*	Temperature (°F)	Deviation from normal*	Days 90° or above
	2015		2015		
March	0.50	-1.67	32.7	+3.8	0
April	5.65	+2.26	51.5	+2.5	0
May	4.38	-0.17	59.5	-1.4	0
June	5.32	+0.76	71.4	+0.9	2
July	4.26	-0.30	73.0	-1.3	4
August	5.74	+1.86	69.6	-2.2	0
September	4.77	+1.13	68.1	+1.5	1
October	<u>1.31</u>	<u>-0.96</u>	54.5	<u>+2.9</u>	<u>0</u>
Totals	31.93	+2.91		+6.7	7

\*Normal rainfall recorded at the U.S. Weather Bureau Station, Atlantic, IA.

### Research Farm Projects

<b><u>Project/Demonstration</u></b>	<b><u>Project Leader</u></b>
All-America selections garden	B. Havlovic
Bailey flowering shrub and hardy rose demonstrations	B. Havlovic
Ball seed/Pan American seed flower trial	B. Havlovic
Bio char biomass study on garden plants	C. Haynes
Bio char biomass study on marginal soils	D. Laird
Blackberry trellising study	G. Nonnecke
Corn and soybean cover crop × nitrogen study	J. Sawyer
Corn fungicide “Cardinal” trial	A. Robertson
Corn hybrid × crop rotation study	J. Sawyer
Corn hybrid × date of planting study	M. Licht
Corn rootworm research	P. Weber
Cover crop demonstration	A. Saeugling/J. Rogers
Cover crop evaluations in a corn/soybean rotation	T. Kaspar/A. Lenssen
Cover crops seeding into standing corn and soybeans	E. Juchems
Cover crops—enhancing corn yields	J. Sawyer
Crop residue removal research	M. Al-Kaisi/A. Mallarino/J. Sawyer
Easy Elegance shrub rose trial	B. Havlovic
Evaluation of farm energy usage for drying corn	M. Hanna
Evaluation of farm energy usage with diesel tractors	M. Hanna
Farm shop lighting study-farm energy project	M. Hanna
Feedlot runoff study	S. Shouse
Floral provisioning study	M. Gleason
Forestry biomass study	J. Randall
Grass finished beef demonstration	M. Honeyman
Helmstar corn fungicide evaluation study	A. Robertson
Herbicide rate trial	A. Saeugling/J. Rogers
High tunnel bramble trial	B. Havlovic
Home demonstration garden	C. Haynes
Home demonstration orchard	B. Havlovic

**Project/Demonstration (continued)**

ISU bull development project  
K-fertility × placement study  
Lime study  
Long term organic rotation study  
Long-term tillage/crop rotation study (3)  
Marrone corn fungicide evaluation study  
Micro-nutrients on soybeans  
Miscanthus grass establishment study-Armstrong  
Nitrogen rates/crop rotation study  
On-farm corn and soybean management studies (6)  
Organic grape study  
Organic soybean disease control study  
Organic vegetable production with cover crops  
P-fertility × placement study  
Potassium × corn hybrid study  
Prairie grass buffer strip study  
PRNT study  
Sorghum as a biomass crop  
Soybean cultivar × date of planting study  
Soybean fungicide evaluations  
Soybean thrips monitoring project  
Spring Valley flowering shrub trial  
Starter application study  
STRIPS bowl  
Tomato grafting study in a high tunnel  
Utilization of switch grass in a feedlot ration  
Weather station

**Project Leader**

J. Williams/J. Reecy  
A. Mallarino  
A. Mallarino  
K. Delate  
M. Al-Kaisi  
A. Robertson  
A. Mallarino  
E. Heaton  
J. Sawyer  
J. Rogers/A. Saeugling  
K. Delate  
K. Delate  
K. Delate  
A. Mallarino  
A. Mallarino  
M. Helmers  
D. Barker  
M. Fernandez  
M. Licht  
D. Mueller  
M. Irizarry  
B. Havlovic  
M. Licht  
M. Helmers  
A. Nair  
C. Clark  
E. Taylor

### Acknowledgements

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Atlantic Chamber of Commerce	KMA Radio, Shenandoah
KJAN Radio, Atlantic	Dennis Jipsen Seeds
West Central Coop, Atlantic	East Pottawattamie SWCD
Practical Farmers of Iowa	Cass County Master Gardeners
Iowa Beef Center	Iowa Farmer Today
Leopold Center for Sustainable Agriculture	Pan Am Seed/Ball Seed Company
All American Seeds	Spring Meadows Nursery
Tri-County Steer Futurity	Farm Credit Services, Red Oak
Lyman Vet Clinic	Hagie Mfg.
Wyffels Hybrids	Mike Muhlbauer
Marlin Rossell	Helena Chemical Company
AgriVision, Massena	Lindeman Ford Tractor, Atlantic
Pioneer Seed Co.	BASF/ASA
Omagro	Cyclone Seed and Chemical
Hagie Mfg.	Scoular Grain
Sandbothe Firestone	21 <sup>st</sup> Century Coop

*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 Organic and Conventional Crops at the Neely-Kinyon Long-term Agroecological Research Site RFR-A1468 .....	ISRF14-12
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
On-Farm Sulfur Fertilization of Corn and Soybean Trials RFR-A1446 .....	ISRF14-12
Effect of Trace Mineral Injection and Optaflexx on Growth Performance and Carcass Characteristics of Finishing Cattle A.S. Leaflet R2961 .....	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
Long-term Tillage and Crop Rotation Effects on Soil Carbon and Soil Productivity RFR-A1375.....	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
Utilization of Pelleted Corn Stover/DDG Feed as Primary Source of Roughage and Protein in Beef Feedlot Rations RFR-A1372.....	ISRF13-12
Colored Plastic Mulches for High Tunnel Tomato Production RFR-A1385 .....	ISRF13-12
Corn and Soybean Production with a Winter Rye Cover Crop-A1280 .....	ISRF12-12
Long-term Tillage and Crop Rotation Effects on Soil Carbon and Soil Productivity RFR-A1285 .....	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
Effect of Plastic Mulch Color on Tomato Production in High Tunnels RFR-A1295.....	ISRF12-12
Grass-finished Beef Pilot Project: Cattle Performance RFR-A1284.....	ISRF12-12
Broadcast and Band Phosphorus and Potassium Placement for Corn and Soybean Managed with Till or No Till RFR-A1197 .....	ISRF11-12
Two Pass Weed Management Programs in Corn RFR-A11199.....	ISRF11-12
Effects of Nematode-Protectant Seed Treatments on Corn Yields and Nematode Population Densities RFR-A11100 .....	ISRF11-12
Rainwater Catchment from a High Tunnel for Irrigation Use RFR-A1198.....	ISRF11-12
High Tunnel Bramble Production RFR-A11102 .....	ISRF11-12