2013

Armstrong and Neely-Kinyon Research Farms Summary

Armstrong and Neely-Kinyon Research and Demonstration Farms

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Abstract
Farm and Weather Summary; Research Farm Reports; Acknowledgements; Information on Experiments in Previous Annual Progress Reports

Keywords
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Wallace Foundation for Rural Research and Development

Staff

Farm Superintendent..... Bernie Havlovic
Livestock Specialist ..... Dallas Maxwell
Livestock Specialist .....Randy Breach
Crops Specialist ..... Kirk Schwarte
Iowa FARM Ag Specialist..... Jim Rogers
Admin Specialist.....Leann Plowman-Tibken

Farms Coordinator ..... Mark Honeyman
Farms Manager ..... Dennis Shannon
103 Curtiss, ISU

Farm and Weather Summary

Bernie Havlovic, farm superintendent

Farm Comments

Developments. New entrance signs were installed at both the Armstrong and Neely-Kinyon Research Farms. The farm installed 2,500 ft of drainage tile at the Neely-Kinyon Farm to improve soil drainage in the field plots and pasture. The Armstrong Farm shop, a metal storage building and a grain bin were cleaned and painted this past summer. A metal 10 ft × 24 ft portable shade structure was fabricated for use in the pasture grazing trials. Offices and hallways of the farm's Wallace Learning Center had carpet replaced, received a new coat of paint, and tile was laid in the entry and kitchen areas. New equipment purchases this past year included a John Deere 6410D feed wagon tractor, a 472 bushel Brent grain cart with scale, a 350 bushel Hillbros gravity wagon, and a Ford F250 pickup.

Field Days and Tour. The farms held seven events, with a total of 942 people attending the various field days, conferences, classes, and group tours.

New Projects. Bio char on horticultural crops, C. Haynes; Micro nutrients for soybeans, A. Mallarino; Foliar fertilizer applications of micronutrients to soybeans, A. Mallarino; Post applied nitrogen to continuous corn, J. Sawyer; Goss's wilt control in continuous corn, A. Robertson; Sorghum trials for biomass (2), M. Salaz-Fernandez; Colored plastic mulches for high tunnel tomato production, A. Nair; Late season lettuce production in a high tunnel, A. Nair; Blackberry trellising system evaluation, G. Nonnecke; Floral provisioning study, M. Gleason; Post herbicides for horseweed control in soybeans (2), M. Owen; ISA BASF soybean study, D. Mueller; Corn and soybean insect control studies (2), E. Hodgson; Development of ISU breeding bulls, JR Tait; Pasture vs. feedlot finishing of heifers, M. Honeyman; Multi mineral injection study for feedlot cattle, S. Hansen.

Livestock. Mild winter temperatures and below normal snowfall created good winter feedlot conditions. Spring pasture grazing conditions were good but deteriorated steadily as the hot and dry summer months progressed. By summer's end the feedlot conditions were very dusty and pastures were short of grass.

Crop Season Comments

Corn planting started on April 23 and was completed on May 16. Corn yields on the farm averaged 138 bushels/acre and were the second lowest in the farm's 19-year history.

Soybean planting started on May 9 and was completed on May 22. The average soybean yield of 43 bushels/acre was also well below the farm's average.

Weather Comments

Winter 2011-2012. Below normal snowfall and mild temperatures prevailed this past winter. The year's lowest temperature of -2.8°F was recorded on February 12.

Spring 2012. Record high temperatures brought an unusually early spring but a killing frost on April 11 harmed to the farm's horticultural crops and shrubs. Below normal spring rainfall combined with warm temperatures allowed for early planting of row crops. By the end of spring, corn and soybean crop development was ahead of normal.

Summer 2012. The pattern of record setting warm air temperatures continued into the summer months. Daily maximum high temperatures exceeding 90°F occurred on 67 days during the growing season. Recorded summer rainfall was only 60 percent of

normal with no rainfall recorded for the month of July. By the end of summer, drought stress symptoms to corn and soybeans were evident in most area fields.

Fall 2012. Drought conditions persisted into the fall months. The stressed crops matured early and corn and soybean harvest was completed earlier than normal. Soil moisture levels were estimated to be well below normal by the end of the growing season.

Table 1. Armstrong Research and Demonstration Farm, Lewis, monthly rainfall and average temperatures for 2012.

	Rainfall (in.)		Temperature (°F)		Days
Month	2012	Deviation from normal	2012	Deviation from normal	90° or above
March	2.19	+0.02	56.0	-2.7	2
April	1.02	-2.37	56.6	+2.8	5
May	2.41	-2.14	68.5	+0.9	11
June	4.48	-0.08	75.3	+2.2	28
July	0.00	-4.56	82.3	+6.5	16
August	2.56	-0.82	74.2	+3.1	5
September	1.63	-2.01	64.9	-4.5	0
October	3.43	+1.01	51.7	+2.7	0
Totals	17.72	-11.45	66.3	+5.4	67

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

Research Farm Projects

Research Project/Demonstration	Project Leader
Animal behavior study	G. Dewell
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 marginal soils	D. Laird
Bio char biomass study on garden plants	C. Haynes
Blackberry trellising study	G. Nonnecke
Beef multi-mineral injection for quality grade enhancement	S. Hansen
Corn herbicide evaluations	M. Owen
Corn hybrid x crop rotation study	J. Sawyer
Corn and soybean cover crop x nitrogen study	J. Sawyer
Corn fungicide “Cardinal” trial	A. Robertson
Corn residue management study	A. Saeugling
Corn nematode study	G. Tylka
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
Floral provisioning study	M. Gleason
Foliar fertilization of soybeans	A. Mallarino
Forestry biomass study	J. Randall
High tunnel bramble trial	P. Domoto/G. Nonnecke
High tunnel tomato trial with plastic mulch	A. Nair
High tunnel rainwater catchment study	L. Naeve
High tunnel late season lettuce production	A. Nair
Home demonstration garden	C. Haynes
Home demonstration orchard	B. Havlovic
Iowa Gold specialty soybean trial	K. Scholbrock
ISU bull development project	J.R. Tait
K-fertility x placement study	A. Mallarino
Long term organic rotation study	K. Delate
Long-term tillage/crop rotation study (3)	M. Al-Kaisi
Micro-nutrients on soybeans	A. Mallarino
Miscanthus grass establishment study-Armstrong	E. Heaton
Miscanthus grass establishment study-Neely Kinyon	E. Heaton
Nitrogen rates/crop rotation study	J. Sawyer
Nitrogen rates on continuous corn study	J. Sawyer
No-till pasture renovation demonstration	B. Havlovic
“On Farm” corn and soybean management studies (6)	A. Saeugling
Organic grape study	K. Delate
Organic soybean disease control study	K. Delate

Research Project/Demonstration (continued)	Project Leader
Organic vegetable production with cover crops	K. Delate
Pasture finishing of beef cattle study	P. Lammers/M. Honeyman
P-fertility x placement study	A. Mallarino
Phosphorous in feedlot manure fertility study	A. Mallarino
Potassium x corn hybrid study (2)	A. Mallarino
Post-harvest liquid nitrogen treatments to corn residue	A. Saeugling
Post herbicide control of horseweed in soybeans	M. Owen
Sorghum as a biomass crop	M. Fernandez
Soybean fungicide evaluations	A. Robertson
Spring Valley flowing shrub trial	B. Havlovic

Acknowledgements

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Tri-County Steer Futurity
Adair County Pork Producers
Pfizer Animal Health
A&M Green Power, Massena
Pioneer Hi-Bred International, Inc.
Steve Jorgensen
Atlantic News Telegraph
KMA Radio, Shenandoah
Dennis Jipsen Seeds
East Pottawattamie SWCD
Cass County Master Gardeners
Iowa Farmer Today
Pan Am Seed/Ball Seed Company
Spring Meadows Nursery
Farm Credit, Red Oak
Adair County Beef Producers
Fort Dodge Animal Health
Lindeman Ford Tractor, Atlantic
Titan Equipment, Avoca

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