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# Armstrong and Neely-Kinyon Research Farms Summary

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# Armstrong and Neely-Kinyon Research Farms Summary

**Abstract**

Includes Farm and Weather Summary, Research Farm Projects, Acknowledgements and Information on Experiments in Previous Annual Progress Reports.

**Keywords**

RFRA11144

**Disciplines**

Agriculture

# Armstrong and Neely-Kinyon Research Farms Summary

RFR-A11144

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Livestock Specialist ..... Randy Breach 32 Curtiss, ISU  
Crops Specialist ..... Kirk Schwarte  
Iowa FARM Specialist ..... Stephanie Marlay  
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## Farm and Weather Summary

Bernie Havlovic, farm superintendent

### Farm Comments

*Developments:* A new 30 ft × 40 ft metal clad three-stall garage was constructed near the residence. The farm installed 500 ft of terraces and 750 ft of drainage tile on the southwest 80 as part of a soil conservation project. We poured 68 cubic yards of cement inside the cattle finishing hoop to complete the paving of this structure. Nearly three miles of old farm perimeter fence line was removed during the past year. New equipment purchases included a John Deere 7430 tractor with loader, a 300-bushel gravity wagon for grain, and a 20 ft livestock trailer.

*Field Days and Tours:* The farms held eight events, with a total of 1,092 people attending the various field days, conferences, classes, and group tours.

*New Projects:* Biochar on marginal soils study, David Laird; Soybean fungicide trial, Stephanie Marlay; Post herbicide control of horseweed in soybeans study, Stephanie Marlay; Post harvest liquid nitrogen treatments to corn residue study, Aaron Saeugling; Phosphorous and feedlot manure fertility study, Antonio Mallarino; Corn residue management study, Aaron Saeugling; Corn nematode study, Greg Tylka; Organic vegetable production with cover crops study, Kathleen Delate; High tunnel rainwater catchment study, Linda Naeve; Animal behavioral study, Grant Dewell.

*Livestock:* Seasonal winter temperatures and snowfall created average winter feedlot conditions. Early summer rainfall was plentiful providing good pasture grazing conditions, but conditions deteriorated quickly by late summer when very hot and dry conditions prevailed into the late summer and fall.

### Crop Season Comments

Corn planting started on April 29 and was completed by May 18. Harvest started on September 29 and was completed by October 20. An average corn yield of 168 bushels/acre was recorded for the farm.

Soybean planting started on May 5 and was completed on May 19. Harvest began on September 30 and was completed on October 10. The average farm soybean yield of 68 bushels/acre was above the farm's 17-year average.

### Weather Comments

*Winter 2010–2011:* A total snowfall of 32 in. was recorded at the farm this past winter, which was near normal. The winter's coldest temperature of  $-9^{\circ}$  was recorded on January 13.

*Spring 2011:* Warm spring temperatures and seasonal rainfall allowed for early planting and got crops off to a good start. By the end of spring corn and soybean development was rated as very good and ahead of normal.

*Summer 2011:* Summer air temperatures were well above normal and rainfall was scattered causing stress to the farm's corn crop. The daily high temperatures reached 90°F or greater on 33 days during the summer (Table 1). The dry July was followed by a wet August, which seemed to benefit the soybean crop.

*Fall 2011:* The pattern of warm temperatures continued throughout most of the fall, but rainfall was very limited. Record low rainfall was recorded at both farms during the month of October. The dry fall provided good harvesting conditions and low grain moisture levels.

**Table 1. Armstrong Research and Demonstration Farm, Lewis, IA monthly rainfall and average temperatures for 2011.**

<b>Month</b>	<b>Rainfall (in.)</b>		<b>Temperature (°F)</b>		<b>Days 90° or above</b>
	<b>2011</b>	<b>Deviation from normal</b>	<b>2011</b>	<b>Deviation from normal</b>	
March	1.31	-0.86	39.4	-2.7	0
April	3.51	+0.12	51.8	+2.8	0
May	4.90	+0.35	61.8	+0.9	2
June	4.03	-0.53	72.7	+2.2	5
July	2.33	-2.23	80.8	+6.5	17
August	8.80	+4.92	74.9	+3.1	5
September	1.33	-2.31	62.3	-4.5	3
October	0.27	-2.15	54.3	+2.7	1
Totals	26.48	-3.67			33

## Research Farm Projects

Research Project/Demonstration	Project Leader
All-America selections garden	B. Havlovic
Animal behavioral study (beef cattle)	G. Dewell
Bailey flower shrub and hardy rose demonstrations	B. Havlovic
Ball seed/Pan American seed flower trial	B. Havlovic
Beef hoop barn manure clean-out study	M. Honeyman/D. Maxwell
Biochar biomass study on marginal soils	D. Laird
Corn and soybean cover crop × nitrogen study	J. Sawyer
Corn fungicide “Cardinal” trial	A. Robertson
Corn herbicide evaluations	M. Owen
Corn hybrid × crop rotation study	J. Sawyer
Corn nematode Study	G. Tylka
Corn residue management study	A. Saeugling
Corn rootworm research	P. Weber
Cover crops in an organic crop rotation	K. Delate
Crop residue removal research	M. Al-Kaisi/A. Mallarino/J. Sawyer
Easy Elegance shrub rose trial	B. Havlovic
Feedlot manure accumulation study	S. Shouse
Forestry biomass study	J. Randall
High tunnel bramble trial	P. Domoto/G. Nonnecke
High tunnel rainwater catchment study	L. Naeve
High tunnel sunflower production study	B. Havlovic
Home demonstration garden	C. Haynes
Home demonstration orchard	B. Havlovic
Iowa Gold specialty soybean trial	K. Scholbrock
K-fertility × placement 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
Miscanthus grass establishment study-Neely Kinyon	M. Depoy/E. Heaton
Nitrogen rates/crop rotation study	J. Sawyer
No-till pasture renovation demonstration	B. Havlovic
Organic grape study	K. Delate
Organic soybean disease control study	K. Delate
Organic vegetable production with cover crops	K. Delate
P-fertility × placement study	A. Mallarino
Phosphorous and feedlot manure fertility study	A. Mallarino
Post harvest liquid nitrogen treatments to corn residue	A. Saeugling
Post herbicide control of horseweed in soybeans	S. Marlay
Potassium × corn hybrid study (2)	A. Mallarino
Soybean fungicide evaluations	A. Robertson
Soybean fungicide study	S. Marlay
Soybean plant growth and development study	J. Lee
Spring Valley flower shrub trial	B. Havlovic

## Acknowledgements

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Atlantic Chamber of Commerce	KMA Radio, Shenandoah
KJAN Radio, Atlantic	Dennis Jipsen Seeds
Pelgrow of Griswold and 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-America Seeds	Spring Meadows Nursery
Tri-County Steer Futurity	Farm Credit, Red Oak
First National Bank, Greenfield	Union State Bank, Greenfield
Exchange state Bank, Adair	Farmers State Bank, Stuart
First National Bank, Creston	Iowa State Bank, Creston
Adair County Pork Producers	Adair County Beef Producers
Pfizer Animal Health	Fort Dodge Animal Health
Juniper Systems Inc., Logan, Utah	

*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.

*Neely-Kinyon Research and Demonstration Farm  
2557 Norfolk Avenue  
Greenfield, IA 50849*

Directions: from Greenfield and the intersection of Highways 92 and 25, go south 2 miles on Highway 25, ½ mile east and ¾ mile north.

## Information on Experiments In Previous Annual Progress Reports

Sorghum Biomass Yield Trial for Ethanol Production RFR-A1088 .....	ISRF10-12
Miscanthus Establishment and Survival RFR-A1077 .....	ISRF10-12
Modified Oil Soybean Test---South RFR-A1083 .....	ISRF10-12
Soil pH change as Affected by the Lime Source and Application Rates RFR-A1095 .....	ISRF10-12
Pest Damage Effects: Evaluating the Benefits of Perimeter Trap Cropping and Row Intercropping RFR-A1092.....	ISRF10-12
Early Planting of Tomatoes in a High Tunnel with Plant Coverings RFR-A1089 .....	ISRF10-12
Effects of Leaf Removal on Fruit Quality of Wine Grapes Grown In Iowa RFR-A1046 .....	ISRF10-12
Performance and Carcass Traits of Market Beef Cattle Supplemented Self-Fed Byproducts on Pasture: Final Report ASL R2592 .....	ISRF10-12
Soybean Plant Density Effect on Oil Composition.....	ISRF09-12
Comparison of Organic and Conventional Crops at the Neely-Kinyon Long-term Agroecological Research Site RFR-A9105 .....	ISRF09-12
Long-term Evaluation of Tillage Systems and Fertilizer Placement Methods for Corn and Soybeans RFR-A9104 .....	ISRF09-12
Seasonal and Rotational Influences on Corn Nitrogen Requirements RFR-A9076.....	ISRF08-12
Nitrogen Fertilization of Corn Crown with a Cover Crop RFR-A9075 .....	ISRF09-12
Effectiveness of Foliar Fungicides by Timing on Hybrid Corn in Iowa RFR-A9080.....	ISRF09-12
Durability of Corn Expressing <i>Bacillus thuringiensis</i> Insecticidal Proteins in Single and Staked Events RFR-A9100.....	ISRF09-12
Companion Planting: A Method for Sustainable Pest Control RFR-A9099 .....	ISRF09-12
Pumpkin and Winter Squash Weed Control RFE-A9037.....	ISRF09-12
High Tunnel Tulip Production RFR-A9006 .....	ISRF09-12
Prairie Mixture Establishment .....	ISRF08-12
Greek Oregano—A Niche Crop for Iowa.....	ISRF08-12
High Tunnel Pole Bean Evaluation.....	ISRF08-12
High Tunnel Bramble Production.....	ISRF08-12
Determination of Carcass and Live Body Weight of Finishing Cattle from Front Body Weights Taken at a Scale—Electronic Identification Equipped Water Fountain.....	ISRF08-12
Beef Cattle Feeding in a Bedded Hoop Barn: Three Year Summary .....	ISRF08-12
Performance and Carcass Traits of Market Beef Cattle Supplemented Self-Fed Byproducts on Pasture: A Progress Report.....	ISRF08-12
Finishing Steers in a Deep-Bedded Hoop Barn and a Conventional Feedlot: Effects on Behavior and Temperament in Iowa .....	ISRF08-12