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Northwest and Allee Farms Summary

Northwest Iowa Experimental Association

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Northwest and Allee Farms Summary

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Disciplines
Agricultural Science | Agriculture

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Northwest and Allee Farms Summary

RFR-A1254

Northwest Iowa Experimental Association

2012–2013

Executive Board

President.....Brian Waldstein, Buena Vista County
Vice President.....William Foell, Sac County
Secretary.....Joel DeJong, ISU Field Agronomist
Treasurer.....Chad Schwartz, O'Brien County
Executive Committee.....Rodney Mogler, Lyon County
Executive Committee.....Don Belson, Ida County
Executive Committee.....Jerry Crew, Clay County

Directors

Buena Vista.....Brian Waldstein, Jim Hultgren
Cherokee.....Bruce Amundson, Tom Bindner
Clay.....Jerry Crew, Roger Nelson
Ida.....Don Belson, Dale Friedrichsen
Lyon.....Rodney Mogler, Bob Ladd
O'Brien.....Kirk Struve, Chad Schwartz
Osceola.....Dave Rossman, Gary Trei
Plymouth.....Jeff Jonas, Luke Homan
Sac.....William Foell, Vacant
Sioux.....Marvin Van't Hul, Mike Schouten

Research and Demonstration Farms

Superintendent, Northwest.....Josh Sievers
Superintendent, Northwest.....Ryan Rusk (resigned 6/1/12)
Superintendent, Allee.....Lyle Rossiter
Manager, Research Farms.....Dennis Shannon (retired 12/31/12)
103 Curtiss
Coordinator, Research Farms.....Mark Honeyman
103 Curtiss
Iowa State University
Ames, IA 50011

Northwest Research Farm Summary

Josh Sievers, farm superintendent

Farm Comments

Developments. A new 60 ft × 120 ft Spantech Hoop Building was constructed on the farm in July. The interior of the building is covered with limestone rock. The building will be primarily used for equipment storage. An 8-row Kinze 3500 planter with inter-plant row units was purchased this year. All non-research soybean areas of the research farm were planted to 15 in. rows. Past soybean row spacing research at the farm showed increased yield over traditional 30 in. rows. The tree biomass study located east of the shop has been reduced to the Crandon trees and Silver Maple hybrids left to measure regrowth. The remaining trees were grubbed, burned, and buried. The area was then no-till planted to soybeans on June 8. Yield measured from this area was recorded at 34 bushels/acre. The machine shed, loading ramp, and windbreak was removed from the Doon acreage. The cleared area will be used in row crop production. A new weather station was installed at the Sutherland location. The new weather station has the capability of measuring subsoil moisture at depths of 12, 24, and 50 inches. This information is available on the website: http://mesonet.agron.iastate.edu/agclimate.

Effective June 1, 2012, farm superintendent Ryan Rusk resigned. Later in the year, Josh Sievers was named superintendent. An active search to fill the ag specialist position is underway.

A total of 33 research studies were conducted at the research farm. Six trials were new to the farm in 2012. The program known as Northwest Iowa On-Farm Research has been expanded to other areas of the state and is now formally recognized as ISU FARM. The FARM acronym stands for Farmer Assisted Research and Management. A total of 72 on-farm projects were organized.

Field Days and Tours. There were a total of 11 field days organized in Northwest Iowa conducted by the research farm. More than 1,571 people attended the field days or visited the farm.

New Projects. Soybean rolling × planting date and soybean rolling × seeding rate, Jim Lee and Andy Lenssen; Micronutrient trials (foliar or in furrow) and Phosphorus in beef manure, Antonio Mallarino; Herbicide demonstration plots, Paul Kassel; Testing rates of evolutionary change in flowering time in diploid and tetraploid goldenrod, Julie Etterson, University of Minnesota at Duluth.

Crop Season Comments

Corn planting began on April 24 and was completed by May 1. Harvest began on September 19 and was completed on October 11. Corn yields following soybeans averaged 196 bushels/acre and continuous corn yields were 166 bushels/acre.

Soybean planting began on May 10 and was completed by May 17. Harvest began on September 17 and ended on September 27 with an average of 63 bushels/acre.

Weather Comments

Spring 2012. An unusually warm and dry March allowed farmers to begin spring work much earlier than usual. Most farmers waited until mid-April to begin planting corn. It was noted that some producers attempted to plant corn in March. Ideal weather allowed producers to finish the planting season in mid-May. Lambsquarter control presented some of the biggest challenges in the spring. Overall, pre-emerge herbicides performed very well.

Summer 2012. A very hot and dry summer caused significant plant stress at the farm. Daily rolling of corn leaves in July and August was observed. Extremely hot weeks in July and August above 90°F made life very uncomfortable. Soybean aphids were present in very small numbers at less than 20/plant. However, to maintain plot consistency, research plots were treated with a single foliar insecticide application. Small areas of two-spotted spider mites began to appear in late August, but populations did not warrant a treatment due to physiological stage of soybeans. Leaf disease pressure in corn and soybeans was not observed in any significant amount due to the dry conditions.

Fall 2012. Warm and dry conditions also prevailed in the fall. Harvest progress was not delayed from beginning to end due to lack of precipitation. Concerns of poor stalk quality were noted pre-harvest. Therefore, corn harvest began sooner than normal with some grain moistures ranging from 19 to 22 percent. However, stalk integrity was better than first realized and corn harvest was prolonged to allow the grain to dry. Corn grain dried down to 12 to 13 percent moisture at the end of harvest as dry and warm conditions persisted. Overall, corn and soybean yields were much better than anticipated. A dry summer coupled with very hot temperatures (both day and night) during pollination decreased yields from reaching trend line.

Acknowledgements

Appreciation is extended to the Northwest Iowa Experimental Association and ISU Extension and Outreach for their continued support. Appreciation is also extended to the following businesses for their support of research in Northwest Iowa:

Demco Agricultural Products
Potash Corporation of Saskatchewan
BASF
Pioneer Hi-Bred International
Security State Bank
Farm Credit Services
American State Bank
Iowa Soybean Association
Greenspire Global, Inc.
Calcium Products, Inc
AMVAC
Hawkeye Steel Products

Table 1. ISU Northwest Research and Demonstration Farm, Sutherland, monthly rainfall and average temperatures for 2012.

	Rainfall (in.)		Temperature (°F)		Days
Month	2012	Deviation from normal*	2012	Deviation from normal	90° or above
April	3.96	1.40	51.1	5.0	0
May	7.28	3.46	62.8	3.7	0
June	2.65	-2.00	70.9	2.1	1
July	0.86	-2.70	76.5	3.4	13
August	1.74	-2.20	69.2	-2.9	4
September	1.98	-1.27	60.9	-0.2	3
October	2.53	0.44	45.8	-3.0	0
Totals	21.00	-2.87			21

*Rainfall averages recalculated based on data from 1957-2011.

Projects at Sutherland

Research Project	Project Leader
Asparagus variety trial	NWRF Staff
Corn aphid threshold study	E. Hodgson
Corn burner as primary shop heat	NWRF Staff
Corn fungicide efficacy × timing	A. Robertson
Corn nematode management	G. Tylka
Corn planting date	NWRF Staff
Corn rootworm trap crop	A. Gassman
Demonstration garden, Rock Rapids	C. Haynes
Demonstration windbreak	J. Randall
Eggshells as a liming source	P. Kassel
Goldenrod flowering × climate change	J. Etterson
Herbicide comparison demonstration	P. Kassel
Micronutrient application, foliar or in-furrow	A. Mallarino
Long-term nitrogen rate study	J. Sawyer
Long-term rotation study	G. Munkvold
Long-term tillage and carbon sequestration	M. Al-Kaisi
Miscanthus establishment evaluation	E. Heaton
No-till cover crop x nitrogen rate	J. Sawyer
Phosphorus in beef manure	A. Mallarino
Soybean aphid efficacy trial	E. Hodgson
Soybean aphid pan trap	M. O'Neal
Soybean aphid suction trap	M. O'Neal
Soybean fungicide × insecticide interaction	A. Robertson and M. O'Neal
Soybean rolling × planting date	J. Lee and A. Lenssen
Soybean rolling × seeding rate	J. Lee and A. Lenssen
Soybean varietal response to fungicide	P. Kassel
Surface runoff study	A. Mallarino and M. Helmers
Tillage × fertilizer placement study	A. Mallarino
Tree biomass and regrowth potential	J. Randall and R. Hall
Water table monitoring	NRCS
Weather station	NWRF Staff
Western bean cutworm management	E. Hodgson

Allee Demonstration Farm Summary

Lyle Rossiter, farm superintendent

Farm Comments

Developments. The implementation of ISU FARM, (Farmer Assisted Research and Management) program continues in Buena Vista, Sac, Pocahontas, parts of Carroll, Calhoun, Ida, Cherokee, and Clay counties. The FARM staff assists individual farmers in setting up field-length research and gain data for statistical analysis. Extension crop specialist Paul Kassel and Allee Farm superintendent Lyle Rossiter assisted eight farmers with 18 field projects.

Field days and tours. The Allee farm hosted Ag-Citing Days with topics of soil science, wind turbines, amazing corn, global positioning satellite, Fun in the Garden, and 4-H youth presenting talks on their live beef, goat, rabbit, and swine projects to 340 fourth grade Buena Vista County students. The Corn Growers Association, Farm Bureau Association, and Farmers Coop provided funding and food for the event.

The Buena Vista County special swine class included 42 participants who gained swine production knowledge, herdsmanship, and showmanship techniques at the Allee Farm. Each participant purchased, showed, and marketed four market pigs at the county fair in July for a total of 168 pigs.

The Allee Farm continues to work with the Newell-Fonda school to provide agricultural education from the classroom to practical experiences related to crop, swine, beef cattle, and machinery operations. The class sorted and moved steers into the alley, weighed, and assisted with vaccinating and ear tagging individual animals. The FFA club planned, planted, and assisted with harvest with their second corn yield variety trial this year.

The Allee Farm appreciates the community support and the opportunity to be an educational site for all ages and families. A total of 975 guests visited the farm and the Allee Historic Mansion entertained 850 guests in 2012.

New projects. Soil grid mapping, yield monitoring, and Guidance Position Systems (GPS) technology provided historical information that is valuable to understanding yield responses in demonstration and research plots.

Livestock. The Allee Farm continues to feed and collect research data on steers and heifers from the purebred Angus cowherd at the ISU McNay Research Farm, Chariton, IA. The bull project was moved to the ISU Armstrong Research Farm cattle facility. A new three year alternative farrowing project started this summer. Farrowing four gilts twice a year in a round 20 ft canvas shelter called a “Yurt.” The first farrowing was in August. The pigs were weaned at 45 days with an average of eight pigs per litter.

Crop Season Comments

Corn was planted April 26 and 27. Harvest was early and was completed on October 3 with average yields of 158 bushels/acre. Soybean planting was finished May 16. Harvest was completed October 2 with average yields of 53 bushels/acre that included an 18 percent hail loss.

Weather Comments

Winter. January snow accumulation was 4 in. and the fifth warmest January on record. The year began with no moisture in the soil profile. February was mild with little moisture and .5 in. of snow. Dry topsoil without residue cover blew in the wind. Dry conditions continued into March with .8 in. moisture.

Record high temperature on March 7 was 71°F, 40° above normal.

Spring. April started with a record high temperature of 71°F. April 12 freezing temperatures killed apple buds and green vegetation. April rain of 3.3 in. helped corn and soybeans emerge. On May 9, we received 1.5 in. of rain. After 19 days without rain, the late planted soybeans were in dry soil and not germinating. Low temperatures in the 40's ended the month of May.

Summer. In June, the dry period continued until the June 15, when 3.5 in. of rain fell in 45 minutes and ponded water in the field. Hot weather occurred through the rest of June with 101°F on June 28, a record. In July, the first four days were 100 degrees. The corn and soybeans started to show some wilt in the afternoon. Scattered showers in the area provided little relief from the drought. July 24 and 25 brought record high temperatures above 100. On July 28 we received 0.2 in. of rain. August was cooler with little rain (less than one inch) and extreme drought conditions. Crops showed more stress but corn ears and soybean pods filled.

Fall. On September 9, was .5 in. of rain and a hail storm. Soybeans lost 18 percent of their yield. Corn and soybean plants were stressed most of the season, but provided good yields without any reserve moisture in the soil profile. We received a total of 13.2 in. of rain for the growing season. Hard dry soil made fall tillage difficult. October rains assisted in breaking down the soil clods.

Acknowledgements

The farm would like to thank the Newell-Fonda Community School, ISU FARM staff, Newell Cooperative, ISU Extension, and Iowa Corn Growers Association for their assistance with field days and events.