

2011

Northwest and Allee Farms Summary

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Northwest and Allee Farms Summary

Abstract

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

Keywords

RFRA1047

Disciplines

Agricultural Science | Agriculture

Northwest and Allee Farms Summary

RFR-A1047

Northwest Iowa Experimental Association

2010–2011

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Research and Demonstration Farms

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

Northwest Research Farm Summary

Ryan Rusk, farm superintendent

Farm Comments

Developments. Two Case International 1660 combines were purchased and used for the 2010 bulk harvest. Both combines will be equipped for small plot harvest and data collection.

Yetter strip-tillage units were purchased and mounted on a cultivator frame. Strip-tillage treatments were initiated in the spring of 2010 and will be repeated each fall. A backpack sprayer was purchased and used for applying fungicide and insecticide treatments on corn and soybean studies.

Tree biomass harvest started on the farm in late December and over 87,000 lb of trees were cut, weighed, and sliced into two meter sections. Harvest will continue in the spring after the snow melts and data will be available by next summer.

A total of 47 research studies were conducted at the research farm this year. Twelve of those trials were initiated for the first time in 2010. The on-farm research project continues to be a great success in northwest Iowa, with a total of 48 projects this season. You can find results from those trials at <http://ofr.ag.iastate.edu>.

Field Days and Tours. There were nine events held by the Northwest Farms—Sutherland and Doon. A total of 1,552 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. Soybean breeding, Walt Fehr; Corn aphid threshold study, Erin Hodgson; Western bean cutworm management, Erin Hodgson; Efficacy of soybean aphid resistant soybeans, Erin Hodgson; Corn replant × relative maturity study, Roger Elmore; Corn earworm management, Aaron Gassman; No-tillage cover crop by nitrogen rate, John Sawyer; Corn plant population by fungicide, Paul Kassel; Efficacy of Avicta seed treatments on corn, white mold management, corn yields following no-till soybeans, impact of rolling corn prior to planting, NWRF staff.

Crop Season Comments

Corn planting began April 17 and was completed May 3. Harvest began October 6 and was completed October 16. Corn yields following soybeans averaged 211 bushels/acre and continuous corn yielded 196 bushels/acre.

Soybean planting started May 3 and was completed May 21. Harvest began September 27 and was completed October 8 with average yields of 62 bushels/acre.

Weather Comments

Spring 2010. Dry weather in April and May allowed farmers to begin planting corn and soybeans earlier than normal and progress at a record pace. Planting of both crops was ahead of normal by 25 percent on May 10. A few corn fields had plants already emerged in the month of April. A light frost on May 9 froze off many of the emerged corn plants, but most of the plants recovered as temperatures warmed.

Summer 2010. The months of June and July were characterized by high rainfall. The month of June was the wettest month on record with 13.62 in. of rain and July was the second wettest July on record with 8.75 in.

Despite the saturated soils, post emergence crop spraying was completed in a timely manner. Soybean aphid numbers remained low during the growing season and only a few acres were treated for this pest. Goss's wilt was apparent on a number of corn hybrids this year and impacted yield on these infected hybrids. Many producers are now managing this bacterial disease by choosing hybrids that are more tolerant to this disease. Sudden death syndrome (SDS) was identified in a few soybean fields during the summer in northwest Iowa. This disease was primarily located in compacted areas and headlands and did not impact yields significantly. SDS was much more prevalent in other areas of Iowa and limited yields in those regions.

Fall 2010. The harvest of 2010 was completely opposite of the previous growing season. Soybean harvest began the last week of September and was mostly finished by the first full week in October and corn began soon after and was mostly complete by the last week of October. We were able to start and complete our entire crop harvesting at the research farm without having a single rain event. The dry weather and warm temperatures rapidly dried the crops in the field and many soybeans were harvested at less than 11 percent moisture and most of the corn was harvested between 13 and 15 percent moisture. Crop yields in the area were very good considering the wet summer months.

The early completion of harvest and dry weather allowed many farmers to get all of their fall field work completed.

Acknowledgements

We would like to thank everyone who attended field days this past year 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.

Syngenta Crop Protection
 BASF
 Monsanto
 Hundertmark Cleaning Systems
 Pioneer Hi-bred International
 Sickelka Ag Service
 Agrigold Hybrids
 Kruger Seeds
 Producers Coop
 Ag Partners
 Security State Bank

Thanks again for all your support and we look forward to an exciting and rewarding 2011 growing season.

Table 1. Northwest Research and Demonstration Farm, Sutherland, monthly rainfall and average temperatures for 2010.

Month	Rainfall (in.)		Temperature (°F)		Days 90° or above
	2010	Deviation from normal*	2010	Deviation from normal	
April	1.62	-0.96	52.4	6.3	0
May	2.45	-1.36	58.0	-1.1	1
June	13.62	9.19	68.2	-0.6	0
July	8.75	5.27	72.4	-0.7	1
August	3.39	-0.60	72.6	0.5	2
September	3.81	0.53	61.6	0.5	0
October	<u>0.81</u>	<u>-1.34</u>	52.3	3.5	<u>0</u>
Totals	34.45	10.73			4

*Rainfall averages recalculated based on data from 1957-2009.

Projects at Sutherland and Doon

<u>Research Project</u>	<u>Project Leader</u>
Biological control of soybean aphids	M. O'Neal
Corn aphid threshold study	E. Hodgson
Corn earworm management	A. Gassman
Corn fungicide efficacy × timing	A. Robertson
Corn genetics × insecticide	NWRF Staff
Corn replant study	R. Elmore
Corn plant population × fungicide	P. Kassel
Corn planting date	NWRF Staff
Corn yields following no-till soybeans	NWRF Staff
Eggshells for liming experiment	P. Kassel
Efficacy of Avicta seed treatment on corn	NWRF Staff
Fertility timing in corn and soybeans	J. Lee
Impact of liming source on soil pH	A. Mallarino
Impact of spring tillage methods on corn yield	NWRF Staff
Long-term nitrogen 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 × nitrogen rate	J. Sawyer
Planter closing wheel comparison in corn	NWRF Staff
Rolling corn prior to planting	NWRF Staff
Rolling soybeans × timing (no-till and tillage)	NWRF Staff
Rootworm management	A. Gassman
Soybean aphid resistant soybeans	E. Hodgson
Soybean breeding	W. Fehr
Soybean fungicide × insecticide interaction	A. Robertson/M. O'Neal
Soybean row width	NWRF Staff
Soybean varietal response to fungicide	P. Kassel
Struvite as a phosphorus source	A. Mallarino
Sugar application effect on soybean yields	NWRF Staff
Surface runoff study	A. Mallarino/M. Helmers
Tillage × fertilizer placement study	A. Mallarino
Tillage × rate of lime study	NWRF Staff
Tree biomass study	J. Randall/R. Hall
Twin row × corn plant population	NWRF Staff
Western bean cutworm management	E. Hodgson
White mold management	NWRF Staff
Asparagus variety trial	NWRF Staff
Corn burner as primary shop heat	NWRF Staff
Demonstration garden, Rock Rapids	C. Haynes
Demonstration windbreak	J. Randall
Water table monitoring	NRCS
Weather station	NWRF Staff

Allee Demonstration Farm Summary

Lyle Rossiter, farm superintendent

Farm Comments

Developments. The implementation of on-farm research (OFR) continues in Buena Vista, Sac, Pocahontas, parts of Carroll, Calhoun, Ida, Cherokee, and Clay counties. On-farm research assisted individual farmers to set up field-length research and gain data for statistical analysis. Extension crop specialists Paul Kassel, Mark Licht, and Allee Farm superintendent Lyle Rossiter assisted nine farmers with 27 field projects.

Field days and tours. The Allee farm hosted Ag-Citing Days with topics of soil science, wind turbines, amazing corn, global position satellite, Fun in the Garden, and 4-H youth presenting talks on their live beef, goat, rabbit, and swine projects to 295 fourth grade Buena Vista County students. The Corn Growers Association, Farm Bureau Association, Farmers Coop, and Monsanto provided funding for busing and cooked and served food for the event.

The August field day included topics of corn management and precision ag with 74 people attending. Speakers included, ISU Extension corn specialist Roger Elmore; ISU Extension pathologist Alison Robertson; ISU Extension ag engineer Matt Darr; ISU Extension field agronomists Mark Licht and Paul Kassel; and Precision Ag Technology consultant Holly Sandhoff of Hultgren Implement.

The third annual Allee Farm corn maze this year was in the shape of a rodeo cowboy riding a bull. A total of 288 visitors went through the maze. Admission was a nonperishable food item that was donated to the local food pantry. Visitors to the maze were given corn topic questions and they had to find the hidden answers in the maze. The

Iowa Corn Promotion Board used the corn maze to educate 4-H clubs and school students in the uses of corn in their daily lives while the kids walked through the maze.

The Buena Vista special swine class included 43 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 172 pigs. The local 4-H clubs hold their monthly meetings at the farm.

The Allee Farm provided an area for the Mustang Garden, funded by a grant. The Newell-Fonda FFA students calculated seed needs, purchased tomatoes, peppers, pumpkin seeds and assisted (at-risk) fourth grade students on how to plant, water, weed, and care for the Mustang Garden this summer. Pumpkins were harvested and sold at the football games, generating \$700 to pay for the garden supplies for 2011.

The Allee Farm appreciates the community support and the opportunity to be an educational site for all ages and families. A total of 1,282 guests visited the farm, and the historic Allee Mansion entertained 1,000 guests in 2010.

New projects. Electronic technology of computerized data collection during the crop season has improved management decisions throughout the agricultural industry. Soil grid mapping, yield monitoring, and Guidance Position Systems (GPS) have been integrated into the cropping systems for demonstration and research.

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 102 heifers, 149 steers, and 111 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 April 27 and was completed May 4. An August 12 storm with 70-mile winds pushed corn stalks to the ground with many areas laying flat until combining. Harvest was completed October 23 with average yields of 172 bushels/acre, corn/soybeans and 158 bushels/acre on continuous corn. Harvest corn moisture was 18 percent and the driest hybrid was 12 percent.

Soybean planting started May 20 and was completed May 22. Heavy rainfall during the growing season drowned low areas and prevented replanting. Harvest was completed October 8 with average yields of 43.7 bushels/acre.

Weather Comments

Winter. Snow and more snow—35-year record snowfall of 85 inches. Snowdrifts on the cattle shed roof were 4 ft deep. The heavy snow was scooped off of the roofs to lessen the weight so the roofs would not collapse. Numerous building roofs collapsed in northwest Iowa during the winter.

Spring. The heavy snow blanket over the landscape insulated the soil from freezing during the winter. Little flooding occurred during the seasonal snowmelt, most of the water was absorbed into the soil profile. April soil was dry for early corn and soybean planting into May.

Summer. June was cool with 16.3 in. of rain. July moisture accumulation total was 12.7 in. August received 6.7 in. of rain and 70 mph wind on August 12. September total rain was 4.5 in.

Fall. Total season rain accumulation of 44.2 in. Total cumulative GDU from April through September were 3,064. Warm weather in September and October allowed a record pace harvest of corn and soybean. Corn hybrids quickly dried down and the last corn was harvested at 12 percent moisture out of the field.

Acknowledgements

The farm would like to thank the Newell-Fonda School, the On-farm Research staff, the Newell Cooperative, Ag Partners-Fonda, ISU Extension, BV County Farm Bureau, Citizens First National Bank, and the Iowa Corn Growers Association for their assistance with field days and events.