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Armstrong and Neely-Kinyon Research Farms Summary

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Armstrong and Neely-Kinyon Research Farms Summary

Abstract
Includes Wallace Foundation for Rural Research and Development 2010 President’s Report, Farm and Weather Summary, Research Farm Projects and Information on Experiments in Previous Annual Progress Reports.

Keywords
RFR A1088

Disciplines
Agricultural Science | Agriculture
Armstrong and Neely-Kinyon Research Farms Summary

RFR-A1088

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Livestock Specialist ..............Randy Breach
Crops Specialist .................Jeff Butler
Horticulture Specialist .......Leah Riesselman

Farms Coordinator ...............Mark Honeyman
Farms Manager ..............Dennis Shannon
32 Curtiss, ISU
Wallace Foundation for Rural Research and Development  
2010 President’s Report

Darrell Stamp, president

In 2010, the Wallace Foundation began the process of reshaping the foundation. This is a result of changing times that require the development of a new agricultural research and extension model.

The process began with the program for the annual meeting held in February entitled, “Futuring the Wallace Foundation.” Moderator Ken Root, 2009 National Farm Broadcaster of the Year, facilitated a discussion with panel members that included Wendy Wintersteen, ISU dean of agriculture and life sciences; John Lawrence, associate dean of ag extension; Maynard Hogberg, ISU chair of animal science; Randy Euken, beef and crop producer; Ron Rosmann, organic producer; and Steve Killpack, precision agriculture technologies consultant.

Because of the harsh winter, the annual Armstrong and Neely-Kinyon research farms review and planning meeting was scheduled to be held in conjunction with the annual meeting. That program featured Greg Tylka from the Iowa Corn and Soybean Initiative.

The summer field days were held as usual - the Armstrong Farm Field Day in June, the Home Demonstration Garden Field Day in July, and the Neely-Kinyon Farm Field Day in August.

In November and December executive committee and board meetings were held to discuss the pending financial challenges facing the foundation. The proceedings from the sale of the swine farm were intended to be placed in an established endowment fund to create a revenue stream for the future. Due to the decline in the markets, this has not materialized. In addition, with the decrease in revenue from the Learning Center, the foundation has found itself in a negative cash flow situation.

Small changes will not alleviate our situation. Therefore, the need for major changes in the way the foundation operates is required. We are in the process of making those changes.
Farm and Weather Summary

Bernie Havlovic, farm superintendent

Farm Comments

Developments: A new 40 ft x 60 ft cover was installed on the farm’s old swine hoop structure and interior pens removed to allow for the structure to be used for machinery storage. New equipment purchases for the farm included a John Deere 8 row, 30-in. no-till planter and a John Deere 7420 tractor. The Armstrong 40-acre pasture was interseeded to a cool-season grass mixture of brome and orchard grasses just prior to soil freeze-up.

Field days and tours: The farms held 10 events, with a total of 830 people attending the various field days, conferences, classes, and group tours.

New projects: Miscanthus grass establishment, Emily Heaton/Mark Depoy; Legume plant disease study, Darren Mueller/Adam Sisson; Lime sources on micro plots, Antonio Mallarino; Gromate fertility trials on corn and soybeans, Clarke McGrath; Soybean fertility trial, Jim Lee; Corn fungicide trial, Alison Robertson; Soybean aphid host plant resistance, Erin Hodgson; Corn date of planting study, Aaron Saeugling; Sidedress nitrogen applications to corn, Aaron Saeugling; Wine grape cultivar fruiting load study, Randal Vos; and Tomato earliness in a high tunnel study, Bernie Havlovic.

Livestock: The severe winter created poor feedlot conditions. Open feedlots remained wet all summer. The ample rainfall created excellent grazing for pasture cattle all season.

Crop Season Comments

Corn planting started on April 19 and was completed by May 29. Harvest began on September 29 and was completed on October 16. An above average farm corn yield of 208 bushels/acre was recorded for the farm.

Soybean planting started on May 4 and was completed on May 25. Harvest began on September 29 and was completed on October 15. The average farm soybean yield of 63 bushels/acre was also above the farm’s 17-yr average.

Weather Comments

Winter 2009–2010: December through February weather had the coldest temperatures and heaviest snowfalls in the farm’s 17-yr history. Nearly four feet of snowfall fell and a daily low temperature of below zero was recorded on 23 days during the winter months. Two late winter ice storms caused tree damage and widespread power outages in the area.

Spring 2010: Early spring temperatures were above normal and field work started ahead of normal but crop growth slowed in May as late spring weather was cool and dry.

Summer 2010: Summer rainfall was frequent and more than twice normal. The excessive rainfall caused crops to suffer in low-lying fields and poorly drained soils. Summer temperatures also were above normal and crop growth and development was slightly ahead of normal by season end.

Fall 2010: The trend of wet weather continued into September but fields dried out during October, the driest month of the year. The fall harvest season was one of the nicest in recent memory with good yields, dry grain, and few delays.
Table 1. Armstrong Research and Demonstration Farm, Lewis, IA monthly rainfall and average temperatures for 2010.

<table>
<thead>
<tr>
<th>Month</th>
<th>Rainfall (in.)</th>
<th>Deviation from normal</th>
<th>Temperature (°F)</th>
<th>Deviation from normal</th>
<th>Days 90° or above</th>
</tr>
</thead>
<tbody>
<tr>
<td>March</td>
<td>2.49</td>
<td>+0.27</td>
<td>38.9</td>
<td>-3.3</td>
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<tr>
<td>April</td>
<td>4.34</td>
<td>+0.65</td>
<td>55.8</td>
<td>+5.4</td>
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<tr>
<td>May</td>
<td>2.61</td>
<td>-2.87</td>
<td>60.7</td>
<td>-1.2</td>
<td>0</td>
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<tr>
<td>June</td>
<td>12.49</td>
<td>+7.22</td>
<td>72.0</td>
<td>+1.0</td>
<td>2</td>
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<tr>
<td>July</td>
<td>6.23</td>
<td>+2.45</td>
<td>75.9</td>
<td>+1.0</td>
<td>3</td>
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<tr>
<td>August</td>
<td>5.31</td>
<td>+1.30</td>
<td>75.4</td>
<td>+2.8</td>
<td>7</td>
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<tr>
<td>September</td>
<td>7.34</td>
<td>+4.69</td>
<td>64.6</td>
<td>+0.5</td>
<td>0</td>
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<tr>
<td>October</td>
<td>0.40</td>
<td>-2.65</td>
<td>56.3</td>
<td>+4.5</td>
<td>1</td>
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<tr>
<td>Totals</td>
<td>41.21</td>
<td>+11.06</td>
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</table>

Table 2. Neely-Kinyon Research and Demonstration Farm, Greenfield, IA monthly rainfall and average temperatures for 2010.

<table>
<thead>
<tr>
<th>Month</th>
<th>Rainfall (in.)</th>
<th>Deviation from normal*</th>
<th>Temperature (°F)</th>
<th>Deviation from normal</th>
<th>Days 90° or above</th>
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<tr>
<td>March</td>
<td>2.04</td>
<td>-0.25</td>
<td>37.4</td>
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<tr>
<td>April</td>
<td>2.91</td>
<td>-0.10</td>
<td>56.0</td>
<td>+5.5</td>
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<tr>
<td>May</td>
<td>7.41</td>
<td>+2.72</td>
<td>59.9</td>
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<tr>
<td>June</td>
<td>11.20</td>
<td>+6.67</td>
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<tr>
<td>July</td>
<td>7.39</td>
<td>+4.14</td>
<td>75.5</td>
<td>+2.1</td>
<td>3</td>
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<tr>
<td>August</td>
<td>3.71</td>
<td>+0.23</td>
<td>75.1</td>
<td>+1.7</td>
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<tr>
<td>September</td>
<td>5.75</td>
<td>+1.62</td>
<td>63.8</td>
<td>-1.5</td>
<td>0</td>
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<tr>
<td>October</td>
<td>0.97</td>
<td>-1.10</td>
<td>56.0</td>
<td>+9.8</td>
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<td>Totals</td>
<td>41.38</td>
<td>+13.42</td>
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*Normal rainfall recorded at the U.S. Weather Bureau Station, Greenfield, IA.
# Research Farm Projects

<table>
<thead>
<tr>
<th>Research Project/Demonstration</th>
<th>Project Leader</th>
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</thead>
<tbody>
<tr>
<td>All-America selections garden</td>
<td>L. Riesselman</td>
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<tr>
<td>Bailey flowing shrub and hardy rose demonstrations</td>
<td>L. Riesselman</td>
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<tr>
<td>Ball seed/Pan American seed flower trial</td>
<td>L. Riesselman</td>
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<tr>
<td>Biological control of soybean aphids</td>
<td>M. O’Neal</td>
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<tr>
<td>Companion crops for garden vegetables</td>
<td>L. Riesselman</td>
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<tr>
<td>Corn hybrid × crop rotation study</td>
<td>J. Sawyer</td>
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<tr>
<td>Corn and soybean cover crop × nitrogen study</td>
<td>J. Sawyer</td>
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<tr>
<td>Corn fungicide “Cardinal” trial</td>
<td>A. Robertson</td>
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<td>Corn date of planting study</td>
<td>A. Saeugling/J. Butler</td>
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<td>Corn Rootworm research</td>
<td>P. Weber</td>
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<td>Corn side dress nitrogen applications to corn</td>
<td>A. Saeugling/J. Butler</td>
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<td>Cover crops in an organic crop rotation</td>
<td>K. Delate</td>
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<td>Crop residue removal research</td>
<td>Al-Kaisi/Mallarino/Sawyer</td>
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<td>Easy Elegance shrub rose trial</td>
<td>L. Riesselman</td>
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<td>Feedlot densities in hoop vs. open front structures</td>
<td>M. Honeyman/D. Maxwell</td>
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<td>Feedlot manure accumulation study</td>
<td>S. Shouse</td>
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<td>Forestry biomass study</td>
<td>J. Randall</td>
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<td>Grow-Mate fertility on corn and soybeans study</td>
<td>C. McGrath</td>
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<td>Herbicide carryover study</td>
<td>M. Owen</td>
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<td>High tunnel bramble trial</td>
<td>P. Domoto/G. Nonnecke</td>
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<td>High tunnel tomato earliness trial</td>
<td>B. Havlovic/Riesselman</td>
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<td>Home demonstration garden</td>
<td>C. Haynes</td>
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<td>Home demonstration orchard</td>
<td>B. Havlovic</td>
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<td>Iowa Gold specialty soybean trial</td>
<td>K. Scholbrock</td>
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<td>Iowa wine grape cultivar trial</td>
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<td>K-fertility × placement study</td>
<td>A. Mallarino</td>
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<td>Legume crop disease evaluation study</td>
<td>A. Sisson/D. Mueller</td>
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<td>Leopold grape management study</td>
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<td>Lime sources micro plot study</td>
<td>A. Mallarino</td>
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<td>Long term organic rotation study</td>
<td>K. Delate</td>
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<td>Long-term tillage/crop rotation study (3)</td>
<td>M. Al-Kaisi</td>
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<td>Miscanthus grass establishment study-Armstrong</td>
<td>E. Heaton</td>
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<td>Miscanthus grass establishment study-Neely Kinyon</td>
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<td>Nitrogen rates/crop rotation study</td>
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<td>No-till pasture renovation demonstration</td>
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<td>Open pollinated corn variety trial</td>
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<td>Organic grape study</td>
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<td>Organic soybean disease control study</td>
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<td>P-fertility × placement study</td>
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<td>Potassium × corn hybrid study (2)</td>
<td>A. Mallarino</td>
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### Research Project/Demonstration (continued)

<table>
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<th>Study</th>
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<tr>
<td>Sorghum as a biomass crop study</td>
<td>M. Salas-Fernandez</td>
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<td>Soybean aphid host plant resistance study</td>
<td>E. Hodgson</td>
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<tr>
<td>Soybean plant growth and development study</td>
<td>J. Lee</td>
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<tr>
<td>Spring Valley flowing shrub trial</td>
<td>L. Riesselman</td>
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<tr>
<td>Wine grape fruiting load study</td>
<td>R. Vos/D. Portz</td>
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</tbody>
</table>

### Acknowledgements

- FarmTek, Dyersville
- Atlantic Chamber of Commerce
- KJAN Radio, Atlantic
- Pelgrow of Griswold and Atlantic
- Practical Farmers of Iowa
- Iowa Beef Center
- Leopold Center For Sustainable Agriculture
- All American Seeds
- Tri-County Steer Futurity
- First National Bank, Greenfield
- Exchange State Bank, Adair
- First National Bank, Creston
- Adair County Pork Producers
- Pfizer Animal Health
- Birchland Company, Gilman
- Lindeman Ford Tractor, Atlantic
- Horizon IH, Avoca

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
Union State Bank, Greenfield
Farmers State Bank, Stuart
Iowa State Bank, Creston
Adair County Beef Producers
Fort Dodge Animal Health
Sorenson Equipment, Harlan
A&M Green Power, Massena
HTS Precision Ag, Harlan

*The mention of firm names or trade products does not imply that they are endorsed over other firms or similar products not mentioned.*

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**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 ¾ mile north.
Information on Experiments
In Previous Annual Progress Reports

Soybean Plant Density Effect on Oil Composition in Low-linolenic
Soybean Cultivars RFR-A9032 .............................................................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 Bacillus thuringiensis 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 RFR-A9037 ......................ISRF09-12
High Tunnel Tulip Production RFR-A9006 ..............................................ISRF09-12
Soybean Planting Date and Growth and Development Study ................ISRF08-12
Long-Term Tillage and Crop Rotation Effects on Soil Carbon
and Soil Productivity ........................................................................ISRF08-12
Corn, Soybeans, and Soil Test Response to Lime and Hoop Building
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High Tunnel Bramble Production .......................................................ISRF08-12
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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
Organic Corn Cultivar Performance ..................................................ISRF07-12
Long-Term Tillage and Crop Rotation Effects on Soil Carbon and
Soil Productivity ..............................................................................ISRF07-12
Row Spacing with Variable Seeding Rates ..........................................ISRF07-12
High Tunnel Pepper Production ..........................................................ISRF07-12
High Tunnel Bramble Production ........................................................ISRF07-12
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Wine Grape Cultivar Trial Performance in 2007 ..................................ISRF07-12
Strawberry Demonstration .................................................................ISRF07-12