

2013

Western Research Farm Summary

Western Iowa Experimental Farm Association

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Disciplines

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Western Research Farm Summary

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**Western Iowa Experimental Farm Association
Founded 1946**

Officers

Chairperson	Kyle Bohnker, Charter Oak
Vice Chairperson	Linda Herman, Pisgah
Secretary-Treasurer	Richard Pope, Logan

Directors

Aaron Gress	Crawford County
Kyle Bohnker	Crawford County
Linda Herman	Harrison County
Brandon McHugh	Harrison County
Keith Zediker	Monona County
James Else	Monona County
Lloyd Henderson	Woodbury County
James Brown	Woodbury County
Gary Guge	At large

Western Research Farm

Wayne Roush	Superintendent
Mark Honeyman	Coordinator, Research Farms
Dennis Shannon	Manager, Research Farms (retired 12/31/12)
	103 Curtiss Hall, ISU
	Ames, IA 50011

Sustaining Members

Community Bank, Dunlap	Valley Bank and Trust, Mapleton/Danbury
First State Bank, Mapleton	Western Iowa Power Coop, Denison
Iowa/Nebraska State Bank, South Sioux City, NE	Soil and Water Conservation Districts of:
Senator Chuck Grassley's office, Donny Barry	Crawford County
Sloan State Bank, Sloan and Whiting	Harrison County
	Monona County
	Woodbury County

Farm Summary

Wayne Roush, farm superintendent

Farm Comments

Developments. Equipment changes were at a minimum in 2012 with a new computer, two pig feeders, two pig hoop tarps, and a Calc-An-Acre unit as the only major purchases. An unused pasture corral sweep was sold. Dirt work in fields, removal of volunteer trees and old fence helped to consolidate various fields. General clean-up, scrap iron sales, livestock building and equipment maintenance, and new border fence installation also occurred. An ISU ag business student was hosted for the summer. He participated in the Intern Program and received credit plus work experience.

Field days and tours. Seven events were held during the year with a total of 280 people visiting the farm. Some of the events included the Annual Meeting and informational meeting, Manure Applicator Certification Training, and a Drought 2012 Impact meeting with 21 producers in attendance. The drought meeting was centered on livestock production with an emphasis on feedstuff options and management. Fifteen producers attended the ISU FARM trials participant meeting. The participant meeting covers all trials statewide, with an emphasis on the local ones. Participants can see how their trials/ideas mesh with others and get a chance to interact with ISU crops personnel.

Other notable events included a short impromptu visit by Iowa Secretary of Agriculture Bill Northey to discuss rural Iowa concerns and a scheduled visit by ISU professor Dr. Lee Burris and his soils class. The class was given a farm tour to view various soils in western Iowa and discuss their uses and properties.

New projects. Only one new project was started on the farm in 2012—Optimum Soybean Planting Date comparison. Most new project developments were under the ISU-FARM banner, which expanded from 13 trials in 2011 to 23 completed trials in 2012. (See article elsewhere in this report.)

Livestock. With the addition of ISU FARM trials to Western's research mix, livestock production has been rearranged to more closely match the available labor. Livestock production at the farm will focus on research-based trials. Livestock production in 2012 included no cattle production. Pastures were either mowed for hay or sold as standing forage. The cattle finishing facilities were rented out; one to house weanling calves and the other to a young beginning farmer to finish cattle. Swine production consisted of 72 head finished during the year. This was a continuation of the purebred Berkshire pig feeding trials started in 2011. This intensive trial will define growth curves, feed intake, fat deposition, and lean gain in purebred Berkshire pigs. Berkshire pigs are in demand for export niche markets. These pigs are weighed and ultra-sounded every 21 days for muscle and fat deposition from a starting weight of 50 lb to a market weight of 280 lb.

Crop Season Comments

Corn planting started on April 22 and was completed on April 25. Harvest started on September 21 and was completed on September 23, with an average yield of 113.8 bushels/acre. Soybeans were planted between May 1 and May 8. Soybean harvest started September 30 and was completed on October 1, with an average yield of 40.4 bushels/acre.

These corn and soybean yields were 40.2 percent and 20.6 percent below five-year averages, respectively. Alfalfa yields suffered

with only two cuttings harvested. The major contributing factor to the yield reductions was the drought conditions of 2012.

A very dry, late summer and fall in 2011 set the stage for drought in Iowa in 2012, and continued throughout 2012 with hotter and dryer than normal conditions persisting for most of the year. In fact, 2012 had the fifth lowest summer precipitation total and the driest June on record.

Spring started off with a very mild March, which prompted most pastures and alfalfa to start growing nearly a month early. Corn planting also started early in most locations, however a frost on April 12 damaged most of the developing corn and hay crops. The western Iowa apple crop was essentially wiped out in 2012 as most apple orchards were in bloom at the time of the frost.

With temperatures well above normal for each of the first seven months of the year, drought conditions developed rapidly and intensified with the lack of rain in June and July. July had much above normal temperatures, and with 44 days above 90°F it was the hottest July since 1936. Twenty-three days above 90°F is the normal total for an entire year! Overall, western Iowa will remember the 2012 growing season as much hotter and dryer than normal.

In addition to the late frost and drought, there were other factors that also caused lowered yields in 2012. Hail on May 23 caused replanting of 25 percent of the farm's soybean acres and reduced populations in most fields. Corn suffered a 5 percent stand reduction but did not require replanting. Early season weed control was marginal and required selected fields to have an extra post-emerge herbicide application. On July 26, a strong storm with high winds in excess of 80 miles/hour caused some fields to have corn snapped off. The damage was confined to small areas of refuge corn at the research farm but many local

producers had whole fields flattened by the winds. Hail hit the farm again in mid-September and caused soybean shatter losses of an estimated 1.5 bushels/acre. However, insect pests were not observed in treatable populations during 2012.

The early start to the growing season, coupled with rapidly accumulating growing degree day units caused accelerated grain fill, dry down, and harvest. Many producers were harvesting damaged cornfields in August, finished corn harvesting in September and then moved to soybeans in October. As the warm and dry conditions continued, many fields had fall fertilizer applied. However most anhydrous ammonia applications were delayed until later in October after some timely rains and lower soil temperatures alleviated concerns about proper sealing of the knife applicator trenches and N losses.

Acknowledgements

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Berne Coop, Ute
Bomgaars, Mapleton
LG Seeds, Brad Hanson
Mapleton Press, Mapleton
Renze Seeds, Dennis Boyler
Community Bank, Dunlap
First State Bank, Mapleton
Sloan State Bank, Sloan and Whiting
Iowa-Nebraska State Bank, S. Sioux City
Valley Bank, Mapleton and Danbury
Western Iowa Power Cooperative
The Soil and Water Conservation Districts
of: Crawford county
Harrison county
Monona county
Woodbury county

Research Farm Projects

<u>Project</u>	<u>Project Leader</u>
Lean and fat deposition measurements for purebred Berkshire pigs housed in bedded hoop barns in Iowa	J. Mabry/M. Swantek/ M. Honeyman/D. Stender
Feed intake and growth rate in purebred Berkshire pigs housed in bedded hoop barns in Iowa	J. Mabry/M. Swantek/ M. Honeyman/D. Stender
Dominant grass effects on diversity and functioning of restored grasslands	B. Wilsey
Effects of biochar and manure applications to prairie establishment	L. Biederman
Insect monitoring traps for the black cutworm moth and western bean cutworm moth	W. Roush
National Phenology network study	M. Schwartz
Native cover crops: effects on prairie establishment and weed invasion	B. Wilsey
Optimizing soybean planting dates	W. Roush
Plant species effects on diversity and weed invasion resistance in restored grasslands	B. Wilsey
U.S. Weather Service weather station Air temps; hi, lo, current Soil temps; 1, 2, 8, 20, 40 inch Evaporation dish Daily precipitation Severe weather spotter	
Demonstrations: Manure settlement basin Composting livestock mortalities Composting hoop buildings manure pack Swine finishing in hoop buildings	