

Western Research Farm: A Brief History of 75 Years

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Beginnings and Land

In the spring of 1944, representatives of three western Iowa counties – Harrison, Monona, and Woodbury – first gathered to discuss the development of an experimental farm for western Iowa. A site was needed to encourage agricultural research on the erodible loess soils in the hilly three-county area. Records indicate that even before this time, in 1942, Monona County officials had expressed interest in research and had in fact, invited representatives of Iowa State College to visit the county and assist in improving grass production in the area.

Individuals and groups within each of the three counties meeting in 1944 discussed possible locations for a research farm, to be included in what was an expanding network of experimental farms to address the research of Iowa's diversified farmlands. The farm would become reality two years later with efforts expanded to include Crawford County during the early negotiations.

The leaders formed the Western Iowa Experimental Association and incorporated as a non-profit corporation under the laws of the State of Iowa. Scarce funding would delay purchase of the needed farmland, but the groundwork was well underway, and a fund-raising drive began for purchasing a farm in Monona County that would become the Western Research and Demonstration Farm near Castana, Iowa. The site selected was near the center of the four-county area and proved strategically located on county road E34 between Ute and Castana. The road would later become a paved road through the area.

Minutes of the early organization show organizers, solicitors, and members devoted “150 man days and over 3,000 miles of travel to solicit funds from area farmers.” A 240-acre farm was purchased from Bradley C. Riddle for \$18,500. Mr. Riddle was praised “for his splendid spirit and material help” in making purchase of the farm possible. The association received possession of the farm March 1, 1946. The purchased farm has continued as the research farm site since 1946. In 2002, an adjacent 40-acre tract was added to the research farm as a gift to the association from the Welles family.

There have been ties between the research farm and field trials located on the Missouri River valley. Early, there was a field site on Luton soils, the poorly drained heavy clay soils sometimes known as gumbo. In the 1980s, a site was opened near Whiting to investigate alternative vegetable crops, especially potatoes. Both sites were relatively short-lived and the Western Research Farm provided various levels of support.

Leadership

Bob Zimmerman was the first farm superintendent until 1955. Dale Winger served as superintendent from 1955 until 1968. Wayne Fruehling became superintendent in 1968 and continued until 1987. Bob Burcham followed until 1994. Wayne Roush was superintendent from 1994 to 2014 with the first eight years as a co-superintendent with Barb Smith. Chris Beedle is the current superintendent since 2015. Table 1 lists the superintendents for the ISU Western Research Farm through 2021. There have been seven superintendents in the 75 years since 1946, which created a strong record of stability and continuity.

The association has continued leadership and support for the research farm. A list of past association presidents is shown in Table 2. The arrangement of the association owning the land and ISU staffing, equipping, and programming the site has proven to be a strong partnership. The association also contributes advice, guidance, and local connections for the research farm.

Of note is the partnership between the research farm staff, extension staff, and soil conservation staff (USDA NRCS) in western Iowa. Farm staff has consisted of a superintendent and 1 or 2 assistants, plus a summer student. Extension staff partners originally consisted of area extension staff and the agriculturists from each county. The county staff, particularly in the early years, were important to communication about the farm and the results of trials. Many were involved. Among the notables were Larry DuVal, Monona County; Gary Guge, and later Rich Pope, Harrison County. Former farm superintendent and soil conservationist Bob Zimmerman was very active. These individuals often served as association secretary or treasurer. Also, the area extension staff were essential partners at the farm, more recently including Dave Stender, Cherokee; Mike Witt, Guthrie Center; and Joel DeJong, Orange City. These and many others were critical in communicating the research results, articulating needs of the area, and organizing trials and field days.

Improvements

Major improvements were made to the research farm over the years including considerable fencing and water lines for grazing trials, a residence in 1950, a feedlot building in 1966, a hay shed, and a headquarters building/shop in 1987 with a meeting room added later. Several hoop barns used for alternative swine production trials were built in 1999 and 2003.

According to memories associated with the farm, during the 1950s or 1960s the research farm had a cylindrical pit silo “carved” vertically into the loess soil with vertical sides. The silo was filled by merely dumping or pushing silage over the edge. An unloader was then used to blow the silage to the surface for feeding. Later, vertical above-ground, concrete stave silos were erected and used until about 1990. Water for livestock and household use has been an ongoing challenge. Good wells are scarce in the deep loess terrain. In the 1990s, a submersible pump was placed in the lake that backs onto the property and has been used as a reliable source of livestock water.

Research Topics and Programs

The early experiments included small grain variety trials, tillage practices in relation to soil and water conservation and crop yields, fertilizer experiments, and planting rates and methods of establishing pastures. A pasture project, with four-year rotation and 25 percent corn, was among the first of the research projects. Steers (600 to 700 lb) were divided to compare continuous grazing, grazing with full feed of corn, rotation pasture grazing, and one brome/sweet clover field to be continuously grazed. The forage trials introduced new or improved forages such as alfalfa, clovers, crownvetch, brome grass, warm-season grasses, and annual sudan grass or sorghum-sudan crosses.

In 1962, land near the farm’s headquarters was used for experimental plots to use standard farm equipment for studying tillage methods and their effect on soil and water losses. Another 1960s trial centered on the feasibility of utilizing wilted grass silage as a winter cattle feed.

More recently in the 1990s, studies focused on no-till corn and bean populations, sulfur fertility in soybean and effect on yield and

quality, conventional/conservation tillage systems, forages, alternative production methods for swine, and cattle finishing programs.

Soil conservation through waterways, terraces, cover crops and reduced tillage have been ongoing topics. Terrace building field days were held on the farm showing distinctive terrace styles and spacings.

A frequent topic of field trials was managing or conserving soil moisture. A fully equipped U.S. weather station was part of the research farm from the beginning. Since 1986, the research farm has had an automated weather station as part of Iowa MesoNet, which generates climate data presented on a website including air temperature, relative humidity, precipitation, wind (speed and direction), solar radiation, soil temperature, and soil moisture.

Crops have been primarily corn, alfalfa (which prefers the deep, well-drained loess soils), oats (in early years), and soybean plus pasture. For a time in the 1980s to 1990s, an apple orchard and vegetable crops were grown. Livestock has been primarily grazing stocker and feedlot beef cattle. Alternative swine production systems (bedded hoop barns and outdoor settings) have been included since the 1990s. Recently, under the leadership of Chris Beedle and others, particularly extension staff, youth programming has flourished at the farm with swine and poultry 4-H youth programs, where area youth learn about the care and showing of pigs and chickens kept on the farm.

There was one unusual “livestock” project. In about 2000-2003, an ISU extension ag engineer became interested in rearing alligators as an agricultural enterprise in Iowa.

The concept was that Iowa had a plentiful “feed” supply for alligator farming, i.e., piglet mortalities from the many swine farrowing units. The project consisted of two young alligators that were purchased and lived in a stock tank with a small deck in the farm’s headquarters building. A waterbed heater was used to keep the water warm. The alligators were fed a diet of ground piglet mortalities, which met all of their dietary needs. Alligator growth and feed intake was recorded. Average daily gain and feed efficiency were calculated. Energy used to keep the alligators warm also was recorded. After about two years, the alligators were processed into meat and hides. The meat was sampled at a field day and the hide was made into book covers. A complete budget was developed. Nevertheless, alligator farming has not flourished in Iowa, but continues in Louisiana.

Recently, on average annually, the research farm has had 20 research field trials on-site plus demonstration trials in area fields, served about 10 researchers, hosted 6 field days and as many as 800 visitors annually. Field days have been an important method to extend the work of the farm to the area.

The field research trials have been extensive over the last 75 years. And although new trials were started each year and others completed, and farming changed in scale and technology, the research topics have been consistent.

The activities at the Western Research Farm—research trials, demonstrations, field days, visitors, area association leaders, trial results, extension programs—are all testament to the vision, need, and commitment of Western Iowans and Iowa State University for a strong, continuing outlying research farm.

Table 1. Superintendents of ISU Western Research Farm, Castana, IA, 1946 to present.*

Bob Zimmerman	1946-1955
Dale Winger	1955-1968
Wayne Fruehling	1968-1987
Bob Burcham	1988-1994
Barb Smith**	1994-2002
Wayne Roush**	1994-2002
Wayne Roush	2002-2014
Chris Beedle	2015-present

*According to the printed annual progress reports. A complete set is located in Curtiss Hall, ISU, Ames, IA

**Roush and Smith were co-superintendents from 1994 to 2002.

Table 2. Presidents of the Western Iowa Experimental Association, 1946 to present.*

Ralph Mikkelson	Onawa	1946-
Incomplete records		1947-1952
Merle Reed	Sloan	1953-1954
Louis Culver	Dunlap	1954-1963
Ed Helming	Hornick	1964-1967
Robert Bohnker	Charter Oak	1968-1971
Evan Davies	Castana	1972-1973
Louis Culver	Dunlap	1973-1974
Kirk Bennett	Mapleton	1975-1976
Max Krogh	Sergeant Bluff	1977-1978
Charles Korn	Logan	1978-1989
Ted Bromander	Smithland	1990-1991
Roy Dieber	Denison	1991-1992
Vincent Willey	Onawa	1992-1993
Kyle Bohnker	Charter Oak	1993-2015
James Else	Mapleton	2016-present

*The association was organized in 1946.