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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

## Wallace Foundation for Rural Research and Development

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### Staff

Farm Superintendent.....Bernie Havlovic  
 Livestock Specialist .....Dallas Maxwell  
 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 × 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.**

| Month     | Rainfall (in.) |                          | Temperature (°F) |                          | Days<br>90° or<br>above |
|-----------|----------------|--------------------------|------------------|--------------------------|-------------------------|
|           | 2010           | Deviation<br>from normal | 2010             | Deviation<br>from normal |                         |
| March     | 2.49           | +0.27                    | 38.9             | -3.3                     | 0                       |
| April     | 4.34           | +0.65                    | 55.8             | +5.4                     | 0                       |
| May       | 2.61           | -2.87                    | 60.7             | -1.2                     | 0                       |
| June      | 12.49          | +7.22                    | 72.0             | +1.0                     | 2                       |
| July      | 6.23           | +2.45                    | 75.9             | +1.0                     | 3                       |
| August    | 5.31           | +1.30                    | 75.4             | +2.8                     | 7                       |
| September | 7.34           | +4.69                    | 64.6             | +0.5                     | 0                       |
| October   | 0.40           | -2.65                    | 56.3             | +4.5                     | 1                       |
| Totals    | 41.21          | +11.06                   |                  |                          | 13                      |

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

| Month     | Rainfall (in.) |                           | Temperature (°F) |                          | Days<br>90° or<br>above |
|-----------|----------------|---------------------------|------------------|--------------------------|-------------------------|
|           | 2010           | Deviation<br>from normal* | 2010             | Deviation<br>from normal |                         |
| March     | 2.04           | -0.25                     | 37.4             | -4.8                     | 0                       |
| April     | 2.91           | -0.10                     | 56.0             | +5.5                     | 0                       |
| May       | 7.41           | +2.72                     | 59.9             | -1.6                     | 0                       |
| June      | 11.20          | +6.67                     | 71.8             | +0.8                     | 2                       |
| July      | 7.39           | +4.14                     | 75.5             | +2.1                     | 3                       |
| August    | 3.71           | +0.23                     | 75.1             | +1.7                     | 7                       |
| September | 5.75           | +1.62                     | 63.8             | -1.5                     | 0                       |
| October   | 0.97           | -1.10                     | 56.0             | +9.8                     | 1                       |
| Totals    | 41.38          | +13.42                    |                  |                          | 13                      |

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

## Research Farm Projects

### Research Project/Demonstration

All-America selections garden  
 Bailey flowing shrub and hardy rose demonstrations  
 Ball seed/Pan American seed flower trial  
 Biological control of soybean aphids  
 Companion crops for garden vegetables  
 Corn hybrid × crop rotation study  
 Corn and soybean cover crop x nitrogen study  
 Corn fungicide “Cardinal” trial  
 Corn date of planting study  
 Corn Rootworm research  
 Corn side dress nitrogen applications to corn  
 Cover crops in an organic crop rotation  
 Crop residue removal research  
 Easy Elegance shrub rose trial  
 Feedlot densities in hoop vs. open front structures  
 Feedlot manure accumulation study  
 Forestry biomass study  
 Grow-Mate fertility on corn and soybeans study  
 Herbicide carryover study  
 High tunnel bramble trial  
 High tunnel tomato earliness trial  
 Home demonstration garden  
 Home demonstration orchard  
 Iowa Gold specialty soybean trial  
 Iowa wine grape cultivar trial  
 K-fertility × placement study  
 Legume crop disease evaluation study  
 Leopold grape management study  
 Lime sources micro plot study  
 Long term organic rotation study  
 Long-term tillage/crop rotation study (3)  
 Miscanthus grass establishment study-Armstrong  
 Miscanthus grass establishment study-Neely Kinyon  
 Nitrogen rates/crop rotation study  
 No-till pasture renovation demonstration  
 Open pollinated corn variety trial  
 Organic grape study  
 Organic soybean disease control study  
 P-fertility × placement study  
 Potassium × corn hybrid study (2)

### Project Leader

L. Riesselman  
 L. Riesselman  
 L. Riesselman  
 M. O’Neal  
 L. Riesselman  
 J. Sawyer  
 J. Sawyer  
 A. Robertson  
 A. Saeugling/J. Butler  
 P. Weber  
 A. Saeugling/J. Butler  
 K. Delate  
 Al-Kaisi/Mallarino/Sawyer  
 L. Riesselman  
 M. Honeyman/D. Maxwell  
 S. Shouse  
 J. Randall  
 C. McGrath  
 M. Owen  
 P. Domoto/G. Nonnecke  
 B. Havlovic/Riesselman  
 C. Haynes  
 B. Havlovic  
 K. Scholbrock  
 P. Domoto  
 A. Mallarino  
 A. Sisson/D. Mueller  
 P. Domoto  
 A. Mallarino  
 K. Delate  
 M. Al-Kaisi  
 E. Heaton  
 M. Depoy/E. Heaton  
 J. Sawyer  
 B. Havlovic  
 L. Pollak  
 K. Delate  
 K. Delate  
 A. Mallarino  
 A. Mallarino

**Research Project/Demonstration (continued)**

Sorghum as a biomass crop study  
 Soybean aphid host plant resistance study  
 Soybean plant growth and development study  
 Spring Valley flowering shrub trial  
 Wine grape fruiting load study

**Project Leader**

M. Salas-Fernandez  
 E. Hodgson  
 J. Lee  
 L. Riesselman  
 R. Vos/D. Portz

**Acknowledgements**

|  |                               |
|--|-------------------------------|
| FarmTek, Dyersville                        | Atlantic News Telegraph       |
| 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 American 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      |
| Birchland Company, Gilman                  | Sorenson Equipment, Harlan    |
| Lindeman Ford Tractor, Atlantic            | A&M Green Power, Massena      |
| Horizon IH, Avoca                          | 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.*

*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<br>Soybean Cultivars RFR-A9032 .....  | ISRF09-12 |
| Comparison of Organic and Conventional Crops at the Neely-Kinyon<br>Long-term Agroecological Research Site RFR-A9105 .....   | ISRF09-12 |
| Long-term Evaluation of Tillage Systems and Fertilizer Placement<br>Methods for Corn and Soybeans RFR-A9104 .....  | ISRF09-12 |
| Seasonal and Rotational Influences on Corn Nitrogen<br>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<br>Iowa RFR-A9080.....  | ISRF09-12 |
| Durability of Corn Expressing <i>Bacillus thuringiensis</i> Insecticidal<br>Proteins in Single and Staked Events RFR-A9100.....  | ISRF09-12 |
| Companion Planting: A Method for Sustainable Pest Control<br>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<br>and Soil Productivity.....   | ISRF08-12 |
| Corn, Soybeans, and Soil Test Response to Lime and Hoop Building<br>Manure in 2008 .....   | ISRF08-12 |
| Fungicide-Insecticide Study on Soybeans .....  | ISRF08-12 |
| 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<br>Body Weights Taken at a Scale—Electronic Identification<br>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<br>Self-Fed Byproducts on Pasture: A Progress Report.....  | ISRF08-12 |
| Finishing Steers in a Deep-Bedded Hoop Barn and a Conventional<br>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<br>Soil Productivity .....  | ISRF07-12 |
| Row Spacing with Variable Seeding Rates .....  | ISRF07-12 |
| High Tunnel Pepper Production.....   | ISRF07-12 |
| High Tunnel Bramble Production.....  | ISRF07-12 |
| Grape Cultivar by Management System Trial Performance in 2007.....   | ISRF07-12 |
| Wine Grape Cultivar Trial Performance in 2007.....   | ISRF07-12 |
| Strawberry Demonstration .....   | ISRF07-12 |