Gleanings

100 YEARS AT THE NORTHWEST EXPERIMENT STATION

The Northwest Experiment Station . . .
From James J. Hill to Ag Research for the 21st century

100 YEARS
1895-1995
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Gleanings

A Centennial Project of the Northwest Experiment Station, Crookston, Minnesota

Gene Miller - Author
E. C. "Gene" Miller came to the Northwest School of Agriculture and Experiment Station on July 1, 1954. As engineer, involved in the general rebuilding of the physical plant, as pilot - enthusiastic organizer of flying clubs and college curriculum, as horseman-promoter of major horse shows, as poet - a friend, and finally as writer - recorder of the past.

Bernie Youngquist - Consultant
Bernie was appointed Superintendent of the Northwest School of Agriculture and Experiment Station in 1956. He tackled the job of rebuilding the Station, determining area educational needs, reorganizing the Red River Valley Winter Shows, and expanding research lands and projects to fit the needs of modern agriculture. Knowing of Bernie's respect for the past Builders of the Valley, we invited him to be a part of the Gleanings project.

Cover photos
Top front: Harvesting grain at the Northwest Experiment Station, August, 1911.
Back cover: University of Minnesota, Crookston campus, including the Northwest Experiment Station and College, October, 1994.

Photos courtesy of:
Northwest Experiment Station,
NWSA archives,
UMC Media Resources
and Elvin Moran.
Experiment Station and Northwest School campus in 1934. Note the research plots in the lower right corner.

**FORWARD**

The "Historians' Committee" selected *Gleanings* as the title of this assembly of remembrances from the 100 years of The Northwest Experiment Station, Crookston. The word "gleanings" refers to looking at the remains after a rich harvest. The harvest has been 100 years of agricultural research, service and education. The history of the Northwest Station and the Northwest School of Agriculture is quite inseparable at the beginning.

A credit to Ruth Anne Stymiest who researched and published the information in *Cycle – A chronicle of the Northwest School of Agriculture and Experiment Station, 1895-1988*. She found the history of the station-school a fascinating one.

Today, on the 100th Anniversary of the Northwest Experiment Station, we are still bound in some ways to James J. Hill's premise, that we should research the land, crops, and livestock for answers - then tell others about the true nature of what we have found.

This relationship to the farmers on the land was the original "extension" concept, a practical communication of information before county agents and extension divisions were common. The mission statement of the University of Minnesota, Northwest Experiment Station, has deviated little since the first ground was broken at Crookston.

In many ways, when the Valley soils were still water bound, the crop varieties inadequate for this growing season, and the equipment still not invented to handle this vast country, the combination of the Northwest School and Experiment Station was the best answer to prepare young future farmers for the days ahead. In the last 40 years this has not been true in the same way.

The story of the Northwest Experiment Station starts to diverge from the school as our research came to be internationally used and copied. As research societies and industry became more sophisticated, they wanted to use our research even before it was finished – we had a world audience and we changed. Research multiplied in quantity and quality after the separation from the college in 1965. It is the hope of the Historians' Committee that we have captured some of the excitement of the ongoing research and personnel of the Northwest Experiment Station.
GROWTH IN THE VALLEY, 1895-1920

In the Beginning

Because of its unique geological attributes, the Red River Valley was selected as one of two locations for consideration of an experiment station in Minnesota. Polk County’s senator at the time was Peter M. Ringdal of Crookston. Ringdal introduced a bill for the establishment of an experiment station to be located near Crookston. At the same time, House of Representatives member M.E. Craig, introduced a bill to establish an experiment station in the northeastern part of the State. The two legislators worked together, coming up with two identical bills that included both stations in the Senate and the House bills. The 1895 legislature appropriated $30,000 to procure equipment and to conduct two sub-experiment farms, one at Crookston and one at Grand Rapids.

James J. Hill, president of the railroad company involved in rail construction in the Red River Basin, was a powerful economic and political figure in the late 19th and early 20th century of Minnesota’s history. He gave a conditional gift of 476.61 acres of land for use by the University of Minnesota to establish an experiment farm to learn to farm the soggy sod and later to teach residents of the Valley what was learned.

Some of the administrators of the University of Minnesota were not in favor of starting a unit at Crookston. They argued that all the research necessary could be accomplished at the main University. Despite changes in University leadership, the railroad leadership, and in organizational bureaucracy, a clear title to the land was obtained by the University in 1939 after several years of sustained effort led by Superintendents A.M. Dowell and T.M. McCall. This initial land for the Northwest Experiment Station was three-fourths of Section 19, Crookston Township.

The Early Years

Torger A. Hoverstad, first Northwest Experiment Station superintendent, arrived with his family, furniture and a few farm implements in a couple of boxcars. Hoverstad was instrumental in the preliminary organization of the Northwest Experiment Station. During his years with the Station he introduced better selections of several crop varieties, including ‘Red Fife’ and ‘Haynes Bluestem’ wheats, Minnesota No. 13 corn, alfalfa, white blossom sweet clover, bromegrass, and red and mammoth clovers. He helped organize the Red River Valley Dairymen’s Association and became its first president in 1903. Hoverstad planted the main windbreak at the Station in 1896-97 and he directed much effort toward drainage of the land. Polk County and the City of Crookston each gave $1,000 to help construct an open drainage ditch that was used until 1909, when the tile and surface drainage system was completed.

Hoverstad gave tree planting his first priority, early pictures of the campus can confirm the “bare” feeling of the prairies which the first settlers confronted. The large groves protecting the campus were all planned and mainly planted during this era. Hoverstad reported that the tree seedlings were “mudded in” and that the workmen had to wear high boots due to the high water level. The 1896 plantings included evergreens such as Colorado blue, Black Hills and white spruce, Scotch pine and balsam fir. Many of the large Colorado blue spruce, Black Hills and white spruce, now standing on the campus were transplanted to their present locations in the years of 1912-14.

Not all trees survived. Many trees failed on alkali spots. Superintendent Hoverstad reported that some 10,000 young white and Norway pine and spruce transplants, planted as a cooperative project with the U.S. Department of Agriculture, failed.

1895 saw a “bumper” wheat crop in the Red River Valley. Travelers reported oceans of wheat. The railroads hauled wheat as fast as they could. Elevators were filled and piles of grain were in the streets of villages and towns. This was the last bumper crop of grain for many years.

The first experimental grain plots in 1896 were 4’ x 4’. A large number of varieties were tested that year. The new Minnesota variety No. 163 (Glyndon) was found to be superior to the commonly grown varieties, Fife and Haynes Bluestem.
One of the first “Visitors Days” put on by the new experiment farm. A demonstration of the horsepower and equipment that were used for road building and tillage operations. Also shown are a pair of driving horses and a buggy.

**New Leaders – Expanding Roles**

William Robertson succeeded Hoverstad as station superintendent and was the first school superintendent. Robertson was with the station-school from 1905 until his death in January 1910. He established the curriculum of academic and vocational training for the new school. He secured staff and faculty to implement the school programs. His greatest contribution to the Experiment Station was considered to be the installation of a surface drainage system, a system which also improved the campus area.

Field plots continued under Robertson. In wheats, Minnesota Nos. 163 and 169 and some hybrids of Fife and Bluestem dominated the trials.

Poultry was an important farm commodity in those years, how else could you feed the local preacher when he came for Sunday dinner. The Station maintained flocks consisting of Barred and White Plymouth Rocks, White Leghorns, Light Bramas, Cornish Indian Games, Pilken ducks, African geese and Bronze turkeys. As early as 1902 a poultry specialist was hired at the Station, C.S. Greene, being the first. He was followed by C.E. Brown who published a bulletin on poultry work dealing with poultry housing, feeding and breeding for high egg production.

Animal husbandry was also a factor in the early Station research. Shropshire sheep, large Yorkshire and Duroc Jersey swine and Galloway cattle were on the farm in 1902. By 1910, the dairy cattle herd consisted chiefly of the Holstein, Milking Shorthorn and Guernsey breeds with both purebred and grade animals in each breed.

Conrad Selvig was appointed by the University Board of Regents to succeed Robertson. He served as school-station superintendent from 1910 through 1927. He worked toward building the school, with developmental plans to allow for future needs. He organized the Red River Valley Winter Shows in 1910 and served as president through 1927. His leadership in drainage matters led to the organization of the Red Lake River Conservancy Project. The Experiment Station continued to test and introduce new and better varieties, including the introduction of ‘Grimm’ alfalfa to the Valley. Livestock research continued to grow under Selvig’s leadership. He was elected to U.S. Congress from the Ninth District in 1926 and served three terms.
Elevating grader constructing an open ditch in 1909. The average speed of the machine was about 1.3 miles per hour for a 10 hour working day. Station buildings are visible in the background.

Staff members were added in Selvig's tenure to continue the crops and animal husbandry research. From 1910-1920, most of the grade animals were culled from the herds. The milking strain of Shorthorn cattle was dropped with preference given to the beef type Shorthorns. The dairy herd was improved through use of good sires.

**Drainage Impacts Early Agricultural Research**

Much of the original gifted land obtained from James J. Hill was termed "a duckpond" by local critics, the need for drainage was obvious. The problem was universal in northwestern Minnesota. Funds were justified by the Minnesota State Legislature because if the University could solve that problem, the area farmers would benefit as well from the experience. John T. Stewart, U.S. Department of Agriculture Drainage Engineer, who did the topographical survey stated, "the farm lies in the lowest part of the drainage basin, a good outlet must be constructed."

A capstan ditch was constructed in 1903 which carried the water in a northwesterly direction to a coulee which was later to become the outlet course of county ditch No. 60. County ditch No. 60 was constructed in 1907 to give the Experiment Station an outlet at the northwest corner of the farm to a depth of seven feet. A more complete system of surface and tile drainage was completed in 1909. The complete project, after 1909, was followed immediately by the first sustained agricultural research work in agronomy, soils, and horticulture as well as in farm crop production to support the livestock.

**Years of Growth**

The Northwest School of Agriculture's (NWSA) early days could be considered "years of growth." More staff was added, more buildings were constructed, programs were added, enrollment increased. The first graduating class was in 1909, by 1911 an alumni association was organized. The object was to "bind more closely the graduates who have been closely associated during the school course... and to make known to the public the splendid advantages offered by the Northwest School of Agriculture, especially to the young men and women of northwestern Minnesota."

Thomas M. McCall joined the staff of the Northwest School in 1911 as instructor and station horticulturist. He took a brief sabbatical leave in 1929-30 to return to Iowa State College, Des Moines, to earn his Master of Science degree. Early horticultural plantings had not fared well, most died. After the drainage projects were completed and T.M. McCall took charge of horticulture at the Station, a wide variety of plantings took shape.

By 1913, there were six school buildings. Stephens Hall and Robertson Hall were dormitories; the Sidney M. Owen building was for farm engineering and dairy classes; the
first classroom building, the Home Economics Building, was for "domestic science." There was the James J. Hill Building for classes and the new administration building, named in honor of David L. Kiehle, former State Superintendent of Public Instruction, Regent and University professor. Four buildings were formally dedicated on December 5, 1912 – Owen, Kiehle, Robertson and Hill. James J. Hill was present for the dedication and attended a "farm style" dinner after the ceremony.

Hill wrote in the 1913 NWSA annual, "Every institution engaged in giving instruction in modern farm methods is not only contributing to the advancement of an industry which must always be the foundation of national prosperity and stability, but it is a guidepost pointing the way to what must and will be, for a majority of the young people of our country, the happiest and, if rightly followed, the most successful occupation."

At the dedication ceremonies, Hill told Superintendent Selvig, "Come to see me at my office, and I'll give this school a building or provide a fund for some unmet need." Selvig thanked him and noted he had a long memory. Said Hill, "That's all right young man; remember it." Selvig did, but shortly after their meeting, the railroad magnate died. Wrote the young superintendent, "He left a legacy for northwestern Minnesota even if fate intervened in regard to that promised building."

Capable agricultural research personnel were just coming on the national scene. Attracting these agriculturally trained men and their families to an undeveloped section of soggy sod in northwestern Minnesota was a major challenge for superintendents. Providing family type housing on the scene rather quickly brought capable research personnel in soils, agronomy, and livestock, establishing the earliest outstate interdisciplinary agricultural research and extension team in the State of Minnesota.

Summer practicums were established procedures by 1912. The theory was, students would attend school for six months and pursue a "practicum," or as it was later known, a "home project," at home or on the farm for the other six months of the year.

Following the advice of University President George E. Vincent, that there be "no blind alleys in our schools," the Northwest School offered a four-year advanced course, which focused totally on academic studies.

A central heating plant was constructed in 1913, and by 1914 construction was begun on a second boys' dormitory. In addition to Superintendent Selvig, there were 15 faculty members employed at the school by 1914. Selvig noted, "I sought the best teachers and Station staff members procurable. Most of them were young, but they were well prepared. They grew in stature with the years. To them is due full credit. The work was hard. During the early years salaries were low."

School activities continued to expand. Music, public speaking, debating, young men's and young women's Christian activities, athletics and other activities were added. For six months, the school was "home" to the young students, and attempts were made to provide enjoyable and broadening experiences for them.

Experiment Station Influence

The Experiment Station made its influence known in the area. An annual visiting day at the Station became popular with farmers and their families. Research was done concerning black stem rust of wheat, alfalfa growing and livestock production. According to Selvig, the 1860 census reported 1,932 head of cattle in Valley counties. By 1910, the number stood at 337,587. Selvig was awed by the Valley soil and the agricultural potential. "What a heritage," he pronounced. "Do you know the potent powers of this soil and the wonders it can perform?"

The Farmers' Week events continued to gain support, but it was decided that attendance would be facilitated by moving the programs to the city. Winter weather was un-
A good grain crop on farm east of the Northwest Experiment Station, 1919.

predictable, and it was necessary to go from the campus to Crookston in horse-drawn conveyances. Crookston's Grand Opera House was secured for the meetings, but soon crowds strained the building's capacity. Moves began to acquire a building that could accommodate the "Red River Valley Farm Crops Shows," as it came to be called.

The Red River Valley Livestock Association was organized and incorporated. Shares were sold for $10 to obtain funds for constructing a building in downtown Crookston for $15,000. The building was to house farm crops exhibits and to have a livestock judging room, as well as provide quarters for livestock in the basement area. The first building was ready for the 1919 show. In 1920, Annex A was added and Annex B was ready for the 1921 shows. According to Selvig, there were more than 2,600 stockholders of the Red River Valley Livestock Association.

So, on all fronts, growth took place. The 1916-17 school year showed an enrollment of 160 students in the regular three-year program. Added to that were 47 enrollees for the junior shortcourse, 145 for the summer training for rural teachers, and 1,824 for the farmers' short course. In one year, more than 2,000 persons had—in one way or another—been served by the Northwest School of Agriculture.

The First War Years

The work at the Northwest Experiment Station grew and developed to meet the special needs of this section of the State. During 1917 the Station assisted in carrying out the government program for increased production. The northwestern group of counties organized their wartime program early enough to influence the farm plans for the first year of the war, and in 1918 a record crop was produced.

Orville Kiser, animal husbandman, first arrived at the Northwest School on January 1, 1917. Kiser had earned a B.S. degree in agriculture from Kansas Agricultural College. He served as an extension agent and also taught at the school. He left and served as Nobles county agent during the war, then returned to Crookston to head the dairy and animal science department at the school and station.

During this period the value of straw sheds were demonstrated for the overwintering of beef cattle. These sheds were utilized on the Station into the late forties, "too long",
many Station critics said of Superintendent McCall. The wartime economy was one reason, but jokers on the farm crew called one "McCall Hall", resentful no doubt in having to clean up an impossible situation of posts, straw and manure.

Beef feeding trials were conducted in this era as well, most work being directed at feeding crops that could be grown in the Red River Valley.

Arnold M. Foker joined the Northwest School staff in 1917. A graduate of the University of Minnesota, he had taught at Warren, Minnesota, high school two years and also at Alexandria, Minnesota, in an industrial arts position. He was later appointed head of the department of agricultural engineering and the superintendent of buildings and grounds at the station-school.

Alvin M. Pilkey joined the staff in this era as poultry husbandman. He was a graduate of the University of Manitoba and also taught arithmetic in the school system.

Martinus Stenseth, graduate of the Northwest School, Lt. U.S. Aviation Corps, was named an official "Ace" in 1919, having downed six German planes.

By 1919, a formal blueprint for the development of the campus had been approved. Formal gardens, special plantings of many kinds, memorial drive, sidewalks and roads were known. Prior to this period the farm buildings which had once encroached upon the campus were moved east.

October 5, 1920, the War Memorial at the campus entrance was unveiled during dedication day when several special events took place.

R. W. Thatcher, dean of the department of agriculture, congratulated Northwest School students. "To be able to go ahead steadily toward a desired goal, even with such distractions as epidemics of disease and changes from wartime to peacetime condition, is an achievement which promises well for your future success as individuals and as a school."

Selvig's words from more than 80 years ago—"The farmers' purchasing power is much below what it was in 1914. His farm debt has increased and he is unable, under present conditions, to reduce it. He buys in an artificially created market and is compelled to sell nearly all his products on a world market. Either the protective system must be extended to the farmer or it must be modified. Transportation, taxation, credit problems, land tenure and honesty in labeling food products are other problems that cry for amendment and change in the interests of agriculture... agricultural well-being is of fundamental importance to the cities, to the industrial East, if you please, as well as to us out here in the producing regions."
Early breeding research with Holstein cattle at the Northwest Experiment Station. The cottages in the background were built for faculty housing when transportation was difficult.

**The Early 1920's**

In 1921, 77 farmers in ten counties of northwestern Minnesota, grew pure seed grain in cooperation with the Northwest Station. This large increase of favored varieties was worth millions to the area. The pure seed show held annually as a part of the Red River Valley Winter Shows reflected the interest and the quality of seed being grown.

At its annual meeting in 1921 the Red River Valley livestock Association held its annual purebred livestock show in February with high interest shown. The membership of over 2,000 consisted of breeders, county farm bureaus, county agents, and Northwest Experiment Station staff. Superintendent Selvig and O.M. Kiser, station livestock man, continued as officers of the association.

The staff houses were referred to as "cottages", possibly because they were small. Money for two houses in the 20's was stretched to build three, possibly causing them all to become smaller. This was known as "faculty row", no reason for school to be called off because of weather—students boarded at the school and all the staff was on campus.

A faculty society resulted. Families invited others for special dinners, some trying to out-do the others. When the superintendent's wife hosted, all had better be present and no excuses.

Superintendent McCall owned a section of land just north and east of the Station. When grain shocking time came, all the faculty pitched in and a "shocking bee" was held, the women providing a special banquet out in the field.

Raymond S. Dunham, a graduate of the University of Illinois, was appointed to the agronomy staff of the Northwest School and Experiment Station in 1921. He headed the soils, forage crops, and farm management areas.

Dunham was head of a project to study proper application of barnyard manure to crop rotations. He regretted the loss of fertility caused by the burning of thousands of acres of straw in northwestern Minnesota. Straw spreaders had been introduced by this time and the Station promoted their use.

On campus, Dunham organized a crop sale to raise money for a grand piano for the main auditorium. He also led singing groups.

E.R. Clark came on the staff of the Northwest School and Experiment Station about 1920. He had been engaged in small grain research and in a large study of farm weeds. Seeding rates for many of the small grains were studied. In 1921 many heavy rates were discontinued for lack of economy. Eight year averages for oats showed best results from seeding 10 to 13 pecks per acre.

Clark left for Lafayette, Indiana, in 1940 to become a seed technologist in the Federal Seed Laboratory.
Juel Torvi began working at the Northwest Experiment Station in 1923 as a farmhand. Horse power, four-bottom plows, ten-foot springtooth cultivators, two-row corn planters, five-foot hay mowers and loose hay loaders, were the frontline equipment of the day. Steam engines and Rumley Oil Pull tractors lumbered over the prairie on the large grain farms.

Torvi rose quickly to the position of farm foreman. In the 1920's a typical morning saw him harnessing 16 horses. Decades later, he was entirely familiar with self-propelled grain combines, sugarbeet harvesters, forage choppers, multi-row planters and fertilizer applicators.

He walked to work every day, including his later years—although then, he was only a quarter of a mile away in a house provided for the farm foreman. Torvi completed 48 years of continuous service.

**Northwest Station Given Land**

The original grant of land by James J. Hill, president of the Great Northern Railroad, included three quarter sections of Section 19, which adjoined the city of Crookston. The southwest quarter was not deeded to the University at that time.

February 1, 1924, James T. Maher, land commissioner of the Great Northern Railroad Company, advised Honorable Fred B. Snyder, president of the University Board of Regents, that the remainder of the southwest quarter, excluding the fair grounds, be donated to the Northwest Experiment Station and a deed be issued to the University. The value of the gift was $20,000.

Selvig wrote in 1925, “During these 30 years the erstwhile ‘duck pond’... has been transformed into an efficient investigational center...” During these 19 years of the Northwest School, over 2,000 young men and women have received training and inspiration for their life’s work.

After considering “the plight of the farmers,” Selvig decided to run for U.S. Congress. He had two goals: to encourage farmers to organize, and to concentrate on farmers’ marketing problems. In November, 1926, C. G. Selvig was elected congressman for Minnesota’s Ninth Congressional District.

**Winter Shows Continues Growth**

The first winter series of Institutes, begun in 1910 by the University, continued. It soon outgrew the space on the campus and was moved to facilities in Crookston. In 1918, the official combined premium and program book was entitled “The Red River Valley Farm Crops Show and Northwestern Minnesota Farmers Week Meetings”. In 1925, the program book and premium book was entitled “The Red River Valley Classic – The Red River Valley Winter Show.” In 1928, it was called “The Northwest School Farmer’s Week and the Red River Valley Winter Shows.”

This title lasted until 1969 when the event became “The Red River Valley Winter Show and the Northwest Farm and Home Week,” the title used until 1993 when it became “The Red River Valley Shows.”

Over the years, the early 1910 “show and tell” sessions on campus enlarged to facilities covering many acres on the north edge of Crookston. The University provided the leadership and organizational planning, the superintendents

Lamb feeding trials were held at the Experiment Station in the 1920's.
of the Station always serving as president. Tradition was broken in 1982 when Dr. James Lofgren, of the Dahlgren Company, Crookston, was elected. The University gradually pulled back from the heavy responsibility of the Shows.

Times had changed!

**Early Extension Work**

Farmers in the area were vitally interested in any new progress in the areas of crop and animal science but roads were almost impassable for many months of the year. Researchers from the Northwest School and Experiment Station went to the small towns around the area to inform various groups.

T.M. McCall stated, "Due to poor transportation connections by trains, it was necessary to spend two nights in order to attend a day meeting at Climax which is some twenty miles from the Experiment Station. To attend a meeting in Oklee or towns on the Soo Line required changing trains twice and spending two nights in Erskine. We could attend meetings as far north as Middle River and return home the same day providing the meeting time was between trains."

**Austin A. Dowell succeeded Selvig as Superintendent** on April 15, 1927. Dr. Dowell graduated from Iowa State College in 1915. He taught in Iowa, and then was the head of the Animal Husbandry Department at the University of Alberta, Canada. From there, he went on to the University of Minnesota, working with the Extension Division five years before coming to Crookston. He was granted a leave of absence in 1933-34 to direct special studies in livestock marketing for the Bureau of Agricultural Economics in Washington, D.C. Dr. Dowell collaborated with Dr. O.B. Jesness in the publication of a book *The American Farmer and the Export Market*.

Martin Rud was born in Viking Township, December 13, 1897. He lived in the Viking area and graduated from the Northwest School of Agriculture. He began his employment at the Northwest School and Station in 1928 and worked in the agronomic area until his retirement in 1963. He was chief assistant to Dr. Olaf Soine, putting in many research plots. In those early years Rud pulled the seed, tools, and markers behind his personal car in a small two wheel trailer.

Rud spent long hours at the elevator cleaning, organizing, and setting aside lots for pure seed growers. He never married, the Station was his adult life. He was an avid fisherman, his fishing boat often parked beside the elevator for a quick evening trip.

**The Depression Years**

The Dirty Thirties—The Depression, by whatever name it was given, created a tightening of belts that is still vividly remembered by persons who lived during that period. Even the productive Red River Valley felt the sting of drought, harsh winters, lack of windbreaks and decrease in earning and buying power.

Rainfall at the Northwest Experiment Station was recorded as the lowest since 1920. The season was also the warmest on record. Rainfall did not improve in 1933, and in September emergency repair work was necessary on Kiehle Building. Due to the five year dry period, the ground had shrunk and footings had settled causing extensive damage to building walls, especially on the southwest corner.

A "windbreak campaign" began in 1934 to prevent some of the wind damage caused by the drought. Each farmer was encouraged to plant from 150 to 200 trees on each quarter section. In 1935, the entire NWSA student body signed pledges to plant at least one white elm on home grounds, designating the elms as Northwest School trees.

Farmers never wavered in their thought that "education and information" would fit their sons and daughters for usefulness on the land and in the homes of the territory - enrollment increased during the depression rather than decrease as might have been expected.
Speakers and dignitaries at the Northwest Experiment Station's 40th anniversary celebration were:
Standing: Dean W.C. Coffey, and Superintendent A.A. Dowell.

The silver anniversary celebration of the Northwest School Farmers' Week was observed in early 1935. An historical pageant was presented during the Winter Shows, and from the interest it generated, it was decided to form a Valley-wide historical society.

**40th Anniversary**

On June 15, 1935, the Northwest Experiment Station observed its 40th anniversary. Dignitaries included T.A. Hoverstad, first station superintendent, 1895 to 1905; C.G. Selvig, superintendent, 1910 to 1927; W.C. Coffey, dean and director of the University Department of Agriculture; and A.D. Stephens, former state senator.

Station-School Superintendent Dowell resigned in April, 1937, to accept a position at the University Farm in St. Paul. T. M. McCall, horticulturist at the school for 25 years, succeeded Dowell as superintendent.

**A New Leader – A New Era**

Thomas M. McCall, who succeeded A.A. Dowell, was appointed to serve as Superintendent in May, 1937. He was born December 25, 1887, at McCallisburg, Iowa. He graduated from Iowa State College where he majored in horticulture and forestry. After serving briefly at his alma mater as an assistant in entomology and instructor of horticulture, he joined the staff at the Northwest School and Experiment Station in 1911.

Having survived the deprivations of University budgets during World War I, and the depression years as a staff member, Superintendent McCall brought with him a very conservative outlook. Various factors within the Institute were struggling for themselves, and the distance to St. Paul in those days was real. Budgets were slim at Crookston. All the maintenance lumber on hand for summer repairs in 1954 could have been hauled in a wheelbarrow.
Combine Day was held to demonstrate new machinery at the Northwest Experiment Station in 1940.

E.C. Miller, former staff member remembered, “Even in 1954 when I arrived, Tom's travel (and ours) to St. Paul was a well organized overnight train trip. Leaving Crookston in the early evening, the train which stopped at almost every town, arrived in Minneapolis around seven a.m., just right to start the day's work.”

During the summer when school was out, one janitor, Wilbur Parkin, took care of all the buildings on the campus. He also mowed all the lawns on an early version of the “riding mower”. This mower had three reels which had been sharpened so many times that they were very thin.

Lawrence Ristau, chief maintenance man, had invented a machine to handle the reels while being sharpened. A rock, or corn cob, not only made the blade dull, but bent the thin remains. The mower was in the shop frequently.

Pure seed became a more important issue for all farmers. Students at the Northwest School had many pure seed projects during this era. These helped demonstrate what the new varieties and seed selection could do.

**45th Anniversary Celebrated**

The Northwest Station celebrated its 45th anniversary June, 1940. Pioneer farmers and businessmen, instrumental in the founding of the Experiment Station in 1895, were given special recognition. The first station Superintendent, T. A. Hoverstad of St. Paul, was on hand to take part.

**The War Years**

The theme of the 1941 Winter Shows events was “World Affairs.” Topics included “What happened in Norway—The Nazi threat” and “Will the South American Republics Go Nazi or Go with the United States?”

An interesting World War II development involving the Northwest School was the school for glider training started June 12, 1942. Raymond S. Dunham, agronomist, taught meteorology to the students, W.R. Peterson, engineer, gave a refresher course in navigation, and Robert Reynolds of Minneapolis, a senior student in aeronautical engineering at the University of Minnesota, taught aircraft identification. Stephens Hall was the designated dormitory for the flight group who took their meals at the school dining room.

T. A. Hoverstad died in March, 1943, at the age of 75. During that year, the annual alumni reunion was postponed until homecoming because of the gasoline and labor shortage caused by the war.

In 1945 the unimaginable happened. For the first time in 35 years, Winter Shows activities were canceled. The wartime action was taken to conform to the denial of a permit from the National Committee on Conventions and Meetings in Washington, D.C. It was denied because the Winter Shows did not “contribute directly to the war effort.”

Victory came in Europe that spring and T. M. McCall ordered the campus flag to half-mast in honor of the fallen Franklin Delano Roosevelt and the 14 Northwest School boys who had given their lives in the conflict.
Raymond S. Dunham left the Northwest School and Experiment Station early in 1945, having been on the staff since 1921. He was appointed to a position in the division of agronomy and plant genetics at the Minnesota Experiment Station, University Farm, St. Paul. His heart was always at Crookston. After his death, his ashes were strewn over the research plots by airplane.

Dr. Olaf C. Soine succeeded Dunham as Station agronomist in 1945. Soine, who's background was also involved with soils work, took a dual role at this time. Soine had received his M.S. degree in 1937 and completed his Ph.D. at the University of Minnesota in 1945. He had been a research fellow in the division of soils at University Farm, St. Paul.

There were a series of horticulturists following T.M. McCall. A. C. Vogel served from 1937 until 1939, followed by Robert E. Nylund, who was appointed in 1939.

An interim horticulturist had been appointed in 1944, Mrs. Violet Lundgren Clark of Savannah, Georgia. She was a graduate of the University of Minnesota’s horticulture department. She worked as a student assistant at St. Paul, and as a horticulture assistant consultant in raspberry investigations at the Duluth substation. Clark also had been employed by commercial floral and landscape companies in Minneapolis and St. Paul.

Orrin C. Turnquist was appointed to the horticulture department at the Northwest School and Experiment Station in 1945. Turnquist, a Minnesota native, received a B.S. degree in forestry from the University of Minnesota in 1937 and his M.S. degree in horticulture in 1940. He served as a student assistant in the department of forestry and soils at St. Paul for a time. His first assignments at Crookston were involved with potato breeding and potato production.

50th NWES Anniversary

The 50th anniversary of the Northwest Experiment Station was observed during 1945. Ironically, earlier that year A. D. Stephens, pioneer resident and banker in Crookston, died. The former state senator had been instrumental in getting the first state appropriation from the legislature for the establishment of the Northwest School of Agriculture. The first, and largest, dormitory for boys was named in his honor. That site is now the location for the UMC’s Conference Center.

In the Station summary for that anniversary year, Superintendent McCall noted two decades of brome and meadow fescue grass research, more success in eradication of quack grass, and the success of Bokhara (sweet clover) once dropped because of it’s weedy nature. Sweet clover became the “plow down” crop of choice in the Valley, followed by summer fallowing ahead of sugarbeets.

Soine would show later that with proper rotations and fertilization, these idle acres were not necessary. It put thousands of acres back in use.

The Station had played an important part in early introduction and distribution of Grimm alfalfa. McCall reflected that in 1914 the Station had distributed 18,000 pounds of pure alfalfa seed to 521 cooperators. Further recall on this anniversary noted almost 50 years of potato research, including spraying tests, seed treatment, size of seed pieces, transmission of virus diseases through the seed piece, depth of planting, and testing of new breeding material.

Gardens and trees had been of prime importance for the early settlers on the barren prairies of the Red River Valley. The horticulture department had been a vital resource during the first 50 years of the Station. A wide variety of fruit production was researched. More than 400 apple trees of 11 standard varieties were planted, 350 crab apples of nine varieties, and 75 plums of 11 varieties were planted during 1910-17. In addition, raspberries and strawberries were tested in abundance.

Large numbers of sheep and herds of cattle were raised during the first 50 years. Shorthorn and Angus herds were kept in small numbers. Students regularly worked with these animals, raising and butchering them in classes. Swine work had come and gone over this period. Poultry feeding was a major research accomplishment in the long term.

Early self-propelled combine at the Station in 1945.
Peace Returns, Research Accelerates 1946-1970

Dean T. H. Fenske with the Superintendents from all the Experiment Stations in 1955. They are left to right: Allen Edson, West Central School and Station, Morris; Thomas M. McCall, Northwest School and Station, Crookston; Robert Hodson, Southern Experiment Station, Waseca, Theodore H. Fenske, associate dean, Institute of Agriculture, St. Paul; Clarence L. "Stub" Cole, North Central Experiment Station, Grand Rapids; Albert C. Heine, Rosemount Experiment Station; and Ralph S. Grant, Northeast Experiment Station, Duluth.

Research Gains in Importance

The research area saw O.M. Kiser, animal scientist, feeding surplus potatoes to his beef herd. Dr. Olaf Soine experimented with radioactive fertilizer elements, traced them through uptake and plant development and noted more effective combinations of phosphate.

O. M. Pilkey ranged his turkeys. Many faculty members helped organize judging contests at the Winter Shows. Livestock sales set records at the Shows.

Sunflowers are now recognized as being an important crop in the Red River Valley. This crop was viewed with caution in 1947. Soine wrote an article titled "Sunflowers—A New Crop in the Red River Valley." He stated, "This crop has its place now during the critical shortage of edible oils, but the future will depend on the price of other competing crops and the return of prewar sources of oil." He continued, "Because there are no processing plants in this area, all the seed will have to be shipped out. This may be a factor in the future production because the seeds are rather bulky."

Bruce C. Beresford was appointed head of the horticulture department in 1947. Formerly of Urbana, Illinois, Beresford left a teaching position at the University of Illinois to take the teaching a research spot left vacant by the resignation of O.C. Turnquist. Beresford received his B.S. degree in horticulture at Iowa State College and his M.S. degree in horticulture with a major in vegetable crops at the University of Illinois. Beresford was responsible for significant cooperative research efforts with the St. Paul horticulturists including: vegetable variety trials and hail damage studies.
**Research Efforts Coordinated**

Dr. T. H. Fenske, superintendent of the West Central School and Experiment Station, Morris, Minnesota, was promoted to Associate Dean of the College of Agriculture, Forestry, and Home Economics with responsibility for all the Schools of Agriculture and outstate Experiment Stations in the State of Minnesota in 1948.

The research effort for agriculture across the state needed more coordination as the efforts of research staff from the St. Paul Campus and the branch stations increased in scope and complexity after WWII. Education and training requirements for research and administrative personnel at the branch stations were upgraded generally to include a Ph.D. degree.

A popular commencement speaker at high schools and colleges across Minnesota, T.H. Fenske, died enroute to deliver the commencement address to the last senior class graduating from the West Central School of Agriculture, Morris, March, 1963.

‘Andrew’ and ‘Zephyr’ oats and ‘Moore’ barley were released to approved growers in 1949. The small grain elevator built in 1913 was still turning out tons of pure seed to certified growers. Martin Rud, elevator and cleaner operator for many years, was still on duty into the nights when seed was flowing.

In 1949, Herman Skyberg of Fisher, a 1916 graduate of NWSA, was elected as a University of Minnesota Regent. Skyberg had won distinction as a certified seed grower and as a leader in the Minnesota Crop Improvement Association where he had served as president for two years. He was a director of the Red River Valley Co-op Power Association, Farmers Cooperative Marketing Association of East Grand Forks, and the Crookston Production Credit Association, among others. With his relation to farming, Skyberg’s support for agricultural research on the Station was strong and appropriate.

1950 Floods

The area floods of 1950 were a historic event. May precipitation amounted to 7.24 inches, the greatest amount for any one month since records had begun to be kept 50 years before. Boats were utilized on campus to get people to work. Damage to farm land came from the long duration of the flood (four to seven weeks), which delayed all crops and prevented the seeding of many.

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Leaders in the Red River Valley Livestock Association in the early 1950's.

*Seated left to right are:* Lloyd Spielman, Eddie Gronseth, Rex Haugen, J.L. Delmore, James Muzzy, Bernard Ward, and (unable to identify).

*Standing left to right are:* Ron Baker, Sam Strand, William Strickler, (unable to identify), Bennie Strickler, Benton Rindahl, Delmar Hagen, Paul Billberg, Dennis Forsell, and Odin Hanson.
O. M. Kiser retired in June 1952 after 35 years on the staff. Kiser had been heavily involved with the swine project at the Station. He was replaced by Homer Fausch who was finishing his Ph.D. in animal science at the University of Minnesota.

Institute of Agriculture

In January of 1953, the University Board of Regents changed the name of the Agriculture Department to “Institute of Agriculture.” Dr. Harold Macy, former director of the University Experiment Station, became new Dean of the Institute on January 1.

Rudy M. Stolen was appointed to the staff of the School and Experiment Station in 1953 to handle the dairy herd and research. Stolen came with degrees from the University of Minnesota in animal husbandry. He had been a county agent for a short time, then joined the Land O'Lakes Creameries, Inc. becoming manager of the Herd Improvement Division. He left after a brief tenure at the Station.

A soil improvement forum in 1953 attracted more than 375 farmers, and 1,000 attended the Station’s Crops and Soils Day. More than 4,000 people attended “Hay Field Day” at the Station to look at the changing systems and machines coming into being. Special “forage days” would continue for 20 years as farmers adapted to new systems.

The Station received a grant from the A. O. Smith Harvestore Company to research the new “oxygen limiting” capability of the “big blue” units.

A. M. Faker, superintendent of buildings and grounds and engineer, retired in 1954 after 37 years of service. Faker, like McCall, had served through two world wars and the Great Depression. Buildings received a minimum of maintenance over these years. The budget for repair on the farm was not one a superintendent of buildings could “crow” about. Steam joints in the heating tunnels needed repairs, the southwest corners of all of the major buildings, repaired somewhat after the great drought of the 30’s, were all again cracked and sagging.

E. C. “Gene” Miller joined the staff in 1954. He came with education and building construction experience from undergraduate days at The Stout Institute, Menomonie, Wisconsin.

After pilot training and service in WWII, Miller completed his B.S. degree. He taught two years at Perham, Minnesota, then spent two years working with young veteran farmers at Fergus Falls in the On-Farm Veterans Program, as shop and building instructor. At Fergus Falls he was heavily involved again with flying, working vacation time and weekends crop spraying with West Central Airways of Fergus Falls.

He attended the University of Minnesota, and completed a M.S. degree before heading for Waseca to teach in the new Southern School of Agriculture in 1951. Upon arriving at Crookston, he was asked by local farmers to use his flying and crop spraying experience to help fight an army worm infestation.

New Leadership for the Station

Bernard E. Youngquist appointed Superintendent. At the January, 1956, meeting of the University Board of Regents, B. E. Youngquist was appointed Superintendent to succeed T. M. McCall, who would retire in June after 45 years with the Northwest School and Experiment Station.

Youngquist, a native of Finlayson, Minnesota, received his B.S., M.A., and Ph.D. degrees from the University of Minnesota. He had taught agriculture in Starbuck from 1939 until 1941. He served in the U.S. Navy in the European and Pacific Theaters during World War II.

Youngquist joined the University staff in 1946 at the West Central School and Experiment Station at Morris and served there until becoming principal at the Southern School of Agriculture in Waseca in 1952. He became superintendent of the Northwest School and Experiment Station in 1956.

Dr. Homer Fausch left the Station in 1956, accepting a staff position at Polytech College in Pomona, California.

Dr. Fausch was replaced by Dr. Diedrich Reimer, a native of Canada. Reimer graduated from the University of Manitoba, received a M.S. degree from the University of Minnesota and had completed most of his doctorate in animal breeding at University of Minnesota when he was hired.

The 47th annual Red River Valley Winter Shows took place in 1957. The theme for one day during the meetings was “Use of Airplanes in Agriculture.”
Professor A.M. Pilkey traced the source of blackhead disease in turkeys. His research lead to an explosion in turkey production.

A.M. Pilkey, poultry husbandman, retired in 1961 after 39 years of service. His most outstanding research had been the tracing of blackhead disease in turkeys caused by organisms in old turkey lots. Systems of lots, which were moved frequently, along with some new medications, were proven to thwart the spread of “blackhead” long plaguing turkey growers.

The blackhead research allowed an explosion of turkey production during the 1940's and 50's in Minnesota. Pilkey's major assistant was Richard W. "Winston" Johnson who completed more than 30 years with the Station.

Dr. Edward Frederick was appointed in 1957 to strengthen the Station's dairy research. His herdsman was Martin VonRuden. Frederick, directed the project involving testing of bulls and their semen. Four pairs of twin bulls were acquired for the project. Assistant farm animal technician, Marvin Chandler, monitored these bulls around the clock and collected semen at the proper intervals.

Frederick was involved with early forage projects which were very important for farmers changing over from baled hay to ensiled forages. One year was so droughty, wild oats were harvested in a field near Beltrami, Minnesota, and ensiled for feed.

Frederick left in December, 1963, to convert the Southern School of Agriculture at Waseca to a two-year college.

Dr. George Marx was appointed to the Northwest Experiment Station staff on January 1, 1964. Marx earned his B.S. degree from the University of Wisconsin, River Falls, a M.S. from South Dakota State University, Brookings, and his Ph.D. from the University of Minnesota.

He completed the bull stud project started by Frederick. The information from this project changed the way bull stud
enterprises were run around the world, saving millions of dollars. He continued work on "immunized milk" which he had helped with as a graduate student at the University of Minnesota.

Marx continued a dairy steer feeding project. Dairy farmers had often killed bull calves at birth, the value of a non-breeding males seemingly nil. During the 60's, the value and carcass grades of dairy steers completely turned around.

Martin VonRuden, herdsman, left in 1966. His replacement was Marlyn "Jake" Jacobson. Jacobson completed his B.S. degree in dairy science at the University of Minnesota. It was the first effort to place a well trained assistant with each of the research heads at the Station.

Dr. Harvey Windels, who completed his B.S., M.S., and Ph.D. degrees at University of Minnesota. He arrived in September, 1964, to complete the Northwest Experiment Station's Animal Science Department. Windels was added to direct the beef, sheep and swine operations. At the time the Station was heavily involved in the last series of swine breeding for the Minnesota #2, #3's.

William F. Hueg Jr. was appointed professor and assistant director of the University of Minnesota Agricultural Experiment Station in 1962. He was appointed to professor and director in 1966.

Hueg's specialization in forage physiology and management resulted in a management system for improved forage harvesting.

Past Superintendent T.M. McCall died March 21, 1965 at the age of 77. His funeral was held at Kiehle Auditorium on campus. A. M. Foker also died that year.

1965 — Division of Duties, "The Education Arm and The Research Arm"

Superintendent B. E. Youngquist's in-depth study of agricultural schools during the 50's, indicated these schools were outdated. It was recommended that the agricultural high school be phased out and a two year technical college replace it.

In this plan, education and research, were directed into a "new age".

The University appointed Dr. Bernard E. Youngquist to head the research at the Northwest Experiment Station. Dr. Stanley D. Sahlstrom was appointed director of the new technical institute in the fall of 1965. Sahlstrom had been director of field services at St. Cloud State College. Sahlstrom was given the responsibility for directing the development of curriculum at Crookston, and of administering activities that would lead to the opening of the University of Minnesota Technical Institute in the fall of 1966.

Dr. George Marx, of the Northwest Experiment Station, with cows used in his dairy research projects.

Agricultural Research Reorganized

Offices in the new Agricultural Research Center were reorganized and Dr. Youngquist began a new era in agricultural research at the Station. His research team consisted of Dr. George Marx, animal science, dairy; Dr. Harvey Windels, animal science, beef, sheep and swine; Dr. Olaf Soine, agronomy and soils, and E. C. Miller, agricultural engineer. Juel Torvi, farm foreman, carried much responsibility for getting field work done and research plots planted. The era of special equipment for plots at the station was just beginning.

Margaret Fylling was principal secretary for Youngquist. In early years of the Winter Shows, Fylling, along with her desk, typewriter, and file, would be moved downtown to the Winter Shows. She retired in 1970 after 45 years of service.

She was followed by Beverly Johnston, Linda Brown, and later Patti Malme.

Earl Carlson, senior general mechanic, became responsible for maintenance at the Experiment Station. Carlson had joined the school-station maintenance department in 1964. George Weiland, senior general mechanic, transferred from the general school and shop area.
The Northwest Experiment Station was housed in new and remodeled facilities. The Auditorium (left) was added to the old Animal Products Building. The Agricultural Research Center office (right) was built in 1967.

Superintendent B. E. Youngquist presided over the final NWSSA graduation on March 22, 1968, at which time 42 seniors received their diplomas. This signaled the finale of the 63-year-old school. Dr. A.A. Dowell, superintendent from 1927 to 1937, was a guest at the final graduation. The Northwest School graduated 5,433 students during this era.

**The Transition Continues**

The period of phasing out the Northwest School of Agriculture, initiating the new Technical College, and extending the research arm was supported by the University Administration and the Institute.

Research demands soon exceeded staff, land, buildings, and equipment at the Northwest Experiment Station. Superintendent Youngquist and the research staff assisted in the NWSA's phasing out and the beginning of the Technical College, for a brief period Station staff taught collegiate courses.

Priority was given to meet the challenges of research in sunflowers and sugarbeets, improve existing general crops research capabilities, strengthen the livestock projects, acquire much needed land resources, and replace outmoded buildings.

Flocks, herds, and fields of the station were made available to college teaching needs only when they did not interfere with the research in progress. The ever present demand for outreach extension teaching by research personnel left little time for teaching courses in the college.

**Minneapolis Extension Service**

The transition of the College's Experiment Station staff gave thought to new relationships with the Agricultural Extension Service. The Agricultural Research Center was built and attached to the Animal Products Building. Marlin Johnson, Area Extension Crops and Soils Agent, was housed in the updated facility.

**Sunflower Research Grows at the Northwest Experiment Station**

Dr. Freeman Johnson was appointed to the research staff on July 1, 1963. Dr. Olaf Soine had opened the door to sunflower research. Superintendent Youngquist was convinced that sunflowers were due to be an important crop in northwest Minnesota. Against the advice of others in the Institute, he hired Johnson to research the world order of sunflowers to prepare the way for new selections. The sunflower industry followed early research leads. They soon had huge research programs of their own. Cargill, Inc., Vegetable Oils Division, followed Johnson's work on the Station. They hired Johnson for their research program. In 1966, Youngquist thought, that after only three years, the Station could reduce some aspects of sunflower research.

Dr. James Lofgren joined the staff April 1, 1967. There were still a few questions and research ends in the sunflower area left to conclude. Lofgren pursued these problems until March 31, 1971, when he also joined the industrial trek to become head researcher at Dahlgren's Inc., Crookston.

The Third International Sunflower Conference was held August 13-15, 1968, at Northwest Experiment Station.
RESEARCH EFFORT EXPANDS, 1971-1995

Roger Ruthenberg designed many pieces of special equipment that are used in research – Ruthenberg with a plot beet lifter.

Sugarbeet Research Expands

Dr. Larry Smith joined the staff of the Northwest Experiment Station in 1971. He had a B.S. degree in agricultural education, and M.S. and Ph.D. degrees in agronomy from the University of Minnesota. Smith was appointed as agronomist for the Station.

Smith assumed the responsibility for the sugarbeet research when Dr. Soine retired. About a section of good quality research land had been purchased in the 1960's and 70's without a dollar of the taxpayers' money. A sugarbeet contract was arranged to insure making land payments. The Sugarbeet Growers Association requested more research and extension personnel to service Minnesota and North Dakota.

In 1977, The Minnesota Legislature appropriated funds to underwrite a full-time agronomy position for sugarbeet studies at the Northwest Experiment Station.

Roger Ruthenberg worked in the school's horticulture department starting in 1965. After the Experiment Station transition, Ruthenberg was assigned to the agronomy department under Soine. Ruthenberg developed several unusual pieces of special plot equipment since he was an excellent mechanic. Roger came to be familiar with plot layout, hiring plot workers, and sugarbeet harvesting while working for Smith's sugarbeet project.

Juel Torvi and Elvin Moran moving trees with a D4 Cat.

Farm foremen on University Experiment Stations have always been key persons to getting research and general farming accomplished. Juel Torvi came to the Station April, 1923. His service until February 28, 1971, was a tour of duty that extended from a Station with a barn full of horses to the enclosed cab combines. He cultivated the "wild oats" and eventually sprayed them to death. He was probably involved with a greater change in technology during his tenure than any other staff member.
Many Changes at the Station

James Jacobson was hired to replace Torvi as farm foreman on July 1, 1971. Jacobson had a B.S. degree in general agriculture from NDSU and experience with both the Soil Conservation Service and the Farmers Home Administration. With the advance of technology, it was thought a modern farm foreman should have training to enable him to better understand research.

Dr. W. Daniel Svedarsky was hired by the Station under a new joint appointment program with the College to establish the Natural History Area.

1971 was the year that public opinion across the nation first pointed a finger at agricultural pollution. E.C. Miller conducted extensive spring runoff studies and water analysis from ditches, wells, and potholes.

Director Hueg called an “all stations” meeting at Morris and a state-wide program was established by the University to investigate agricultural pollution. The result at the Station was to construct several holding tanks and liquid manure systems that still serve today.

Through the late 60’s and 70’s the Station continued to demonstrate the ensiling of high quality forage crops. Dr. George Marx led the research in this area. Moisture control, was a major problem in producing good hay silage. Differences in moisture of 10-20 percent could ruin a crop. Marx and Miller embarked on a search for electronic testing equipment that would be reliable and easy to use in a farm situation.

An open experimental pole building had been constructed in 1971 to house beef animals. The building was designed to capture early sun to help warm and clear the newly installed slatted floor. The timber industry requested the Station to try a treated wood manure pit which was included in the design.

Data collected on temperatures by E.C. Miller showed no advantage to this open pole building design.

Patti Malme joined the staff as principal secretary in 1972. Malme was a native of Gonvick, Minnesota. She graduated from Bemidji State College with B.S. and M.S. degrees in business.

Russell K. Severson was appointed to the Northwest Experiment Station staff in 1973. He was to work directly with Dr. Soine. Severson completed his B.S. degree in soil science at the University of Minnesota.

The Beef Cattlemen’s Institute, a cow-calf oriented program held in the Winter Shows building was popular and well attended in 1973. Forage handling, evaluation of cross-breeding, external and internal parasites of cattle, reproductive and calving problems, and production testing of beef cattle were among the program offerings.
Accounting Changed

The University’s method of accounting, where all monies left at the end of the year were returned, had to be changed to accommodate the beef research. There was never money available at the right time to purchase the large number of beef steers required for a viable research project.

Until the University corrected this and let the Station have a revolving account, Superintendent Youngquist had to personally sign the note for thousands of dollars to keep the research going. Needless to say, he directed the researchers to keep a good eye on this stock until it was again sold.

Dr. Soine retired in 1974 and was replaced by Dr. George "Walt" Wallingford, a graduate of Kansas State University with a Ph.D. in soils.

Sady Newell, senior account specialist, joined the Station full-time in 1974, although she had worked with some Station and College accounts since 1967. The volume of accounting work at the Station had multiplied to the extent that an accounting office was necessary.

A new dairy building was designed by E. C. Miller. Looking for ways to cut agricultural pollution, Miller designed a building with a slatted floor placed over an eight foot deep manure pit. The building’s foundation walls, which provided the manure pit, were poured into trenches dug while the concrete truck discharged its load behind the trencher. When the walls were completed, the interior was dug out and a concrete floor installed.

Dr. William F. Hueg Jr. and Dr. C. Peter Magrath, president, University of Minnesota, at the Northwest Experiment Station.

On June 14, 1974, William F. Hueg Jr. was appointed deputy vice president for Agriculture, Forestry and Home Economics at the University of Minnesota. He also held the title of dean of the Institute of Agriculture, Forestry and Home Economics.

Dr. Hueg was a "researcher’s researcher". His early extension work gave him a good overview of Minnesota and the research systems. He called every staff person by first name, regardless of whether a field hand or Ph.D.

Research in 1977

In 1977, Dr. Larry Smith, agronomist, and Dr. "Walt" Wallingford, soil scientist, took projects to the Stephen, and Grygla, Minnesota areas respectively, to look at problems with other soil types.

The Grygla plots were where "burning the surface layer of peat" had been discovered to rejuvenate the next year’s grain crop. Wallingford determined that burning had released micronutrients which could easily be applied in fertilization, thereby saving the organic matter in the soil.

Wallingford left the Station in July, 1977, to accept a position as Eastern Midwest Director of the Potash Institute of America.

A new research position was created in 1977. Dr. Larry Smith was appointed as agronomist-sugarbeet. A major meeting of all sugarbeet interests—farmers, researchers, and industrial participants—met at the Station to organize new projects which included cooperative work with NDSU.

Dr. Gary Varvel joined the staff November, 1977, as soil scientist. He continued the research done in part by "Walt" Wallingford. An important study, at the Station, was the correlation of soil test results with actual crop response to various fertilizer rates. Research efforts included tests on cooperative farmers’ fields as well as Station areas. Even with new plot land available, researchers took great pains not to test areas where past residual fertilizer would upset the results.
Dr. John Wiersma, agronomist, and Mark Hanson, senior research plot technician.

Dr. John Wiersma joined the staff February 1978 to fill the role of general agronomist. He had completed his B.A. and M.A. degrees at the University of Minnesota and a Ph.D. at Ames, Iowa. On a post-doctoral assignment with Michigan State University, Wiersma was involved with a large soybean project prior to coming to Crookston.

In 1978, a new soybean variety was named after former Superintendent T.M. McCall. The McCall variety was bred to be most suitable for northern and central crop maturity zones in Minnesota.

NWES Swaps Land

Pressed by Crookston on its southern borders, the Experiment Station made a land swap. Approximately 102 acres to the south were turned over to developers while the Station acquired the Borgman Farm of 320 acres, a mile to the north. This enabled cooperative research with many departments on the St. Paul campus. They had always been involved with Crookston because of the ideal land and weather for breeding new small grain varieties. Cooperative research multiplied and entirely new crops were brought in by Dr. Robert Robinson, and other agronomists, from the St. Paul Station.

Dr. Richard J. Sauer was named the director of the University of Minnesota’s Agricultural Experiment Station by the University’s Board of Regents December, 1980. He was then professor and head of the Department of Entomology at Kansas State University, Manhattan.

CPM Started

A new alternative to scheduled applications of pesticides was started when a program called Crop Pest Management (CPM) was introduced. Michael Hutter was welcomed to the Station in 1979. Hutter left in 1980. Replacing him in 1981 was Carlyle Holen, a former county agent, Kittson County.

At first just potato acreage was enrolled in CPM. Later sunflowers and sugar beets were covered. When pest populations multiplied to dangerous proportions, the pest management crew advised farmers how to handle infestations. The contracting with individual farmers stopped in 1983 and the CPM program focused on educational programs. Seed dealers, crop consultants, and farmers were trained to identify the various pests and recommend threshold values.

Carlyle Holen of the CPM program, sweeps a field for pests.

April, 1981, Dr. George Marx reported on the use of baking soda incorporated in the dairy cattle ration. This buffer was researched through 62 full lactations and proved that cows receiving baking soda did give about a pound more milk per day.

Pioneer Researcher Honored

Dr. Robert G. Robinson was honored as a pioneer researcher at the July, 1981, Crops and Soils Day. One of the research ranges at the agronomy farm was named in his honor. Well conceived plans, careful and timely communications with the Station and “on the scene” observations were mentioned as some of his honored research traits. One of Robertson’s last projects at the Northwest Experiment Station was planting sunflowers on different planting dates, thus some fields would miss the influx of the sunflower midge moth which laid eggs on thousands of acres in this era.
The Red River Valley Winter Shows changed tradition in 1982. Board president would no longer be Station Superintendent.

In July 1981, Elmer Radke retired after 36 years of service. As an farm animal attendant, Elmer had worked under four department heads, starting with O. M. Kiser.

Continued needs for researching the availability of alternate fuels seemed practical in 1982. Miller directed installation of furnaces burning "pelleted sunflower hulls" to heat the sheep research facility.

Changes at Winter Shows

The Red River Valley Winter Shows completed it's most radical change since it's beginning 72 years ago. June 16, 1982, the board president would no longer the Northwest Experiment Station Superintendent. Dr. B. E. Youngquist stepped down after 26 years. Dr. James Lofgren was elected Winter Shows president for 1982-83; George Nornes first vice president; Cliff Zaffke second vice president and Wayne Wagner secretary-treasurer.

The NWES Advisory Committee was established in 1982 to help direct University research. The advisory group meeting January, 1983, noted that, "information must move out" from the researchers without delays. They advised that the farming situation was changing too fast for past communication means to keep up.

Plant Breeding Increases

Dr. Robert Busch, wheat breeder at the University of Minnesota, depended on the land and staff at Crookston. The cooperative research, which the Station conducted, had increased as more plot land became available at Crookston.

The Station agronomists had always been involved in

Dr. Robert Busch discusses wheat research at the Station. University of Minnesota plans for development of new varieties, now these varieties prosper. The variety 'Wheaton' was released in 1983. Wheaton was a joint release by Minnesota Agricultural Experiment Station and the USDA's Agricultural Research Service.
Dr. Don Rasmusson explains trial results at Crops and Soils Day held at the Northwest Experiment Station.

Dr. Donald C. Rasmusson, and his cooperative staff, developed ‘Robust’ barley and released it in February, 1983. It was one of the progeny of a cross between ‘Morex’, named for it’s “more extract”, and ‘Manker’, and exhibited good traits of both parents. Tests showed that Robust gave consistently better yields over ‘Glen’, ‘Larker’, ‘Morex’, and Manker by 6-13 bushels per acre.

Station Events

Dr. John Wiersma reported in a paper in 1983 that 75 percent of all the barley and over 50 percent of all wheat produced in Minnesota during the past growing season was grown in the Northwest District 1, which includes twelve counties. “The ability of growers in our district to excel in the production of wheat and barley is directly related to the availability of superior varieties and production practices,” said Wiersma. “Varieties and practices which the Minnesota Agricultural Experiment Station has promoted since the early part of the century.”

The Northwest Experiment Station hosts the National Fiber Fuels Conference June 15, 1983. Miller chaired and helped organize programs which attracted a wide range of fiber fuel manufacturers and parties interested in burning these alternate fuels. Governor Rudy Perpich attended.

January, 1983, E. C. Miller was officially named to an institutional development role by Superintendent Youngquist. Working with Lowell Larson, UMC director of development, Miller was to promote the Annuity Fund for agricultural research.

B.E. Youngquist Retires

Dr. Bernie Youngquist retired in July, 1983, after 27 years at the Northwest School and Experiment Station.

At his retirement ceremony, Youngquist gave this overview of this era: He remarked, “In late 1956, the Superintendent’s office clearly identified widespread feeling that farmers wanted a stronger program at the Northwest Agricultural Experiment Station.

A ten-year program of far reaching internal adjustments began in 1957. The research staff was relieved of 70 percent of their teaching load. Research with chickens, turkeys, and the beef cow-calf herd was dropped. A full-time agronomist was engaged. A classic twin male bovine species artificial insemination project was assumed and completed. The sunflower research effort and industry was launched. A second animal scientist was engaged. Sugarbeet research was engaged. A full breeding program of potato research was expanded from zero to about 14,000 entries annually. Likewise, the Northwest Station provided land, machinery, and manpower to assist with expansion of the barley research effort from a few plots to approximately 14,500 entries annually.

Over four hundred acres of land were purchased. The entire Station building complex was remodeled or replaced. The dairy herd was tripled in scope. Private research grants became an added source of support. The sheep project was revised, tripled in effort, and supported in part by a $50,000 Hill Foundation grant. The record of those years shows that scope and quality of the research effort was sharply increased and major adjustments were accomplished in staffing, rebuilding, and expanding the physical plant of the Northwest Experiment Station.”

William Bisek with Superintendent B.E. Youngquist (center) and Dr. Keith Huston, director, Minnesota Agricultural Experiment Station, St. Paul (right).
New Superintendent Appointed

Dr. Larry Smith was appointed superintendent of the Northwest Experiment Station July, 1983. Smith, who joined the staff in 1971, received his B.S., M.S. and Ph.D. degrees from the University of Minnesota. His twelve years at the Station includes service as general agronomist and agronomist-sugarbeets, and active cooperative research with researchers from NDSU. He had been involved with training assistants in his departments and purchasing the special plot equipment needed.

Dr. Richard J. Sauer, director of the Minnesota Agricultural Experiment Station, was named deputy vice president for the Institute of Agriculture, Forestry and Home Economics at the University of Minnesota, St. Paul in October, 1983.

Plant Pathologist Hired at Station

May, 1984, Dr. Carol E. Windels became the first plant pathologist at a branch station of the University of Minnesota’s Agricultural Experiment Station. Windels conducted research on diseases of crops grown in the Red River Valley. Windels is a native of Long Prairie, Minnesota and holds a B.A. Degree in biology from St. Cloud State University, and M.S. and Ph.D. degrees in plant pathology from the University of Minnesota.

Dr. C. Eugene Allen was appointed dean, College of Agriculture, and associate director of the Minnesota Agricultural Experiment Station in 1984.

July 1, 1984, Dr. John Lamb joined the station staff as soil scientist after Dr. Gary Varvel resigned. Lamb completed his Ph.D. at the University of Nebraska.

In April, 1985, longtime staff member, Marvin Chandler, retired after serving the Station for 36 years. Chandler spent his entire time in the dairy and livestock department.

Dr. Donald Sargeant became the new chancellor of University of Minnesota, Crookston, in 1985, succeeding Dr. S.D. Sahlstrom.

Sahlstrom was elected to the University of Minnesota Board of Regents.

1986 Station Events

At the 1986 Crops and Soils Day, a research range was named for B.E. Youngquist, retired NWES Superintendent. Youngquist, was honored at a range naming ceremony July 16, 1986 at the agronomy farm of the Experiment Station. Speakers related to Youngquist’s 27 years of service to the Station and the Red River Valley.

Dr. John Lamb reported on soils research. In 1986, NWES was in the third year of the nitrogen rate x inoculation study funded by the Minnesota Soybean Research and Promotion Council.

In 1986, Dr. Harvey Windels, checked on the progress of lambs born in February to the Station’s most productive ewe on record. The ewe of 1/2 Finn and 1/2 Targhee bloodlines has held up well for 11 years producing 44 lambs. She had 6 lambs as a four-year old, quads for a couple years, then a set of five, more quads and five again in 1986.

Under Windels, the Station purchased a trained sheep dog who took the place of almost two men.
New Dairy Facilities

In January, 1986, new dairy facilities were planned. The "new" wing attached to the 1908 dairy barn was also 20 years old. Everyone concerned felt a new start was necessary. A complete new wing was planned for the College's dairy science classes. A double-5 herringbone milking parlor was to be installed, automatic computer cow identification was included, automatic detachers to remove teat cups from the cow, and complete computerization of weight of milk from each cow was part of the system.

The system also had special handling and weighing rooms, state-of-the-art ventilation, and a huge above ground manure tank would store five months of manure production. Cows were fed total mixed rations. Feed was delivered from silos already in operation by self-propelled, self-unloading carts equipped with load cells and electronic scales for metering out specific rations for each cow.

Roger Odegaard, Crookston dairyman (left) and Gordon Shafer, district program leader, Minnesota Extension Service, visited about the "dairy partnership" thrust. The dairy partnership helped complete dairy research and extension facilities at the Northwest Experiment Station. Odegaard was the chairman of the Dairy Support Project, a dairy farmer group who helped with the project.

E.C. "Gene" Miller, agricultural engineer and head of information and development, retired May, 1986, after 34 years. Miller was active in the Minnesota Flying Farmers and taught a class in aeronautics at the Northwest School and wrote the early course material for the UMC agricultural aviation class.

In the 1970's, Miller concentrated on the study of alternate forms of energy. He founded the Northern Tier Solar Energy Society and organized and chaired the first national Fiber Fuels Conference held on the University of Minnesota, Crookston campus.

The summer of 1986 brought many personnel changes to the Northwest Experiment Station. Among those who resigned, changed positions or hired were: Elvin Moran, Janet Solheim, Donna Nabben, Janet Sannes and Julie Hamre.

Elvin Moran, farm foreman, retired in August, 1986, after 39 years. Moran had been with the Station from horses to four wheel drive tractors.

October, 1986, Russell Severson, associate scientist, soil science, resigned to accept a position with the Minnesota Extension Service as county extension agent in Polk County. After Dr. Soine retired, Severson became known as the weatherman. He recorded daily weather much used by area media, weather record agencies, and commercial businesses.

"Jerome" Sirek, employed for 35 years, and Herman Gilbertson, employed for 34 years, retired from duties in the beef and sheep department in 1987.

Dale Kopecky was promoted to farm foreman March, 1987, replacing Elvin Moran.

In 1987, Dr. John Lamb started a new study at the Station to evaluate the effect of applying additional N to spring wheat during the growing season. The N was applied as a spray at three different stages of growth to wheat which had been fertilized according to a 0-2' nitrate - N soil test for 60 bushel yield goal.

Wildlife Use of Shelterbelts Studied

A two-year study was completed in 1987 at the Northwest Experiment Station by Dr. Dan Svedarsky to document wildlife use of different types of single-row shelterbelts in the Red River Valley. Wildlife values are often mentioned as a benefit of windbreak plantings but very little data had been available. Windbreak types were evaluated for summer bird use from late May to early July with incidental use by mammals also noted.

Windbreak types studied were: green ash, Siberian elm, hybrid poplar and cottonwood. Lower branches of windbreaks are commonly pruned to allow a more even distribution of snow downwind and the effect of this practice on bird use was also evaluated.

Thirty-one species of birds were regularly observed during the study with 15 species nesting in at least one windbreak type.
Sady Newell, principal accountant, retired June, 1987. Her years of driving each day from Fertile Minnesota would have circled the globe several times. She was involved with the first computerization of Station accounts.

Brad Heppner was hired as her replacement. He attended Mayville State College and graduated with a B.S. degree in business administration and accounting.

The Minnesota Crop Improvement Association in 1985-86, funded a corn stalk rot survey conducted by University of Minnesota plant pathologists, Dr. Carol E. Windels, Northwest Experiment Station, Crookston, and Drs. Thor Kommedahl and Ward C. Stienstra, St. Paul. In early October of 1985 and 1986, they examined 40 randomly selected cornfields in twelve counties in northwest Minnesota for symptoms of stalk rot. Small pieces of stalk tissue also were collected and assayed in the laboratory for Fusarium.

They concluded that corn refuse on the soil surface provides inoculum for both corn and small grain diseases. The presence of Fusarium in corn refuse may be potentially more damaging to small grain than to corn.

Roger Odegaard chaired the fund drive for the Northwest Experiment Station’s new dairy facility. High bids found the original University budget short of completing the basic facility. Area farmers pitched in to help. Odegaard has been a faithful friend of the University since he graduated many years ago from the Northwest School of Agriculture.

**Dairy facility dedicated**

The Dairy Research and Teaching Center was dedicated July 15, 1987, at the Northwest Experiment Station. The new Center was designed to continue the applied research in nutrition, breeding, and management. It would further test and demonstrate high technology in the environmental area, record management, data collection, milking procedures, and labor saving systems.

**1988 Research**

Dr. Harvey Windels researched how large frame calves should be fed to best advantage in 1988. He reported that steers fed a continuous high grain diet gained faster and the carcass grade was higher.

Dr. John Wiersma reported that his tests showed high grain yields and grain protein concentrations of soybeans require large amounts of nitrogen, often much larger than those of other crops commonly grown in northwest Minnesota.
**Canola Gains Attention**

Marlin Johnson, Area Extension Agent, Crops and Soils, reported that the oil crop canola is gaining attention in the northern regions of Minnesota and North Dakota because of increased opportunity for production contracts in 1988.

Canola was developed from oilseed rape by Canadian agronomists. It is a recent development with the first variety licensed in 1974. Acreage of canola has grown to six million acres annually in Canada.

The varieties 'Global' and 'Wester' have been top yielders in University of Minnesota testing at Roseau, Minnesota.

Dr. John Lamb was involved in 1988 with the National Wind Erosion Project which was started at the Northwest Experiment Station. Because of the Food Security Act of 1985, conservation plans had to be implemented to limit soil erosion to a tolerable level by 1992 for producers to qualify for government programs. A need was identified for a more site specific method to estimate soil loss from wind and water erosion.

The grain and feed handling facility on the Station.

The new grain and feed handling facility started in early summer of 1988 was nearing completion. The facility contains a fully automated, computerized grinder-mixer for livestock rations that is fed from eight 1,250-bushel overhead bins. The ground experimental rations can then be transferred to eight holding bins of various sizes located in the building or transferred to other ration bins located around the Station.

Five 10,000-bushel storage bins, with full floor aeration, are available for storing the Station's grain production. Grain from these bins can be transferred or mixed via a leg system to the grinding-mixing area, other bins or delivery vehicles. An 80,000 pound electronic scale used to record grain and forage production rounds out the facility.

The facility was completed in November, 1988.

James Cameron and Dr. Bobby Holder with a soil probe truck at the Northwest Experiment Station.

Dr. Bobby Holder, assistant professor of soils in UMC's Agriculture Division, accepted a joint appointment with the Northwest Experiment Station beginning March, 1988. Holder was the project leader of the water quality research and pesticide (herbicide, fungicide and insecticide) research programs on the Northwest Experiment Station.

Holder is originally from Southern California. He received his B.A. from Evergreen State College in Olympia, Washington; M.S. from Michigan State University with majors in biological sciences and water resources; and Ph.D. in 1982 from Michigan State University in soil fertility and soil chemistry.

James Cameron, started at the Station in 1975 and worked in the agronomy department with Dr. John Weirsma, has spent the last 10 years with Dr. Holder as a senior research plot technician.

**Dr. Allen Appointed**

In 1988, Dr. C. Eugene Allen was appointed acting vice president for the Institute of Agriculture, Forestry and Home Economics, and acting director of the Minnesota Agricultural Experiment Station.

Dr. C. Eugene Allen
Pictured at the research range dedicated to Professor Emeritus Richard Behrens are University of Minnesota President Nils Hasselmo, Professor Behrens, and Superintendent Larry Smith. Dr. Behrens was selected because of his many accomplishments made to agriculture. The dedication was made in conjunction with Crops and Soils Day.

**1988 Station Staff Changes**

June—Nathan Derby was hired as junior scientist with the wind erosion project. Derby comes from Norcross, Minnesota, and in May 1988 received his B.S. in soil science from NDSU.

November—Cheryl Engelkes was the first graduate student at Northwest Experiment Station. She worked with Dr. Carol Windels.

**Grasshoppers Hit NW Minnesota**

In 1989, Carlyle Holen, Minnesota Extension Service, reported that a major grasshopper epidemic was occurring in portions of northwestern Minnesota. Grasshopper populations in a CRP field north of Crookston were estimated at 300 to 400 per square yard on June 15, 1989, and egg hatch was still occurring. Fortunately, the average grasshopper population is much less, but 15 to 30 grasshopper nymphs/square yard is not an uncommon infestation in fields and borders where problems are occurring.

**Range Dedication**

On July 18, 1989, Dr. Richard Behrens was honored at a range dedication. A research range on the agronomy farm of the Northwest Experiment Station was named in honor of Professor Emeritus Richard Behrens, researcher, teacher and advisor in the Department of Agronomy and Plant Genetics, University of Minnesota. The dedication of this range was one of many testimonies to the outstanding contributions he has made to agriculture in northwest Minnesota as well as the State and Nation.

During his tenure at the University, his research in weed science was devoted to studies on the uptake, translocation, selectivity and mode of action of herbicides. Coupled with this research was the development of research techniques and equipment that permitted detection, quantitation, and control factors more effectively than had been possible previously.

The research range dedication is designed to honor people who have made genuine and long lasting contributions to agriculture and northwestern Minnesota in particular.

In 1989, Sam Bigger joined the staff of the Northwest Experiment Station on a part time basis as assistant director for development.

Bigger was well known in northwest Minnesota having been the West Polk County Extension Director for 23 years. He was involved in the Red River Valley Winter Shows, Greenbush Sheep Days, Beef Cattlemen's Institute, Sugarbeet Growers Institute, as well as many other local, state and national organizations.

Dr. C. Eugene Allen was appointed vice president for the Institute of Agriculture, Forestry and Home Economics, and director of the Minnesota Agricultural Experiment Station in 1990.

In 1990, Dr. John Wiersma reported that recent studies had estimated that nearly three-fourths of the yield gains achieved by Minnesota early spring barley growers during the last 40 years can be attributed to improved varieties. Barley grain yields in northwest Minnesota have increased almost 300 percent since the early 1920's. Little change occurred prior to 1960, but yield increased dramatically during the 1960's, 1970's and 1980's.

Without question, varieties recently released by the barley breeding project of the University of Minnesota, under the direction of Dr. D.C. Rasmusson, had provided the genetic potential for exceptional progress. The Northwest Experiment Station is pleased to have had the opportunity to play an important role in developing and testing these varieties.

Dr. George Marx was elected President of the Red River Valley Winter Shows at their November, 1990, meeting. Marx has been in charge of the Dairy Day committee and show for over 25 years.

Plans were made in November, 1990, to begin a commercial vegetable research project. Dr. Gary McVey headed the project.

In April, 1991, Dr. John Lamb, soil scientist at the Station, resigned to accept a position as soil scientist of the Management Systems Evaluation Area with the Northern Cornbelt Sand Plains project at St. Paul.

Dr. George Marx reported in November, 1991, that his tests showed sunflower seeds supply high energy in dairy rations. Most of the energy in sunflower seed is derived from the high fat content and is the reason for the high TDN content which ranges from 95 to 105 percent in the seed.

Dr. John Wiersma reported that 1992 was a very good year for small grain production in Minnesota in general and northwest Minnesota in particular. A recent state summary released by the Minnesota Agricultural Statistics Service reported record-setting yields for barley (75 bu/a) and near record yields for spring wheat (50 bu/a). In northwest Minnesota, producer reports of barley yields greater than 100 bu/a and wheat yields greater than 60 bu/a were common.

December, 1992, Dr. Michael Martin was hired as associate dean of research, College of Agriculture, and assistant director of the Minnesota Agricultural Experiment Station.

Earl Carlson, general maintenance supervisor, retired May 17, 1993, after serving 29 years.
1993 Research Highlights

November, 1993, Dr. Dan Svedarsky, presented a paper entitled “Gravel Pits as Habitat for Wetland Wildlife in North America and Europe” at the International wildlife Congress in San Jose, Costa Rica. The Station’s Natural History Area, approximately 80 acres set aside for wildlife study and student observations in the late 60’s, continues to be an asset for the University programs. Schools throughout the area schedule days at the natural history area to observe the area’s inhabitants.

Dr. Harvey Windels reported on Vomitoxin Trials with bred ewes. The 1993 and 1994 harvest of barley and wheat in northwest Minnesota and eastern North Dakota was troubled with head blight, commonly known as scab. This fungus can produce deoxynivalenol (DON), a mycotoxin commonly called vomitoxin which has been reported to cause reduced feed intake and performance in livestock, particularly swine. Vomitoxin was present at various levels in much of the barley and wheat in the Valley, mostly in the 1-10 ppm range, but some as high as 25-30 ppm.

Personnel Changes in 1995

Dr. C. Eugene Allen is named provost for Professional Studies, and director of the Minnesota Agricultural Experiment Station for the University of Minnesota in 1995.

March, 1995, Dr. Jochum J. Wiersma, small grains specialist, joined the Station staff. Wiersma is from the Netherlands. He completed his Ph.D. in plant breeding at the University of Minnesota. He has experience in wheat breeding and screening crop lines for disease resistance.

June, 1995, Dr. Albert Sims accepted the Station soil scientist position, replacing Dr. John Lamb. Sims received his Ph.D. in soil science at North Carolina State University at Raleigh, North Carolina. He has been hired as an assistant professor in residue management and soil science.

June, 1995, Dr. Harvey Windels retires after 31 years at the Northwest Experiment Station.

Research In The Future

Perhaps a “history” should end with the last happening, but even today is already a part of the past. Looking toward the future we might ask if the soggy soils which Superintendent Hoverstad plodded in when he arrived in 1895 were easier to deal with than planning research today in a time of great national debt and downsizing. Perhaps the genetics, the fertilization, and the culture of our resources in northwestern Minnesota is the easy part. We can surely give credit to those briefly credited in this publication for their contributions of the past, and, encourage the leadership of the future.

— Author
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<tr>
<th>Department</th>
<th>Personnel</th>
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<tr>
<td>Administrative</td>
<td>Dr. Larry J. Smith</td>
<td>Head</td>
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<td></td>
<td>Anne Burke</td>
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<td>Brad Heppner</td>
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<td>*Patti Malme</td>
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<td>Milan Samshal</td>
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<td>Janet Solheim</td>
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<td>Agronomy</td>
<td>Dr. John V. Wiersma</td>
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<td>Robert Bouvette, Jr.</td>
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<td>Mark Hanson</td>
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<td>*Eugene Peters</td>
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<td>Dairy</td>
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<td>*Marilyn Jacobson</td>
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<td>Russell Remick</td>
<td>M &amp; O Mechanic</td>
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<td>Soil Science</td>
<td>Dr. Albert L. Sims</td>
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<td>Sugarbeet Research</td>
<td>Dr. C. Windels/Dr. L. Smith</td>
<td>Junior Scientist</td>
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<td>Jeff Nielsen</td>
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* Supervisor
The Northwest Experiment Station has for the past 100 years provided research and education that has focused on agricultural commodities and enterprises. Its programs have focused on research and education relevant to the needs of northwest Minnesota with application to the knowledge base of the United States and the world.

As the Northwest Experiment Station ends a century of commitment to agriculture and its profitability, it must look to the next 100 years and the implementation of new technologies in research that will continue to benefit the population of not only northwestern Minnesota, but population worldwide.

The University of Minnesota Foundation, working closely with the Northwest Experiment Station, has chosen the Centennial year to conduct a fund raising campaign. The timing is appropriate for this effort as the Northwest Experiment Station reflects upon the achievements of the first century and continues to build into the second century. Our objectives for funding will be research and education, and the facilities and equipment to perform these functions.

"The first century witnessed many changes in the Northwest Experiment Station role as it moved toward excellence in its arena of research and education," states Dr. Larry Smith, current Head of the Northwest Experiment Station. "We believe that the research and education mission of the Northwest Experiment Station is highly desirable for the needs of not only northwest Minnesota, but the entire State and an increasingly interdependent world. This campaign will help us provide the resources to continue this mission."