

# Muscatine Island Research Farm Summary

**RFR-A1401**

## **Muscatine Island Research Farm Association**

President..... Ron Shepard, Fruitland  
 Vice President ..... Rick Bartenhagen, Muscatine  
 Secretary-Treasurer..... Vince Lawson, Fruitland  
 Director ..... Keith Bartenhagen, Muscatine  
 Director ..... Greg Wilson, Muscatine

Research Farm Superintendent ..... Vince Lawson

Ag Specialist ..... Justin Rinas

Research and Demonstration Farms Manager ..... Tim Goode  
 103 Curtiss Hall, ISU

Research and Demonstration Farms Coordinator ..... Mark Honeyman  
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## **2014 Acknowledgements**

The following companies have provided products or financial support during 2014. Their cooperation and support is greatly appreciated.

Bartenhagen Brothers Farm, 18284 G Avenue, Muscatine, IA 52761  
 BASF Corporation, 100 Park Avenue, Florham Park, NJ 07932  
 Bayer CropScience, P.O. Box 12014, Research Triangle Park, NC 27709  
 Latta Well & Pump, 1051 Taylor Avenue, Wilton, IA 52778  
 Muscatine Island Cooperative, 2420 57<sup>th</sup> Street, Muscatine, IA 52761  
 Rispens Seeds, Inc., 1357 Dutch American Way, Beecher, IL 60401  
 Sweetland Ag Tech, 3094 170<sup>th</sup> Street, Muscatine, IA 52761  
 Syngenta Seeds, Inc., Rogers Brand, P.O. Box 4188, Boise, ID 83711-4188  
 Taylor’s Greenhouses, 2637 Stewart Road, Muscatine, IA 52761

## Farm and Weather Summary

Vince Lawson, farm superintendent

### Farm Comments

A new Campbell Scientific Weather Station was installed on the research farm this spring replacing one that had been operating for many years. The new station features updated equipment to measure numerous weather parameters including soil moisture and temperature sensors at 12-in., 24-in., and 50-in. depths. Our new station is one of 15 located strategically across Iowa in what is now called the ISU Soil Moisture Network. Current and historical weather data from all sites in the network are available online at: <http://mesonet.agron.iastate.edu/agclimate/info.phtml>.

In the spring of 2014, a new Reinke Electrogator II irrigation pivot was purchased by Muscatine Island Research Farm Association for the Ossian field. The property that includes the Ossian field was purchased in 2013 and the newly installed Reinke pivot is more suitable for irrigating research trials because of better reliability and more accurate water distribution.

*Field Days and Tours.* The annual meeting of the Muscatine Island Research Farm Association was held on June 24, 2014, at the research farm in Fruitland. A wagon tour of the farm was followed by a catered meal and the business meeting. On Friday, June 27, approximately 60 attendees of the 2014 Upper Midwest Regional Master Gardener Conference toured the research farm. On Wednesday, July 23, a group of Chinese students visited the research farm to learn about Iowa agriculture. Their visit was arranged by the “Rivers as Bridges” organization sponsoring U.S. and China student exchange trips. The Home Demonstration Garden Tour was held on

August 5 and included presentations on purple-colored vegetables, sun-loving impatiens, compact zinnias, effects of biochar soil amendment, and new varieties of flowers and vegetables.

*New Projects.* Potato herbicide evaluation, Vince Lawson; Quantifying nitrogen credits and impacts of cover crops on soil biology and health in vegetable cropping systems, Ajay Nair; Fall-seeded cover crop effects on soil nitrogen movement, Ajay Nair; Soybean variety screening for SDS resistance, Silvia Cianzio.

### Crop Season Comments

Corn planting was finished by May 7. The crop grew well until June when strong winds caused some lodging and green snap. Harvest on October 23 produced yields of 200 bushels/acre with 18 percent moisture content.

Cool weather delayed soybean planting until May 20. Soybean yield was good, averaging 62 bushel/acre.

Cool weather and storms in June resulted in vine crop yields that were slightly below normal. Fruit quality was good but numbers were down. About 10,300 melons and 700 pumpkins were marketed from 2.8 acres

### Weather Comments

Overall, the season provided above normal rainfall and below normal temperatures and probably would have been a good crop production year except for damaging storms during June. The worst one occurred on June 17 when strong winds uprooted trees, flattened corn, and injured cucurbit vines. Fortunately, the crops generally recovered except in areas of severe damage. The growing season, as measured by days with above freezing temperatures, was 183 days long in 2014. The

last freezing temperature (29°F) in the spring was recorded on April 18 and the first freezing temperature (30°F) in the fall was recorded on October 19. A hard killing frost of 24°F occurred on October 31.

Monthly rainfall and temperature averages for the 2014 growing season are presented in Table 1. April and May started the season with typical seasonal conditions but June brought excessive rainfall with periods of strong winds that damaged crops. July was quieter in terms of storms, but temperatures were unusually cool, slowing crop growth. The months of August, September, and October delivered above normal rainfall and below normal

temperatures. There were only seven days during the growing season when temperatures exceeded 90°F. Because of the cool weather, vine crops, vegetables, and most field crops took a few more days to mature this season, but generally were of good quality.

### Acknowledgements

This year's crew included: Justin Rinas, agricultural specialist, and Gabe Lorack, summer intern. Their dedication and willingness to work on some very busy days is much appreciated and was critical in the gathering of information necessary to achieve the results reported in this publication.

**Table 1. Muscatine Island Research and Demonstration Farm, Fruitland, Iowa, monthly rainfall and average temperatures for 2014.**

Month	Rainfall (in.)		Temperature (°F)		
	2014	Deviation from normal	2014	Deviation from normal	Days 90° or above
March	NA	NA	31.8	-7.3	0
April	4.8	1.0	48.7	-1.9	0
May	1.3	-3.0	63.9	1.4	2
June	10.1	5.6	72.6	1.0	1
July	2.0	-1.8	70.0	-5.4	1
August	3.5	-0.5	73.0	-0.2	2
September	6.8	3.3	61.6	-2.3	1
October	<u>4.7</u>	<u>2.0</u>	<u>52.2</u>	<u>0.0</u>	<u>0</u>
Totals	33.2	6.6		-14.7	7

### Research Farm Projects

#### Project

Home demonstration garden  
 Biochar use in home gardens  
 Nitrogen scavenging benefits of cover crops  
 Effects of biochar on cabbage and sweet potato  
 Evaluation of SCN-resistant soybean varieties  
 Potato herbicide evaluation  
 Sweet corn herbicide evaluation  
 Dry micronutrient fertilizer trial  
 SCRI (specialty crop research initiative)  
 Soybean variety screening for SDS resistance  
 Soybean seed treatment evaluation

#### Project Leader

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 G. Tylka/C. Marett/G. Gebhart  
 V. Lawson  
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 A. Nair/M. Gleason/J. Batzer/J. Tillman  
 S. Cianzio/G. Gebhart  
 D. Mueller/S. Wiggs