

Armstrong and Neely-Kinyon Research Farms Summary

RFR-A20105

Wallace Foundation for Rural Research and Development

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 Agricultural SpecialistRandy Breach
 Crops SpecialistJohn 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. COVID-19 was the big issue this year affecting everything. And, even though there was a shortage of moisture, it was a good crop year with better than normal yields. The cattle shed at Neely-Kinyon Farm, Greenfield, was enclosed and plans for a new shop/machine shed at Armstrong are progressing.

Field days and tours. The farms were included in three virtual field days this year. A total of 363 visitors were on the farms, down significantly from past years due to COVID-19. The usual field days were cancelled and only a limited number of visitors allowed on the farms.

New projects. BASF weed management, M. Licht; Interseeding cover crops, M. Licht; Denka foliar trial, M. Licht; High Quality Beef FIMS implant trial, D. Loy/E. Lundy; Pelleted lime study, A. Mallarino; Oat variety trial, PFI; several On Farm trials; and five BASF demonstration projects.

Livestock. It was a relatively mild winter for cattle feeders, with very little snow and pen conditions were good. Short pastures and hay were issues due to lack of moisture during the growing season.

Crop Season Comments

Planting was completed in a timely fashion as field conditions were good early. Early in the season the crops grew slowly due to cool temperatures but made up for lost time later. The farm received about 50 percent of its usual total rainfall for the season. A good rain in late July really helped the crops at Armstrong. Corn averaged 192 bushels/acre and soybean averaged 59 bushels/acre, even with the lack of moisture and some disease and insect pressure.

Weather Comments

Winter 2019-2020. The winter was fairly mild with little snow and above average temperatures. It was a good winter for cattle feeding.

Spring 2020. Spring operations started late March and planting started April 20. Cool temperatures early kept crops from emerging normally.

Summer 2020. Warmer than normal temperatures and lack of moisture began to be apparent in July. Two good rains at the end of July helped at Armstrong. Some insect pest issues occurred.

Fall 2020. A good harvest season was conducted due to continued lack of moisture. Harvest started late September and finished the last day of October. Good grain dry-down happened in the field, with only fans used on grain bins (no LP gas was needed). Fall field work was finished by mid-November.

Table 1. Armstrong Research and Demonstration Farm, Lewis, monthly rainfall and average temperatures for 2020.

Month	Rainfall (in.)		Temperature (°F)		Days 90° or above
	2020	Deviation from normal*	2020	Deviation from normal	
March	2.17	-0.02	42.2	+5.2	0
April	1.77	-2.01	48.9	-0.6	0
May	4.36	-0.53	58.5	-2.0	0
June	1.39	-4.46	75.9	+5.4	8
July	6.21	+1.34	76.2	+2.2	4
August	0.15	-3.66	73.2	+1.2	6
September	3.07	-0.38	63.7	+0.2	4
October	<u>.94</u>	<u>-2.01</u>	47.8	-3.2	<u>0</u>
Totals	20.06	-11.73			22

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

Research Farm Projects

Research Project

Project Leader

BASF soybean weed management study	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 soybean	E. (Juchems) Ripley
Denka foliar trial	M. Licht
FACTS (yield forecasting) study, corn	S. Archontoulis
FACTS (yield forecasting) study, soybean	S. Archontoulis
Forage test plot research (ARF and N-K)	C. Clark/E. Lundy
High quality beef implant study FIMS	D. Loy/E. Lundy
Iowa Crop Performance Test Trial, soybean	J. Rouse/G. Marzen
Iowa Soybean Association DOP Trial	M. Witt
Interseeding cover crops in standing corn	M. Licht
K-fertility x placement study	A. Mallarino
Lime 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
Oat variety trial	PFI
On-farm corn and soybean management studies	M. Witt
Organic control of thistles	K. Delate
Organic grape study	K. Delate
Organic vegetable production with cover crops	K. Delate
Phosphorus x placement study	A. Mallarino
Sorghum as a biomass crop	M. Fernandez
Soybean breeders (ARF and N-K)	B. Scott
Statewide fungicide trial soybeans	D. Mueller/S. Wiggs
STRIPS bowl (ARF and N-K)	M. Helmers
True armyworm moth monitoring	A. Sisson
Weather station	D. Herzmann

Acknowledgements

Tony Leighton	Atlantic News Telegraph
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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.

Information on Experiments in Previous Annual Progress Reports

On-Farm Corn and Soybean Fungicide Demonstration Trial RFR-A1941	ISRF19-12
Soybean Date of Planting and Maturity in Southwest Iowa RFR-A1977	ISRF19-12
Soybean Response to Sidedress Liquid Potassium in Southwest Iowa RFR-A1982 ...	ISRF19-12
Effects of Nutritional Management and Implant Strategies on Growth and Carcass Characteristics on Angus Steers Pre-Selected for Marbling RFR-A1972	ISRF19-12
Glyphosate-Resistant Common Waterhemp Control in Dicamba-Tolerant Xtend Soybeans RFR-A1975	ISRF19-12
Comparison of Organic and Conventional Crops at the Neely-Kinyon Long-Term Agroecological Research Site RFR-A1988.....	ISRF19-12
Integrating Strips of Native Prairie into Rowcrop Agricultural Fields RFR-A1985 ...	ISRF19-12
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
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 RFR-A1747	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
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