

2012

Northwest and Allee Farms Summary

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Northwest and Allee Farms Summary

Abstract

Includes Northwest Research Farm Summary, Projects at Sutherland and Allee Demonstration Farm Summary.

Keywords

RFRA1161

Disciplines

Agricultural Science | Agriculture

Northwest and Allee Farms Summary

RFR-A1161

Northwest Iowa Experimental Association

2011–2012

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Superintendent, Northwest..... Ryan Rusk
 Ag Specialist..... Josh Sievers
 Superintendent, Allee..... Lyle Rossiter
 Manager, Research Farms..... Dennis Shannon
 32 Curtiss
 Coordinator, Research Farms..... Mark Honeyman
 32 Curtiss
 Iowa State University
 Ames, IA 50011

Northwest Research Farm Summary

Ryan Rusk, farm superintendent

Farm Comments

Developments. A Case International 1660 combine was fully equipped for data collection and harvesting small plots. The combine was used for all of the corn plots and will be used for both corn and soybeans in 2012.

A Hagie 284 sprayer was purchased and used for applying fungicide and insecticide treatments for the on-farm research trials. A Demco 650 grain cart was also purchased to weigh grain from the on-farm trials.

Tree biomass harvest started in late December 2010 and over 200,000 lb of trees were cut, weighed, and cut into two-meter sections. Harvesting of the remaining trees was completed with a tree shear on a skid steer loader in late March after snow melt.

A total of 47 research studies were conducted at the research farm this year. Ten of those trials were initiated for the first time in 2011. The on-farm research project continues to be a success in northwest Iowa, with a total of 65 projects this season.

Field Days and Tours. There were 11 events held by the Northwest Farms, Sutherland and Doon. A total of 1,683 people attended field days and other programs. The conference room at the research farm is available for meetings and farm tours are always available to those interested. Please give us a call at 712-446-2526 to set up an appointment or just stop by the farm.

New Projects. Corn nematode management, Greg Tylka; Soybean aphid efficacy trial, Erin Hodgson; Soybean aphid pan trapping, Matt O'Neal; Nitrogen rate \times fungicide interaction on

corn yields, Paul Kassel; Soybean replant, Paul Kassel; Corn nematode seed treatment \times insecticide, Post-emerge corn herbicide comparison, Soybean herbicide system comparison, Soybean seed treatment study, and Nitrogen response on soybeans, NWRF staff.

Crop Season Comments

Corn planting began April 29 and was completed May 6. Harvest began September 27 and was completed October 20. Corn yields following soybeans averaged 196 bushels/acre and continuous corn yielded 193 bushels/acre.

Soybean planting started May 11 and was completed May 19. Harvest began September 30 and was completed October 5 with average yields of 64 bushels/acre.

Weather Comments

Spring 2011. Cool weather, frequent rainfall events, and snow on April 19 delayed the beginning of corn planting until the end of April for most producers. Drier conditions allowed most of the corn and soybean acres to be planted by May 20. Pre-plant and pre-emerge herbicides showed excellent weed control in both corn and soybeans and gave producers a wide window to make post-emerge herbicide applications.

Summer 2011. High rainfall characterized the time from May 20 to July 15 with 14.32 in. of rain. The month of June was about average for temperature and crops progressed well. July brought temperatures that were much above normal (2.7 degrees warmer than normal with 7 days over 90°F) with a stretch of five consecutive days above 90°F during corn pollination. High soil moisture contents may have helped to minimize pollination. A windstorm on July 11 caused some cornfields to have greensnap levels up to 10 percent of the total stand. Soybean aphids were again a large problem in northwest Iowa as we started

spraying on July 29 and every acre at the research farm was treated.

Rainfall amounts from July 15 through the end of August were 1.86 in., but fortunately, temperatures for the month of August were 3.2 degrees below normal, which helped reduce moisture stress. The cooler and drier weather may have helped increase corn aphids in many cornfields during the middle of August. Certain hybrids were covered from top to bottom with aphids and the accompanying honeydew.

September 2 brought some much needed moisture (1.18 in.), but also some very strong winds, which caused significant root and stalk lodging at the farm. A light frost occurred on September 15, which may have impacted late maturing soybeans, but had little impact on early maturing soybeans and corn.

Fall 2011. The dry conditions persisted throughout the fall and harvest got under way the last week of September and was virtually complete by the last week in October. Dry and windy conditions led to many combine fires during harvest. Most of the corn at the research farm was combined in one direction because of the lodging that occurred earlier. Yield data from two plots was thrown out because the corn was severely lodged. Overall, corn and soybean yields were very good considering the many

stresses throughout the season. Continued dry conditions allowed timely fall fertilizer and tillage operations, but has increased the need for moisture for the 2012 growing season.

Acknowledgements

We would like to thank everyone who attended field days at the research farm. We hope that the information presented was valuable to your operation. We would also like to thank the Northwest Iowa Experimental Association and ISU Extension for their support throughout the year. We would also like to recognize the following businesses for their donations to the Northwest Research Farm this past growing season:

Demco Agricultural Products
Potash Corporation of Saskatchewan
Syngenta Crop Protection
Monsanto
BASF
Pioneer Hi-bred International
Sickelka Ag Service
Agrigold Hybrids
Producers Coop
Ag Partners
Security State Bank

Thanks again for all your support and we look forward to an exciting and rewarding 2012 growing season.

Table 1. Northwest Research and Demonstration Farm, Sutherland, monthly rainfall and average temperatures for 2011.

Month	Rainfall (in.)		Temperature (°F)		Days 90° or above
	2011	Deviation from normal*	2011	Deviation from normal	
April	2.43	-0.14	44.6	-1.5	0
May	5.71	1.92	57.4	-1.7	2
June	7.13	2.53	68.3	-0.5	3
July	2.53	-1.04	75.8	2.7	7
August	1.66	-2.32	68.9	-3.2	1
September	1.44	-1.85	57.8	-3.3	0
October	0.20	-1.93	51.6	2.8	0
Totals	21.10	-2.83			13

*Rainfall averages recalculated based on data from 1957-2010.

Projects at Sutherland

<u>Research Project</u>	<u>Project Leader</u>
Asparagus variety trial	NWRF Staff
Comparison of tillage methods on corn yield	NWRF Staff
Corn aphid study	NWRF Staff
Corn aphid threshold study	E. Hodgson
Corn burner as primary shop heat	NWRF Staff
Corn fungicide efficacy x timing	A. Robertson
Corn nematode management	G. Tylka
Corn nematode seed treatment x insecticide	NWRF Staff
Corn plant population x fungicide	P. Kassel
Corn planting date	NWRF Staff
Corn replant study	R. Elmore
Corn rootworm trap crop	A. Gassman
Demonstration garden, Rock Rapids	C. Haynes
Demonstration windbreak	J. Randall
Eggshells as a liming source	P. Kassel
Fertility timing in corn and soybeans	J. Lee
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
Nitrogen rate x fungicide interaction on corn yields	P. Kassel
Nitrogen response on soybeans	NWRF Staff
No-till cover crop x nitrogen rate	J. Sawyer
Post-emerge corn herbicide comparison	NWRF Staff
Soybean aphid efficacy trial	E. Hodgson
Soybean aphid pan trap	M. O'Neal
Soybean aphid suction trap	M. O'Neal
Soybean fungicide x insecticide interaction	A. Robertson and M. O'Neal
Soybean herbicide system comparison	NWRF Staff
Soybean replant study	P. Kassel
Soybean row width comparison	NWRF Staff
Soybean seed treatment study	NWRF Staff
Soybean varietal response to fungicide	P. Kassel
Struvite as a phosphorus source	A. Mallarino
Surface runoff study	A. Mallarino and M. Helmers
Tillage x fertilizer placement study	A. Mallarino
Tree biomass and regrowth potential	J. Randall and R. Hall
Twin row x corn plant population	NWRF Staff
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 the on-farm research (OFR) program continues in Buena Vista, Sac, Pocahontas, parts of Carroll, Calhoun, Ida, Cherokee, and Clay counties. On-farm research assisted individual farmers in setting up field-length research and gain data for statistical analysis. Extension crop specialists Paul Kassel and Allee Farm superintendent Lyle Rossiter assisted eight farmers with 16 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 320 fourth grade Buena Vista County students. The Corn Growers Association, Farm Bureau Association, Farmers Coop, and Monsanto provided funding and cooked and served food for the event.

The Buena Vista special swine class included 45 participants who gained swine production knowledge, herdsmanship, and showmanship techniques at the Allee Farm. With the experience, each participant purchased, showed, and marketed four market pigs at the county fair in July for a total of 180 pigs.

The 4-H livestock superintendents attended a retinal eye imaging training to identify individual animals for the county and state fairs. A specialized camera takes an image picture of the blood vessels in the eye that identifies each individual goat, sheep, and cattle to be shown.

The Allee Farm continues work with the Newell-Fonda school to provide agricultural

education from the classroom to practical experiences related to crop, swine, beef, and machinery operations. The FFA club planned, planted, and assisted harvest with their first corn yield variety trial this year.

Visiting Indian scientists Dr. Chandra Mukhopadhyay and Dr. Sirinivasa Vasudevan assisted with ultrasounding the yearling cattle at the farm. They experienced modern U.S. crop production by watching and riding in a combine during harvest, unloading into a grain cart, and transporting to the farm bins. This was of great interest because agriculture in India is mostly hand labor.

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 2011.

New projects. Soil grid mapping, yield monitoring, and Guidance Position Systems (GPS) have been integrated into the cropping systems for demonstration and research. Seven thousand feet of field tile were added this fall.

Livestock. The Allee Farm continues to feed and collect research data for bulls, steers, and heifers from the purebred Angus cowherd at the ISU McNay Research Farm, Chariton, IA. Custom finishing of 42 heifers, 54 steers, and 56 bulls was completed this year. Four bulls were placed back into the breeding herd at the McNay Research Farm.

Crop Season Comments

Corn planting started May 7 and was completed May 6. Harvest was completed November 7 with average yields of 188 bushels/acre.

Soybean planting started May 16 and was completed May 20. Harvest was completed October 11 with average yields of 48 bushels/acre.

Weather Comments

Winter. January snow accumulation was 22 inches. February was mild with a high temperature of 60 degrees on February 17, melting all of the snow in the fields. March moisture was mostly rain except for 5 inches of snow.

Spring. April had showers on the first day of the month. High winds on April 9 and a tornado caused major damage to trees, buildings, houses, and power lines. Warm weather and less than normal rain allowed for storm cleanup from the fields into May. Corn and soybeans were planted in a record pace with little rain delay. The soil profile was full of moisture.

Summer. The first part of June was cool with record rainfall of 12.6 inches. Ponding and flooding caused crop loss in lower areas. July

and August rainfall had a total of 1.3 inches and 3.7 inches, respectively. Cooler summer temperatures and the lack of rain slowed crop growth and maturity.

Fall. September rainfall totaled 1.7 in. Dry and hot weather continued to stress plants but the spring soil profile kept the plants alive. September 30 frost reduced the yield potential in soybean fields in northwest Iowa. October was warmer than normal, with many days in the 80s to highs of 90°F on October 7. Corn was harvested from the field without artificial drying in most cases. Grain moistures of 13 percent at harvest in late October was common. Fieldwork was completed with little rainfall in November and December.

Acknowledgements

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