The North Central Experiment Station

The First 100 Years

1896 - 1996

Our Mission....
The discovery and sharing of knowledge to improve the quality of life of the people of Minnesota.
North Central Experiment Station

The First 100 Years
1896 - 1996

A history of the First 100 Years of the University of Minnesota North Central Experiment Station, Grand Rapids, Minnesota.

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FORWARD

The University of Minnesota North Central Experiment Station is one of several branches of the Minnesota Agricultural Experiment Station system which has played a critical role in the research mission of the University. Much of this early research was related to production agriculture. The North Central Experiment Station was established in 1896 to serve the needs of the citizens of northeast and north central Minnesota. The mission of the Station has always been to discover and share knowledge to improve the quality of life of the people of Minnesota through research and education.

Today the role of the experiment station is much broader than the relationship of production agriculture. What the North Central Experiment Station is today has evolved over the past 100 years as the way of life and social and economic conditions in the area have changed. The role of the Station has evolved from research and demonstrations to find the best farming practices for the recently cleared farm land in northern Minnesota, to the School of Agriculture for high school boys in the mid-century, to a more diverse and more technical research institution in the later part of the century. A review of the history of the past 100 years gives us some knowledge of how we arrived at where we are today.

This booklet is dedicated to all of those research scientists, teachers and support staff who have contributed to the achievements of the first century of the North Central Experiment Station.

ACKNOWLEDGEMENTS

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THE BEGINNING - 1896

The Morrill Land-Grant Act was the first major event that brought about the establishment of the University of Minnesota Agricultural Experiment Station. This legislation passed by the United States Congress and signed by President Abraham Lincoln in 1862 made it possible for all states to establish institutions of higher learning for subjects such as agriculture and mechanics. The University of Minnesota, established in 1862, became one of these institutions. In 1887 the Hatch Act was passed which made it possible for all states to receive funds from the federal government for the establishment of agricultural research programs. The Minnesota Legislature and the University Board of Regents had already created the Minnesota Agricultural Experiment Station in 1885.

The Minnesota Agricultural Experiment Station

Edward Porter was the first director of the Minnesota Agricultural Experiment Station located in St. Paul when it was established in 1885. Professor Porter recognized that the farm located on the St. Paul Campus would not provide for the research needs of the entire state. He called the attention of the Board of Regents to the vast area of the state, to the variations in the soil and climate, and to the impossibility of finding one location applying to all parts of the state's agriculture. This inspired the demand for branch experiment stations. In 1895, the Minnesota State Legislature passed a bill providing for the establishment of experimental sub-stations in the state and appropriated $30,000 to obtain equipment and operate two branch experiment stations.

The Northwest Experiment Station at Crookston was the first to be established in 1895. In 1896, the station known as the Northeast Sub-experiment Farm was established at Grand Rapids. When the Northeast Experiment Station was established at
Duluth in 1913 the name of the Grand Rapids station was changed to the North Central Experiment Station. Seven branch agricultural experiment stations were eventually established in Minnesota. The others were the West Central Station at Morris in 1910, the Southern Station at Waseca in 1912, the Rosemount Station in 1949, and the Southwest Station at Lamberton in 1960. The Northeast Station at Duluth has since been closed in 1965.

Several communities, including Little Falls, Sauk Centre, Park Rapids, Deer River, Carlton, Aitkin, Wadena, Virginia, and Grand Rapids made a strong bid for the location of the new experiment station in northeast Minnesota. Willet Hays, Professor of Agriculture and Vice-chairman of the University Experiment Station, was charged with making a recommendation to the Board of Regents regarding a suitable site. Professor Hayes wanted a farm that was representative of the diverse soils in the region with a variety of soil types including some light, sandy soils and loams and some muskeg swamp. A farm just east of Grand Rapids proved to meet his criteria with the added advantage of being located near a thriving village with railroad connections.

Land Acquisition for the Grand Rapids Station

In 1896 the County of Itasca purchased 361 acres of land just east of Grand Rapids, most of which was a potato farm owned by Ben Herrig. The Board of Regents of the University of Minnesota at a meeting on April 16, 1896, agreed to "locate, operate and maintain an experiment farm on certain lands in Itasca County in consideration of the conveyance of land to the Board of Regents." On May 1, 1896, the Itasca County Board of Commissioners adopted a resolution which declared that "in the opinion of said Board, the public interests of Itasca County require that said lands be conveyed to the Board of Regents in consideration of the agreement on the part of the Board of Regents be performed and that such conveyance will result in numerous great advantages to Itasca County and the residents." The resolution further stated that the several parcels of land totaling approximately 361 acres be conveyed to the Board of Regents of the University for the
sum of one dollar and that the University pay $3500 for the buildings and improvements on the property.

The 361 acres conveyed to the University by Itasca County were described as "the east half of Section 15 and the Lots 6 and 7 of Section 14 in Township 55 North, Range 25 West." This conveyance was with the express condition that the lands be used for a Sub-experimental farm or station in connection with the University’s experimental and educational work, as contemplated by an act of the Legislature of the State of Minnesota in 1895. At the same time eighty acres (the north one-half of the NW one-quarter of Section 15) were purchased from Henry F. Brown and Clinton Morrison for one dollar with the stipulation that it be used only for an agricultural experiment station. The University also purchased an adjoining 13.5 acres (Lot 8 of Section 14) from Webster Gillian in November 1896 for $135, bringing the total original Station to 454 acres. In 1967 the University purchased approximately 75 acres, known as the McGuire Addition, which joined the original acreage to the west (the south half of the northwest quarter of Section 15). One hundred ten acres lying across the Prairie River east of the Experiment Station was purchased from Alexander Henkel in 1965. Another 31 acres adjoining the property across the river was purchased from Clarence Bunnell in 1971. A five-acre tract was sold to Itasca Community College in 1985 to build student housing, bringing the total area of the Station to 671 acres. About 28 acres is leased to Itasca Community College and the USDA Forest Experiment Station.

As the need for land for expanded research was increasing, it became difficult to find suitable land to purchase or lease near the Station because of the proximity to the City of Grand Rapids. In the late 1980s it was evident that in order to meet the need, it would be necessary to obtain land further from the Station headquarters. A two hundred-acre tract located south of Grand Rapids on the Harristown Road was purchased from Leo Hauser in 1986 to be used primarily for beef and forage research. Later, in 1990, 50 acres (also on Harristown Road) were purchased from Olaf Grimsbo for the Aspen-Larch breeding project.

Grain binder, original house and horse and sheep barn in background. 1898.

White and red pines around water tower and experiment station buildings at Grand Rapids. 1905.

Weighing hay from experimental plots. 1917.
STATION ADMINISTRATORS (1896 - 1996)

Warren W. Pendergast, a native of Hutchinson, Minnesota, and an honor graduate of the University of Minnesota College of Agriculture, was the first superintendent of what was then known as the Northeast Sub-experiment Farm. Pendergast, who was only twenty-one years old, was the son of W. W. Pendergast, the first principal of the School of Agriculture in St. Paul. He began the development of the farm, planning for drainage of swamps, the development of forage, grain, cranberry and livestock projects, the protection of young timber and the reforestation of burned-over areas. During 1896 the farm was surveyed and fenced; and roads were staked and partially constructed. Test plots were prepared and about thirty more acres were cleared for production of crops. A year later Mr. Pendergast was injured by a saddle horse and died a short time later from the effects of the accident. His assistant, Robert W. Clark, carried on the work planned by Pendergast until H. H. Chapman was named superintendent in 1898.

Herman H. Chapman, a native of Massachusetts and a graduate of the University of Minnesota, became superintendent of the station in 1898. Previous to his appointment he had spent parts of eight years traveling large areas of northern Minnesota. His approach to the operation of the new sub-station was that of prudence and economy. He was an early promoter of land use study and classification. He felt that land should be placed at its highest potential use. Good potentially tillable land should be opened for farming while the major portion of land in Northeast Minnesota should be returned to its natural use of producing trees.

Superintendent Chapman is remembered for his forestry work, but the early development of the station moved forward in other directions as well. The plans that were started for agronomic, horticultural, and livestock work were carried out and the early building program was underway. The North Central Experiment Station has a living memorial to this farsighted man. In 1900 he established a forestry plantation, now known as the Chapman Forestry Plantation, on an area of rough, rocky land on the west side of the station.

After a few years, Mr. Chapman met with some controversy. He became convinced that no matter which varieties would be grown, agriculture crops would in the end be an unprofitable enterprise on some soils in northeast Minnesota. There was a feeling in the North that he failed to push agricultural experiments with all possible vigor and was spending too much time carefully observing trees for silvicultural data. Matters came to a head when at a meeting of the American Forestry Association in Minneapolis he presented a paper on the ultimate use of cut-over lands to best economic purpose, suggesting that these lands be allowed to revert to forest and that experimentation should be directed toward the problem of maintaining and reforesting these timber lands. Apparently this did not set well with farmers and newspaper editors in the North or with land companies wishing to sell agricultural land.

Mr. Chapman resigned his position as superintendent in 1904 and left Grand Rapids for Yale University where he became a professor of forestry and later headed the Forestry Department at Yale. He made several visits to North Central; the last was in the early 1960s shortly before his death.
A. J. McGuire was a dairymen by training and interest. He immediately set about to encourage the development of grade A dairying in northern Minnesota. He firmly believed that successful farm operations in this area should be tied to production of good quality forage marketed through the dairy cow. The experimental and demonstration work that he set up served to extend his philosophy. He encouraged improvement of herds through the use of purebred sires and careful selection and culling. He encouraged and assisted in establishing cooperative creameries in many communities. In 1914 he moved to the Central Experiment Station at St. Paul and later became instrumental in establishing Land O' Lakes Creameries, which remains one of the major processors of dairy products in the nation. Mr. McGuire is remembered as the "Father of Dairying" in northern Minnesota.

Otto I. Bergh was trained in elementary education at Moorhead State Teachers College and later studied soils and agronomy at the University of Wisconsin. During his 16 years as superintendent he was instrumental in bringing considerable growth to the station and school. He initiated a comprehensive system of soil fertilization plots and encouraged farmers to use barnyard manure and supplement it with lime and commercial fertilizer. It was during Mr. Bergh's administration that the North Central School of Agriculture for high school boys was established.

Otto I. Bergh left the station in July 1930 for a teaching position at the University of Wisconsin and lived in Florida after retirement until his death about 1965.

Raymond L. Donovan was a native of Minnesota. He became superintendent when the School of Agriculture was only four years old. It became Mr. Donovan's duty to build up the school. He was an excellent public relations person who was successful in cementing school-community relationships.

During his tenure several significant livestock research projects were initiated, including early work in artificial insemination of cattle and the development of inbred lines of swine and sheep. A program for the beautification of the campus was initiated with the help of horticulturist, Ted Weir. A heart attack in 1940 forced him to retire. He died in 1943.
Donald L. Dailey came to the station as Animal Husbandman in 1938 and was named superintendent in 1940 when Mr. Donovan became ill. Dailey was born in Egan, South Dakota, where his father owned a large livestock farm. He went to high school in Pipestone, Minnesota, and was an honor graduate of the University of Minnesota majoring in animal husbandry and plant science. He was a research assistant at St. Paul before moving to Grand Rapids.

Mr. Dailey's challenge was to continue the work that had been started with inbred swine and sheep and to maintain the school. The task was made difficult because of the uncertainty of keeping competent help during World War II. There were numerous changes in both faculty and staff during that period. Nevertheless, the School of Agriculture reached its peak enrollment of 109 students in 1946. The third school building was funded and built. An agriculture engineer was added to the faculty and the position of principal was added to give leadership to the school program.

Mr. Dailey resigned in 1950 to return to farming and agricultural consulting. After working for several years in Indiana and Minnesota, he retired and is living in southern Minnesota and Arizona.

Clarence L. (Stub) Cole returned to North Central to become the seventh superintendent in December of 1950. He had served here as animal husbandman from 1929 to 1938 when he went to Michigan State University and later served as a farm manager in Michigan.

Dr. Cole was a dairyman and farm manager. This background was firmly expressed in the work that he promoted at the station. He made an analysis of the dairy research program and took steps to improve the herd to maximize production potential so that research results would be more meaningful. He remodeled several buildings and up-dated the machinery and equipment at the Station. During Cole's tenure, a forester was added to the faculty. This was a significant addition to the station's research program, since forestry had been neglected for over fifty years after Mr. Chapman left.

Dr. Cole left North Central in 1956 to become head of the Dairy Department on the St. Paul Campus. He later became head of the Department of Animal Science when the Dairy, Poultry and Animal Husbandry Departments were combined. He retired in 1970 and returned to Michigan where he died in 1985.
William Matalamaki was a native of Floodwood, Minnesota. He received B.S. and M.S. degrees at the University of Minnesota and taught vocational agriculture at Bigfork and Esko before coming to North Central as the school principal in 1949. He was appointed Superintendent in 1956. He earned a Ph.D. in agricultural education at the University of Wisconsin in 1958 where part of his research included a study and recommendations regarding the future of secondary schools of agriculture such as the one at North Central. His analysis led to the conclusion that with improved transportation in rural areas and the increasing number of high schools offering agriculture in their curriculum, the need for schools of agriculture was becoming obsolete. He recommended that the schools of agriculture operated by the University of Minnesota be phased out within the next several years. This process began at North Central in the early 1960s and the school was closed in 1965.

As the agricultural school was phased out, continuing education and research was increased. New faculty with backgrounds in research were hired and greater cooperation with faculty on the St. Paul Campus and integration with research projects of various departments in the College of Agriculture began to evolve. The USDA Forestry Research Laboratory and the Itasca Community College moved to the North Central Campus in 1959 and 1967. A new office building was constructed for the Experiment Station staff in 1969 to replace the space vacated to the Community College.

Dr. Matalamaki was very active in community and church organizations and served on a number of College and University committees. In 1965 he served as a consultant with the Ford Foundation to study secondary education in Chile and prepared a series of recommendations for its improvement. He died unexpectedly in August 1978.

Joseph W. Rust is a native of Kentucky and received B.S. and M.S. degrees in dairy husbandry at the University of Kentucky. After receiving a Ph.D. in animal nutrition at Iowa State University, he spent a year and a half in the Dairy Husbandry Department on the St. Paul Campus. He came to North Central as the Animal Scientist just in time to teach a few courses for the last quarter of the School's existence in 1965. Dr. Rust was appointed Acting Superintendent after the death of Superintendent Matalamaki and was appointed to the permanent position a few months later.

During this time there was an expansion of research and extension in agronomy, horticulture, and animal science and an increase in research with wild rice both at the Station and at off-the-station sites. An advisory committee composed of citizens of several counties of northeast Minnesota was formed to give input to the direction of the Station.

Dr. Rust resigned as Superintendent in 1985 and returned to the Animal Scientist position until he retired in 1990.
David L. Rabas was named superintendent in April 1991. In 1992 the title of the position was changed from "Superintendent" to "Head" of the North Central Experiment Station. Dr. Rabas had been agronomist at the Station since 1971 and was well known for his research and extension work with field crops, especially forages. A native of northeastern Wisconsin, he has a B.S. degree from the University of Wisconsin River Falls and M.S. and Ph.D. degrees in agronomy from the University of Minnesota.

Dr. Rabas became superintendent at a time when the University and the Station were experiencing cuts in their budgets by the State Legislature. A greater reliance on research grants became necessary in order to continue quality research programs. Some changes in the direction of research at the Station occurred during this period with the phasing out of the dairy and swine herds, the expansion of the beef herd, and concentration of efforts on beef and forage research.

Research and outreach on agricultural and forest management practices that provide greater sustainability will be a major part of the Station's mission as it develops into an area center for excellence in research and education which will be responsive to issues related to rural community development.
THE FIRST THIRTY YEARS (1896 -1926)

In 1896 when the Station was established at Grand Rapids about one third of the entire state of Minnesota was pine forest or cut-over land that originally had been pine forest. Much of this timbered and cut-over land was in northern Minnesota. Many of the early settlers in the area started to develop small diversified farms in the area where the soil and climate were similar to many of the northern European countries from which they came a few years before. During the first few decades of the North Central Experiment Station, most of the work was centered on demonstrations to assist these early settlers.

The original 454 acres of the station land was typical of the area. At the time it was purchased seventy acres was in crop land, most of which was recently cleared. By the time the station celebrated its 50th anniversary 140 acres were in cropland, which was most of the original area suitable for cultivation. Early records and photographs indicate demonstrations were set up to show the most economical methods of stump removal, land clearing, digging drainage ditches, building homes and barns, and what and how to seed on the virgin forest soil and how to acquire and improve livestock.
Buildings that existed on the farm when the University acquired the property in 1896 included: a five-room house (used as the superintendent’s home and office), a small horse barn (30’ x 40’), a chicken house (20’ x 50’), an ice house, a blacksmith shop, a pig pen, and a root house. A new root house (still in use in 1996) was built in 1898. The first dairy barn (30’ x 58’) was built in 1901 and enlarged in 1907 with a root cellar connected to it. The lower part of this building was later used as a machinery storage shed until it was removed in 1992. A brick creamery building (23’ x 39’) with living quarters above was constructed in 1905. The lower part of this building is still in use today. A second cattle and hay storage barn was built about 1910. This barn is still in use in 1996.

A vegetable garden was planted in 1896 and trials to compare varieties of wheat, oats, flax, corn, peas, speltz, rye, buckwheat, potatoes, root crops, pasture crops, legumes, and grasses were started. In 1898 wheat yielded 28.5 bushels per acre. Oats and barley yields were 64 and 44 bushels, respectively. Potatoes were an important crop in the area. In 1903 testing of one hundred varieties of potatoes was reported.

Demonstrations to show the best varieties of agronomic and horticultural crops to grow in northern Minnesota continued to be a major focus of the station during the early 1900s. Land clearing and drainage was also given some attention. All of the demonstrations and research was supervised by the superintendent who was the only professional on the staff until the School of Agriculture was established in 1926. The focus of
the work at the station appears to have been influenced by the training and expertise of the superintendent at the time. There was not much evidence of cooperative work with other experiment stations in the state.

Superintendent H. H. Chapman realized the problems faced by settlers in northeast Minnesota when he wrote in the 1900 Experiment Station Report; "The selling price of this uncleared land should remain low. This region must and will be developed by the man of small means, but large endeavor, who values a home and independence above ease and comfort; whose capital is his strength, and who will create by his labor and perseverance, in improvements, the value of the farm he could not have purchased outright."

The first work in forestry and perhaps the first actual research project established at the new station was the establishment of the Chapman Plantation in 1900. It is one of the oldest successful plantations in Minnesota and possibly one of the oldest pine plantations in the United States. The planting stock that was used originated from wild seedlings dug in Carlton County in 1897. The seedlings probably averaged about three years old. They were planted in a cultivated area on the station and remained in this transplant bed for three years. In 1900 they were hand planted as six-year-old transplants. The original plantings of Red, White, Jack and Scotch pine were planted on 32 acres of a good Red pine site. Blocks were set up with spacings at 4' x 4', 6' x 6', 8' x 8', and 10' x 10'. In 1905 a fire passed through parts of the planting which reduced some portions of the site to less than half of the original trees planted. In 1915 Professor J. H. Allison, from the University of Minnesota Forestry School, established three one-half acre plots in the plantation and identified each tree with a metal tag. Since 1915 each tree has been measured at five-year intervals.

A few grade dairy cows were purchased in 1896. When A. J. McGuire became superintendent in 1904, the first purebred Guernsey bull was purchased. A number of Yorkshire and Duroc Jersey hogs were kept in the early years to provide breeding stock for area farmers and to provide meat for the station employees. Poultry, especially chickens, were on the farm, but there is very little information recorded about these projects.

By the time A. J. McGuire became superintendent in 1904 there was a major interest in livestock production in northern Minnesota. McGuire's training was in dairying. His interest set the stage for significant dairy research. He initiated demonstrations and fostered cooperation with dairy farmers which continued for many years. He improved the Station dairy herd with the purchase of purebred Guernsey sires and encouraged local dairy farmers to follow his example. A large number of bull calves were sold from the Station herd to dairy farmers to help improve their herds. In 1905 the average yearly production of cows in the herd was 196 pounds of butterfat. By 1919, fifteen cows in the herd had records of over 400 pounds of butterfat. One cow, Brindle II, a seventeens Guernsey, had a record of over 500 pounds.
of butterfat. The first four Purebred Guernsey cows were purchased in 1917 as the foundation for a registered herd. The last grade cows were sold in 1941. In 1919 A. J. McGuire authored an Experiment Station Bulletin "Special Report - North Central Experiment Station Grand Rapids 1904-1914." The results of demonstration work with dairy and other animals, grains, forages, potatoes, and farming systems were summarized. McGuire concluded that "Dairying, with potatoes as a cash crop, is believed to be the most profitable system of farming for the average farm of the timbered section of northern Minnesota."

"More farmers and better farming for northeast Minnesota has become the watch word. Pass it along til this section of our fair state is contributing its rich share to agriculture. Til there is a farmer on every eighty acres of land. Til every swamp is drained and every needed road is built. Til every farmer realizes that farming is a business and requires a system and study and cooperation with fellow farmers for success, even more than the business man who lives in town."

![Image of cows and calf]

**Brindle 2nd and her calf. The first cow to produce over 500 lb butterfat per year in 1919.**

The eighteenth year of work at the experiment station at Grand Rapids was completed in 1914. During this time 300 acres of land were logged off and 150 acres were brought under cultivation. Tile drains were put in for the low areas, including a muskeg swamp. Buildings were erected at a cost of $21,000. The number of dairy cattle was increased to 100 head, 60 of which were cows in milk. A special poultry plant was added with capacity for 1,000 hens. The total valuation of livestock and equipment other than buildings was estimated on August 1, 1914, at $16,000. The valuation of the land, 455 acres, was estimated at $75 per acre or $34,125.

McGuire believed that there was much potential for the sale of agricultural products in northeastern Minnesota due to the developing mining and shipping industry and the extension of railroads in the area. In a bulletin published in 1909 he wrote,

It was demonstrated early in the history of the station that pasture and hay were two of the most productive crops for this area. Superintendent Otto I. Bergh, who was an agronomist by training, spent a great deal of effort on the production of forage crops. In addition to the need to know the best varieties of crops to grow, one of the real agronomic problems that confronted the early settlers was land clearing and drainage. This became one of the thrusts of the early research and demonstrations.

![Image of potato digger and crop]

**Potato digger at work - 1908 crop - 180 bu/acre.**

![Image of hay bales]

**Results of early potato research.**
Some areas of the station were ditched or tiled for drainage. Not all of these demonstrations were successful. There was a muskeg swamp of about twelve acres. From 1896 to 1898 a deep, open ditch nearly one mile long was dug with horses and by hand to drain this area. In 1910 a tile drainage system utilizing five and one-half miles of clay tile was installed, for a cost of seven thousand dollars, to drain 120 acres, including the muskeg swamp. This system collected the run-off from a 500-acre watershed, some of which was not Station property. There was an attempt to cultivate the swamp for several years, but the soil was very soft, especially in wet seasons, and proved to be unsuitable for crop production. However, the drainage system proved to be beneficial for surrounding land and remained useful for many years.

The Minnesota Agricultural Experiment Station published annual reports of the work at the North Central Experiment Station each year from 1896 to 1922. There were other bulletins such as a comprehensive report, "Potato Investigations at North Central Experiment Station, 1914-1923, Bulletin 212", printed in 1924.

The first field day was held at the North Central Experiment Station in 1915, an event which has occurred annually since that time. This event was later called "Visitors' Day." It provided an opportunity for farmers to see the results of the research and demonstrations at the Experiment Station and to compare various crop varieties and methods of cultivation.
THE NORTH CENTRAL QUARTERLY

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VOL. 1. GRAND RAPIDS, MINNESOTA, SEPTEMBER, 1926 NO. 1.

THE NEW SCHOOL OF AGRICULTURE AT GRAND RAPIDS OPENS ON OCTOBER 18

What Is It?
A school where farm boys get a broad and practical training in the business and art of agriculture. It is the North Central School of Agriculture of the University of Minnesota.

Where Is It?
The School of Agriculture is situated at the Experiment Station Farm, east of Grand Rapids, on the concrete State Highway, No. 35. All Hibbing-Twin City buses, as well as all Mesaba Range busses stop at the Station on request. Students coming on the bus will save fare by asking for ticket direct to the North Central School and Station instead of Grand Rapids. Local busses arrive before the first morning class. Bus fare from Grand Rapids to the Station is 10c.

What Offered?
Boys are taught livestock feeding, stock judging, dairy selection, veterinary work, carpentry, tractor operation, motors, blacksmithing, rope work, welding and babbitting, farm arithmetic, farm crops, farm management, business English, parliamentary law, business methods, history, government, athletics, band and orchestra, chorus, public speaking, communications, and rural sociology. The courses taught are similar to those offered at the Schools of Agriculture at Crookston, Morris and St. Paul.

Equipment.
This School of Agriculture is splendidly equipped in every way. The main school building contains an up-to-date auditorium with a complete stage setting including scenery and a set of lights which will give variation both in shades and intensity. Facilities for slides and moving pictures are also provided. There are well lighted and ventilated classrooms. These rooms meet the particular needs of the classes.

Facilities for Instruction.
This station contains some of the oldest forest plantations in the state. Large herds of dairy cattle, sheep and swine, as well as flocks of poultry are accessible for students in their daily instruction.

Living Facilities.
A modern dormitory for boys is just completed. The students' rooms are well heated and lighted. They are provided with the furniture necessary to a student's comfort and convenience. The dining hall is very attractive and affords seating capacity for about one hundred students. Good board is provided at a low cost.

Who May Attend?
Any boy sixteen years of age or over, and any boy under sixteen who has completed the eighth grade may attend the School of Agriculture.

School Year.
Two terms of three months each comprise the school year at the Farm School. These terms extend through a period of time convenient to farm boys, beginning at a time when the busy season on the farm is completed in the fall and closing in time for the students to begin the farming work in the spring. This year the opening day of school is October 18.

Cost.
The cost of tuition, fees, book rent, room and board and laundry for a term of three months is about $75. Students entering school should have with them about $55 in cash as book rent, laboratory, and other fees are paid for the full term in advance. Board and room rental are paid monthly in advance.

Purpose of School.
To fit young men for the business of farming, successful farm life, and useful citizenship. Students may, by taking the advanced courses, prepare themselves for admission to the College of Agriculture or the College of Forestry of the University of Minnesota.

What To Do.
Write to the Registrar of the North Central School of Agriculture, Grand Rapids, Minnesota, and make arrangements to attend. Bulletin giving courses of study and full information will be furnished on request. Write for dormitory reservations at once.

One of the outstanding features on the program of the Guernsey Breeders' association meeting held here was the staging of a dramatic debate on the question "Does Education Pay?" This drama was so enthusiastically received that the players were requested to stage it at a number of neighboring places, including Belvidere, Jesse Lake, Grand Rapids, Cook, Floodwood and Deer River.

Some one hundred fifty rural teachers of Itasca county enjoyed a picnic at the Station Forest Reserve during Institute week.

Our America of tomorrow, we mold, in the training of her youth today.

Main School Building
THE SCHOOL YEARS (1926 - 1965)

(The following quote is from The North Central Quarterly, June 1971 by William Matalamaki.)

The North Central School of Agriculture was established by an act of the Minnesota Legislature in 1925 with initial appropriation of $200,000. Representative George Herreid of Deer River and State Senator Pat McGarry from Walker are credited with introducing the enabling legislation. Numerous citizens from the Grand Rapids area worked diligently on this project, notably, A. J. McGuire, Otto Bergh, Supi. J. A. Van Dyke from Coleraine, C. C. Peterson, Dan Gunn, E. C. Kiley, W. B. Taylor, A. L. Thwing, and L. A. Rossman.

The first staff of the North Central School of Agriculture included: Superintendent Otto I. Bergh; Don Anderson, instructor in agriculture engineering, farm crops and poultry; Carl L. Blakeslee, animal husbandry; Otto Swenson, Superintendent of Buildings and assistant in agronomy and athletic coach; Maude Mollins, music and English and director of the dining hall; Mary Kuistad, registrar, dormitory matron and history; Thelma Drudge, secretary, librarian and instructor in penmanship and business training; and Emil Ostrom, accountant and instructor in apiary.

The following is a statistical summary of the school’s enrollment:

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<td>1934-61</td>
<td>1944-58</td>
<td>1954-84</td>
<td>1964-51</td>
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It is interesting to study the enrollment pattern of the school. The undulation in enrollment followed the socio-economic trends of the nation. The early
enrollment was low because it took time to advertise the school to prospective students. Before this was really accomplished we ran into the economic depression of the early thirties. As economic conditions improved more students enrolled. World War II cut the enrollment in half, but with the war over capacity enrollment was reached with large numbers of discharged service men returning to school.

One of the primary reasons the University became involved in secondary education was the fact that many high school boys did not have opportunities for instruction in agriculture in their home communities. It was apparent in the early fifties that most of the boys who were attending our school had adequate opportunities for secondary education in their home communities and that alternate uses would soon have to be found for the school’s facilities. With this thought in mind we initiated the post-high school Forestry Technician Class in 1958 and decided to start phasing out the School of Agriculture in 1963.

As we review the history of the North Central School of Agriculture and survey the ensuing careers of graduates it is quite apparent that the school served a very useful function in satisfying the unmet educational needs of Northern Minnesota. Most of the boys, especially in the early years, came from rural communities where secondary educational opportunities were either minimal or not available. The great majority became useful citizens; many became the leading farmers in their communities; others found gainful employment in agriculturally related jobs; a few went on to college to become successful county agents, teachers or other professional people. Countless numbers returned to the Station every year to express their appreciation for the excellent background they received while studying in this environment.

The school was always fortunate to have well-trained, dedicated instructors who placed the welfare of the students ahead of personal interests. This is borne out by the extremely warm relationship that still exists between former students and the staff of this institution.

Teachers who served during the thirty-nine years that the school operated include the following people who may not be mentioned in the research review: Marie Mollins, Mary Kulstad, D. T. Grussendorf, Art Dahlberg, E. W. Rorabeck, Claribel Hunziker, Florence Lambert, Leona Vieths, Thelma Dragge, Ruth Metzger, Don Anderson, Tom Strutzel, Ralph Knoles, Carmen DelliQuaori, Margaret Phillips, Gene Dice, Orlando Gigliotti, Morey Miner, Glen Swenson, Joyce Ranger, Margaret Matlamaki, Olga Johnson,

In a sense it is unfortunate that the need for this type of school no longer exists when one evaluates the excellent work that was accomplished over the years, but change is inevitable and we must now use our resources to solve different and even more challenging problems that confront the rural people who live in northern Minnesota.

The boys dormitory. Later it was named Donovan Hall on the Itasca Community College Campus.

Life On the Campus

Alumni of the School of Agriculture can recall many fond memories of their time at the school. Most of the students lived in the school dormitory. They were not allowed to have automobiles and they had very little money. So a very close community atmosphere developed among the students and the faculty. There are a number of stories about how the students would sneak food (or drinks) into their dorm rooms or sneak out of the dorm to go to town. Some were able to return before the dormitory proctor missed them. Others suffered a punishment. Activities such as the glee club, drama club, sports teams, judging teams, and the annual Ag Royal provided extra curricular activities.

Many of the faculty and staff lived in housing at the Station and can recall the Christmas parties, corn roasts, and other social events that were a part of life at the Station. Faculty took on the tasks of teaching a variety of subjects, providing a social program, and handling discipline in the dormitory. Mrs. Margaret Bunnell, who was secretary for four superintendents (Bergh, Donovan, Cole, and Matalamaki) smiles when asked about her first position at North Central. There were several applicants for the job. She feels that she got the job because she was the only one who could play the piano and the school glee club desperately needed a pianist.

An interesting story about dormitory life was printed in the December 1935 issue of The North Central Quarterly:

The initiation ceremony which all lowly freshman dread so much, took place on October 12. At the dinner table the freshman were instructed to come to class with their clothes turned inside out.

After classes were over, the students were loaded into trucks and transported to the stamping grounds on the Mississippi River. On the way over the freshman were unloaded at the Standard Oil station and instructed to march through the Grand Rapids business district so people could get a look at them.

Upon reaching the battle ground, the freshman were instructed to gather brush and wood for the bonfires, after which the initiation began in earnest. Archie Johnson acting as master of ceremonies had the freshman line up in a circle, and upon calling off his name, each person was to give the one on his
right a resounding smack with a paddle especially built to give the best results when applied to the proper place. After this came the shoe scramble in which the losers were branded by heating an iron red hot and holding it close to the bare spot on their anatomy then applying a chunk of ice.

The next thing was a tug of war between two freshman teams in which the losers were subjected to some more paddling. After lunch was served and wiener's were roasted on the bonfire, the punishment of the freshmen resumed with a fight between several blind-folded freshman and the festivities ended with drinking from the royal tankard.

Apparently word of this event reached the Dean in St. Paul and the Superintendent received a letter stating in no uncertain terms that this would be the last of such occurrences.

Mr. M. J. Salisbury is presenting Blandin Foundation awards to students for their outstanding farm forestry projects. Students (l to r) Richard Jensen, Sylvester Poxleitner, Nicholas Mohs, and Malcolm Hansen.

dairying, crops, or gardening. Richard Anderson served as the project supervisor for many years. Mr. Anderson helped plan the project and would make several visits to the students' homes during the summer. These visits also served as an opportunity to extend outreach education to the farm family and to recruit students for the school. Mr. Anderson recalls several very good projects that had a lasting impact on the students' future career, such as Marvin Beer's farm forestry project and Marvin Pearson's dairy project. Many students gained experience by working part time on the Experiment Station farm.

The Home Practices Program

The school was an intensive six-month program rather than the nine or ten months at other schools. Classes were held from 8:00 a.m. to 5:00 p.m. Since school started later in the fall and was finished earlier in the spring, the boys were available for farm work at home during the busy season. This appealed to some students and fathers. In addition to the longer school day, students were required to do a home practices project to compensate for the shorter school year. These projects were carried out during the summer to provide hands-on training, but planning began during the winter. The student selected a project of his choice and interest, usually farm forestry,

The Athletic Teams

Extra-mural sports activities included football, basketball, wrestling, and cross country teams that competed with the other schools of agriculture in the state and some smaller public schools in the surrounding area. Otto Swenson was the athletic coach in the early years. Other coaches were Glen Swenson, C. L. Cole, Bill Scott, Jim Elioff,
The 1958 Football Team

Kneeling (l-r): Quinten Wheeler; Reed Truen; Ed Kantola; Frank Vadnais; Joe Anderson; Ed Barten; Curtis Howg; Dick Howg; Bob Frick; Ben O'Brien; Keith Aho and Harland Suro.

Standing: Bill Scott, ass't. coach; Richard Hoffman; Clayton Rubey; John Anderson; Larry Odegard; Earl Petersen; Russ Bergstrom; Chris Olsen; Paul Weidenborner; Tom Hopkins; Gordon Taylor; Jim Surface; Gary Novak and Jim Eliaff, coach.

Carmen DelliQuaori, and Orlando Gigliotti. A sidelight to the athletic program was the use of the facilities and dormitory by professional football teams. The Philadelphia Eagles held summer training sessions in 1949 and 1950. The Green Bay Packers trained here in 1951, 1952 and 1953.

The Judging Teams

Livestock, dairy, and crops judging teams competed with other schools in judging contests. The livestock and dairy teams were coached by C. L. Cole and other livestock instructors. The crops teams were coached by Otto Swenson, Clem Griffith and Nils Grimsbo.

The Forestry Technician Course

In the 1950s timber companies and others in the forestry industry saw a need for employees who were trained for technical work in the field. M. J. Salisbury, who was president of the M. J. Salisbury Timber Company and on the Board of Directors of the Blandin Foundation, and other people in the timber industry were instrumental in promoting the post-high school program at North Central. The Forestry Technician course (originally called "Woodsmen's Training") began in 1958 with the aid of a grant from Blandin Foundation to purchase equipment. Like the agricultural school, it was an intensive six-month course; in nursery practices, species identification, logging,
mapping, site preparation and bookkeeping. William Cromell was the lead instructor for the technician training during the entire time that the course remained at the Experiment Station. Over the years Mr. Cromell was assisted in the technician course by several instructors with six-month appointments. They included Lorenz Rickert, Ralph Olson, Carl Wegner, Bob Morrow, Dixon Shelstad, and Dennis Carlson.

The course became popular and was very successful in training workers for the forestry industry. Students came from all parts of Minnesota and other states. Graduates were well accepted by employers. The forestry training continued at North Central after the high school closed until 1979 when the program was transferred to the Itasca Community College.

The North Central School Alumni Association

An annual homecoming was started early in the history of the School. The homecoming was held in the fall and included a banquet, dance, and a football game. At the 1932 homecoming the North Central School Alumni Association was organized. A constitution and by-laws were drafted and Walter Jorgenson, '29, was elected as the first president. For many years, the Alumni Association held an annual meeting during homecoming. After the school closed, they have met every three years the day after the Station Visitors Day in July. Over 100 people have attended the last three reunions. It seems that as the alumni grow older, they are more interested in getting together.

The Alumni Association donated a plaque which was placed at the site of the School administration building which was torn down to make room for new buildings on the Itasca Community College Campus. They also provided funds to move the flag pole which originally stood in front of the School administration building to its new site near the Experiment Station greenhouse where it is visible from the highway. The Alumni Association and individual alumni have also supported the North Central Experiment Station Research Fund.

A NEW ERA FOR RESEARCH

The name of the Station was changed to the North Central School and Experiment Station and a new era in its history began with the opening of the high school in 1926. After the addition of the school, trained specialists in livestock, field crops, and horticulture were employed year around.
This strengthened the research and demonstration work and increased the amount of service the Station was able to render to the area. When the enrollment increased to over 100 students, the position of principal was added. William Matalamaki was principal from 1949 to 1956 when Morey Miner took the position until the school closed in 1965.

1954 Home Makers Camp held at the station.

Mrs. Nielsen's English class.

In September of 1926, the Station began publishing the North Central Quarterly, a four-page publication of news about the school and articles about research at the station. The Quarterly has been printed four times a year since 1926 except during the years 1947 to 1951. The first issue of the Quarterly was devoted almost entirely to advertising the new school.

The first annual Farmer's Short Course was held March 19 to 23, 1928. One hundred fifty three area farmers attended the first short course. In addition to the Station faculty, College of Agriculture faculty and industry people were among the instructors. These included W. G. Brierly, Art Frick, Dr. C. P. Fitch, and Dan Wallace, editor of The Farmer magazine. Courses taught included horticulture, beekeeping, machinery, potatoes, agronomy, and dairying. The short courses continued to be offered annually through the 1930s. In 1929 a short course for homemakers was added. The Station facilities and staff were also used by area youth during the summer. A 4-H Club camp was held in the 1930s and continued through the 1940s and 1950s. FFA regional judging contests were held at the Station for many years. An Annual Potato Day for potato producers was held in 1932 and continued for a number of years. A one-day program for poultry producers was held for several years in the 1940s.

Champion Crops Judging Team. 1937.
Seated (l-r) O. W. Swenson, Coach & Wesley Judkins.

Even though a major part of the time of the Station faculty was devoted to teaching, there were continued accomplishments in research
and more cooperation in projects with research workers on the St. Paul campus and the USDA. In 1931 the Station began variety tests with corn and other field crops in cooperation with Dr. H. K. Hayes of the St. Paul Campus. The Station played an important part in the testing and distribution of the new-high yielding Warba potato. This potato was developed by Dr. F. A. Krantz of the University of Minnesota Horticulture Department and tested at several Minnesota Experiment Stations before it was released in 1933.

Agronomy

Agronomy plot research at North Central was under the direction of Otto Swenson from 1925 to 1942, when Mr. Swenson moved to St. Paul to be the farm superintendent at the College of Agriculture campus. His work involved a considerable amount of research with potatoes. Results of variety trials with potatoes were reported in the 1930s. Green Mountain and Cobbler varieties proved to be the best. Variety trials with grains were reported in 1932. Gopher and Minrus oats, Peatland barley, and Minturki winter wheat were among the varieties tested. Seed

Clem Griffith in alfalfa research plots.
from these varieties was available from the Station for forty cents per bushel. Mr. Swenson taught courses in agronomy and coached several successful crops judging teams that placed high in competition with other sub-collegiate teams from Minnesota, North Dakota and South Dakota.

Clem Griffith was the agronomist from 1942 until his death in 1963. Richard Anderson then became the agronomist. Mr. Griffith is remembered for a large volume of scrapbooks containing numerous photographs and news clippings pertaining to the school and station and its students and faculty.

Agronomy research emphasis was with forages and variety testing with small grains. Among the grain varieties popular during this time were Andrew, Rodney, Garry, Gopher and Minhafer oats, Trail, Peatland and Mars barley, Rushmore, Marquis and Minter wheat. Alfalfa varieties were Grimm, Vernal and Ranger. Foundation seed of most of these varieties were available from the Station during the 1950s and 1960s. Wild rice research began at North Central in the 1960s.

Horticulture

What was a typical cut-over pasture was left in its wild state which allowed native trees and shrubs to grow as they would in nature. Ted Weir was Horticulturist at the Station from 1929 until 1939 when he left to become head of the arboretum for the Horticulture Department at the University in the Twin Cities. While at North Central, Mr. Weir located and transplanted many species of trees, shrubs, and wild flowers from swamps and woods in northern Minnesota. By 1936 there were said to be over 142 different plant species growing in the arboretum. The arboretum was apparently neglected in later years. Only a few of the original plants remain. The USDA Forest Experiment Station is now on part of the arboretum site. Mr. Weir was also responsible for many of the ornamental plantings around the buildings in an effort to beautify the campus. Some of the plantings were the result of cooperation with Department of Horticulture and USDA scientists to test the hardiness of various ornamental plants in this climate.

Some large-fruited blueberries were secured from the wild and propagated at the Station during the 1930s, without much success in the establishment of a commercial planting. However, the June 1946 issue of the North Central Quarterly states that, "a cross between the wild and commercial blueberry was developed at the Station some years ago and selections from these plants are producing large uniform fruit."

After Mr. Weir left in 1942 he was succeeded by four of his former students: Al Richardson, Richard Hamilton, Clayton Olson, and Nils Grimsbo. Nils Grimsbo came in 1952 and continued as Station horticulturist until his death in 1969. He had a broad range of horticultural interest, but his greatest concern was for development of better potatoes. During his tenure there was a tremendous increase in potato work in cooperation with research workers from St. Paul.

In 1928 a five-acre piece of land west of the dormitory was set aside for an arboretum.
Animal Husbandry

During the period from 1930 to 1938 the North Central herd contributed to the development of one of the important achievements of the dairy industry. Primarily through the work of C. L. Cole, the herd was used as a developmental and testing herd for artificial insemination and formed the nucleus for the first artificial insemination association in the United States in 1937. The bulls in the Station herd were used as the sires for this association. This first association was made up of only 121 cows in the North Central herd and several neighboring herds. The equipment and the techniques for insemination were first tested and proven in the Station herd.

In 1926 Carroll Blakeslee became the first full time animal scientist on the faculty. He was followed by C. L. Cole in 1929 and Don Dailey in 1938. Dailey became Superintendent in 1940. During the war years the position was filled by Ken Miller, Robert Jordan, John Cummings, and Ken Miller again until Ben Salmela came in 1951. In addition to teaching, they conducted research in feeding, breeding, and management of swine, sheep, and dairy cattle. Dr. Salmela died from a heart attack in December 1959. Dr. Richard Dukelow came in 1960 and served until 1965. Dukelow was interested in research in physiology and nutrition including some work with mink.

Dairying continued to be an important enterprise in northern Minnesota during this period. Additional registered Guernsey females were purchased from time to time as the Station herd was converted from an all grade to an all registered herd throughout the 1920s and 1930s. Among these additions to the herd were twelve Guernsey cows originally bred by Tianna Farms that were purchased for the Station from Frank Robinson of Grand Rapids in 1942. Progress in the dairy program was impeded by two epidemics of Bang's disease in 1927 and again in 1940.

National attention was drawn to the Station in the late 1930s when the Minnesota No. 1 breed of swine was developed here by Dr. L. M. Winters, from the Animal Husbandry Department, St. Paul, in cooperation with the Regional Swine Breeding Laboratory. The North Central Experiment Station was selected for this work because of its isolation from areas of heavy swine population which might provide freedom from disease and other related problems. C. L. Cole, Ken Miller, Ben Salmela, Richard Dukelow, and Herdsman Louis Hansen did much of the work in

Royal Landsman at 15 years of age. He was one of the sires used in the first artificial insemination association.

The Experiment Station dairy barn under construction showing the unique lattice-type roof framing system.
handling the breeding, feeding, and data collection for this project.

The early history would not be complete without mentioning the horse. Draft horses were used to till and prepare the land for planting and for harvesting the crops until tractors and other power machinery became prevalent in the 1930s. During these years the Station maintained an excellent stable of Percheon draft horses. They were not only used for the farm work, but the studs and the foals from the mares were in demand by local farmers. A fire destroyed the horse barn at the Station in 1938 and a new brick barn was built in 1940. Ironically, only a few years later there was no longer a need for horses as they were replaced by tractors.

The Minnesota No. 1 was an inbred line originating from a cross between the Tamworth and Danish Landrace breeds. The breed became very popular and was used world-wide for crossing with other existing breeds. It was selected for large litters, fast gain, and low feed per pounds of gain. During the 1930s and 1940s several auction sales of breeding stock were held at the Station.

Breeding stock was shipped to many parts of the United States and several foreign countries. During the 1950s and 1960s part of the herd involved using rotational cross-breeding to provide market hogs for nutrition research, while the inbreeding studies with the Minnesota No.1 continued until the mid-1960s.

The Station had an outstanding small flock of Shropshire sheep during the 1920s and 1930s, used mostly for teaching and to provide breeding stock for local farmers. In the late thirties a new line of sheep was developed by crossing Rambouillet with a Border-Leicester x Cheviot cross. This line was established as the Minnesota 100 line, which many farmers found to be useful for crossing with other standard breeds.

Agricultural Engineering

In 1946 Richard Aakre became the first agricultural engineer at the Station. He was kept busy as the welding instructor of the school and designing and maintaining the buildings and facilities, but found time for meaningful research and demonstrations in ventilation, hay making, farm structures, and rural electrification.
Forestry

Until there was a resident forester at the Station, Professor Allison, Dr. Scott Pauley and others from the School of Forestry at St. Paul continued periodic measurements of trees in the plots which Professor Allison set up in the Chapman Plantation in 1915. There were no other formal research or management demonstrations in the Station forests until the 1950s. Logs were cut and a small sawmill was acquired to provide lumber for building construction. A program of reforestation was initiated in the 1950s. Demonstration plots and research plots for genetic studies with pine, spruce, and aspen were set up. Thousands of trees have been planted since then and the logging of old stands of timber continued, some of which was done in connection with forestry technician training.

In 1952 Lloyd LaMois became the first forester on the North Central faculty and forestry was added to the secondary school curriculum. William Marshall came to the Station in 1955 and was replaced by William Cromell who was the Station forester from 1956 until 1987.

The Weather Station

A weather station was established in June of 1915 by the U.S. Department of Agriculture in cooperation with the North Central Experiment Station and located on the Experiment Station grounds. Experiment Station employees recorded the daily observations of minimum and maximum temperatures, precipitation, and snowfall. Harold "Doc" Stuneck made the observations from 1937 until he retired in 1974. Jim Anderson continued the daily recordings until 1985 when the observation station was moved to the USDA North Central Forestry Lab located on the campus. R. B. Aakre compiled the first 50 years of weather data and published an Experiment Station Miscellaneous Report No. 68 in 1966. A supplement covering the next 10 years (1966 to 1975) was printed in 1976. After this the data was included in the annual Minnesota Agricultural Experiment Station bulletins "Crop Season Climatic Data from University of Minnesota Field Research Locations."

Professor H. H. Chapman visited the N.C. Station in 1953. He is shown using an increment borer to check the growth rings of one of the red pines he planted in 1900. (L to R) D. P. Duncan, University forester; H. H. Chapman, J. H. Allison, University forester; C. L. Cole, superintendent; and L. LaMois, Station forester.

Weatherman Harold "Doc" Stuneck and R. B. Aakre check temperatures.
The Times of Change (1965 -1996)

The School of Agriculture is Closed

The schools of agriculture which the University operated at Grand Rapids and other locations in Minnesota were established to fill a need which existed prior to the 1950s. When the School of Agriculture was established there were very few vocational agriculture classes taught in the high schools and many students in rural areas did not have convenient access to high school; thus the University provided an opportunity for these young men to receive a high school education while living in a dormitory on the campuses. Later on transportation by school bus became more prevalent and most rural schools offered classes in vocational agriculture. It was becoming evident in the late 1950s that the need for the School of Agriculture no longer existed. In fact, Bernard Youngquist, Superintendent of the Northwest School and Experiment Station, and William Matalamaki, Superintendent of the North Central School and Experiment Station, each did research on the educational opportunities which now existed and recommended that the schools be closed. The decision was made to close the high school at North Central after the Class of 1965 graduated.

As the high school was being phased out, discussion turned to deciding what to do with the school facilities that existed on the campus. A post-high school course for woodsman was started by the Station in 1958. In 1963 the engineering building (later named Dailey Hall) was leased to the Grand Rapids School District 318 for their newly established vocational-
technical school. About that time, the Itasca Junior College operated by the Greenway School District 316 at Coleraine became a part of the Minnesota State Community College system, and the college was in need of a new location to accommodate an increasing enrollment. Eventually discussions between Superintendent Matalamaki; Philip Hellund, Chancellor of the Community College system; Richard Anderson, President of District 318 School Board; M. L. Malmquist, Superintendent of Schools for District 318; Harold Wilson, President of Itasca Junior College, and University administrators led to the decision to move the junior college to the North Central Campus. At the same time the vocational-technical school became a part of the college.

When the School of Agriculture closed after the last class graduated in March of 1965, the primary focus of the Station changed from teaching to research. A few faculty who were not in the field of agriculture or forestry were terminated, including Morey Miner who had been the principal since 1956. The office staff, the crop and animal facilities and the staff to maintain them remained and were utilized as the work of research and outreach expanded.

The post high school forestry technician course continued with 20 to 25 students attending each year.

Soon after the School of Agriculture closed, the dormitory, classroom, and office buildings were leased to Itasca Community College. The College moved to the North Central campus in March 1967 after remodeling the former dormitory for use as classrooms and offices. The Station faculty remained in the old administration building which they shared with college faculty until the University constructed a new administration building in 1969.

Faculty who remained on the staff after the school closed were superintendent William Matalamaki, agronomist Richard Anderson, horticulturist Nils Grimsbo, agricultural engineer Richard Aakre, animal scientist Joe Rust and forester William Cromell. Larry Simonson, who was an extension specialist for tourism, also had his office at the Station. Joe Rust came to the Station just a few months before the School closed. Three of these faculty members left within a few years after the School closed: Nils Grimsbo died suddenly from a heart attack in 1969, Richard Anderson became superintendent of the Southern Experiment Station at Waseca in 1970, and Richard Aakre retired in 1970. These three positions were filled by new young scientists. Dr. David Wildung filled the horticulturist position and Dr. David Rabas filled the agronomist position in 1970. Dr. James Boedicker became the agricultural engineer in 1971.

Agronomy Research
The primary focus in agronomy research continued to be forage production. Agronomist Richard Anderson left North Central in 1970 and was replaced by Dr. David Rabas who served as the agronomist until he became superintendent in 1991. Kenneth Walters was the plot supervisor for 33 years until he retired in 1977. Russell Mathison was an associate scientist from 1977...
until 1992 when he was promoted to research fellow after Dr. Rabas left the agronomy position.

Testing of new varieties of grasses and legumes and recommended management practices contributed greatly to the success of forage production in northern Minnesota. The forage research was complemented by an extensive outreach program to educate farmers regarding good stand establishment and cutting management practices. Variety testing of small grains received attention as did cooperation with corn breeders, especially to testing corn varieties for cold weather tolerance.

![Drs. Craig Sheaffer and Dove Rabas showing alfalfa plots with and without nematicide treatment of the soil.](image)

Alfalfa nematode research began at the North Central Experiment Station in the late 1970s as a search for solutions to stand establishment problems in alfalfa variety trials. In these experiments it was discovered that plots which had been treated with nematicides produced healthy vigorous plants with good population density. Dr. Rabas found that the nematodes were a source of the problem some Minnesota farmers were having with stand establishment. This lead to research by Dr. Donald Barnes, plant breeder with the USDA and the University of Minnesota, who developed alfalfa varieties which were tolerant to several species of nematodes. Attention was also given to the management of legume species other than alfalfa, such as red clover and birdsfoot trefoil and the development of varieties of Kura clover.

In the fall of 1985, the Station began a project to evaluate the agronomic value and environmental safety of using ash from the Blandin Paper Company co-generation plant as a lime and/or fertilizer source. The ash proved to be a valuable source of fertilizer for alfalfa. In addition to serving as a lime substitute, the ash provided other nutrients such as potassium and trace minerals used by the alfalfa plant. These experiments lead to on-farm trials throughout northeastern Minnesota in cooperation with the Minnesota Extension Service and several wood industry companies in the area.

The use of ash on farms is an example of added value to an industrial by-product while at the same time removing the need to store the ash in rapidly filling landfills. The success of this project led to testing the use of other industrial waste products such as sewage sludge, kilm dust, de-inking residue from the recycled paper making process, and other forestry industry by-products.

![Spreading ash from the Blandin Co-Generation Plant improves soil fertility.](image)
Other research has focused on development and testing of new and improved forage plants that have applications for grazing and stored feeds in northern Minnesota. Development of improved cultivars of Kura clover began in 1988 and has advanced to testing under grazing conditions. Research is also underway to test improved biotypes of quackgrass.

Horticulture Research

Dr. David Wildung became the Station horticulturist in 1969, following the death of Nils Grimsbo. The primary focus of Dr. Wildung’s research has been with small fruits, potatoes, vegetables and annual flowers. Tom Carpenter, who has been plot coordinator for the past 30 years, has played a vital role in the work of the horticulture research program. Rob Peterson worked with the blueberry project as a junior scientist for a short time during the 1970s and David Trinka worked with a blueberry education program during the middle 1980s. Scientist Kay Sargent, who has been at the Station since 1982 initially worked with blueberries, but is also involved with a broader range of the horticultural projects.

In the late 1960s, Dr. Cecil Stushnoff of the Department of Horticulture in St. Paul began to develop a new low stature blueberry plant that produced larger fruit. The low stature, half-high plant could survive the winter by being covered with snow. Since this was a potential new opportunity for commercial production in Minnesota, Dr. David Wildung began research on the culture and management of blueberries in 1973 with grants from the Blandin Foundation. The first challenge was to perfect a suitable method of propagation which was eventually accomplished by using tissue culture techniques. Research then proceeded with development of the best cultural practices for the blueberry, including soil fertilization, pH management, methods of irrigation, winter protection, and pruning methods.

As the blueberry breeding project continued, fruit size, flavor and production potential continued to improve. Two cultivars, named 'Northblue' and 'Northsky', were released to the public in 1983. Producers willing to try production on a commercial scale were selected to receive the first available plants. Dr. Wildung worked closely with these producers while developing recommended cultural practices and a new industry was born. Through grants from the Governor’s Rural Development Council and Northern Minnesota Initiative Fund, additional research was conducted along with economic and grower education programs developed cooperatively with the Minnesota Extension Service. Nearly 100 new blueberry producers initiated plantings in the late 1980s. Since 1983 additional blueberry cultivars have been released by the University: 'North Country' (1986); 'St. Cloud' (1990); 'Polaris' (1996) and 'Chippewa' (1996)

The North Central Experiment Station has long been a vital part of the strawberry cultivar evaluation program in Minnesota. Because of the location as one of the coldest
experiment stations in the United States, the USDA became interested in establishing a strawberry breeding program. Beginning in 1980, this cooperative breeding program has been under the direction of Dr. Gene Galletta and Dr. Jim Luby. The first cultivar releases from the program are 'Winona' (1996) and 'Mesabi' (1997). Strawberry cultural studies in the 1980s developed cultural practices for day-neutral strawberries. In the 1990s cultural research has been relating phenological events to management practices such as spring mulch removal.

The extensive University potato breeding project in cooperation with the Department of Horticulture continued under the direction of Dr. Florian Lauer. Annually over 25,000 potato seedlings were evaluated, breeding lines were maintained and disease evaluations were made for common scab and verticillium wilt. Since 1982, eight cultivars have been released from the potato breeding program. In all, about 25 acres were devoted to potato research, mostly on rented land near the Station. The Sisler farm in LaPrairie was used as a site for potato and blueberry breeding research beginning in the 1960s until 1987. Research on cultural practices, such as insect control, weed control, fertilization and plant density continue to be part of the potato research program.

In the 1980s there was increased interest in the commercial production of vegetable crops in northern Minnesota. The Station responded with research on cultural practices (to speed maturity and improve production) and cultivar testing (to identify good quality short season types). Early emphasis was on cole crops. More recently research with carrots, sweet corn, tomatoes, peppers and pumpkins was initiated. Much of the research has been funded from grants received from the
Agricultural Utilization Research Institute.

An area of about three acres near the entrance to the Station is devoted to the evaluation of woody ornamental plants for winter hardiness. The Station orchard has been a source of information on hardy apple cultivars for northern Minnesota. A touch of late summer and fall color is added to the garden area with the evaluation of annual flowers and chrysanthemums. The Station has cooperated with the University of Minnesota chrysanthemum breeding program. Since 1966, over thirty chrysanthemum cultivars have been released from that program. The North Central Experiment Station was designated an All American Selection Display Garden in 1990.

Wild Rice Research

Wild rice is a native plant to many Minnesota lakes and streams. For many years the harvesting from the lakes and rivers was done only by native American Indians. When more people became interested in harvesting, processing, and selling wild rice, a small commercial industry began to develop in the 1950s and 1960s. As the demand for wild rice increased, attention was given to achieving greater production potential. In the middle 1960s paddies were built by a number of producers to grow wild rice under controlled conditions and production began to increase. Questions arose such as: what kind of soil makes the best paddies, what are the best seeding, harvesting and pest control methods, what fertilizers are needed, and what research is needed to develop improved strains of wild rice that were non-shattering.

The University began to study these problems on a small scale at St. Paul in 1961, with a few seeds selected by a producer (Algots Johnson) for their non-shattering characteristics. In 1966, horticulturist Nils Grimsbo and Dr. Thomas King from the Plant Pathology Department began the first studies at the North Central Experiment Station in a small paddy constructed on the Station near the Prairie River. The following year several paddies were constructed near the original paddies on higher ground and were flooded using water from a small creek. These paddies were constructed by Joe Reich, the Station farm foreman, with the help of superintendent Bill Matalamaki, who occasionally liked to operate a crawler tractor. Agronomist Richard Anderson and Dr. William Brun, a plant physiologist from the Agronomy Department, began the first replicated studies on wild rice production at the North Central Station in these paddies. Investigations continued on a small scale at Grand Rapids until 1973.

The research area was expanded in 1973 when the State Legislature appropriated substantial funds to support wild rice research in Minnesota. The people instrumental in obtaining the research funds were the Minnesota wild rice growers, Dr. William Hueg, Director of the Minnesota Agricultural Experiment Station, and Dr. Matalamaki. Eventually, about six acres of paddies at the Station were devoted to wild rice research. Part of a greenhouse constructed in 1979 is also used for wild rice research. The first wild
One of the largest projects with wild rice has been in wild rice breeding. Dr. Robert Stucker, from the Agronomy Department, headed this project for many years, concentrating on the development of varieties that were earlier, shorter, and more resistant to lodging, seed shattering and disease. In 1991 the University received a grant from USDA to provide funding for a full-time faculty position in wild rice breeding stationed at Grand Rapids. Dr. Raymond Porter has filled this position since 1992. The first variety, Netun, released in 1978 and the second, Voyager, released in 1983 had some seed shattering resistance. Later the germ plasm Pistillate M-3 and the variety Franklin were developed and released.

Animal Science Research

When the Northeast Experiment Station at Duluth was closed in 1967, the herd of Minnesota No.4 swine at Duluth was moved to the Grand Rapids Station. Swine herdsman Bill Horstman was also transferred to Grand Rapids. The additional swine made it necessary to have additional facilities to house the expanded herd. The barn that was being used for sheep was remodeled for swine and the sheep research was closed out.

In the early 1970s, the Minnesota No.1 and Minnesota No.4 breeds of swine were moved to the Rosemount Station, ending a 35-year history of the Minnesota No.1 at Grand Rapids. The focus of swine research at Grand Rapids switched to nutrition and management. During the late 1960s and 1970s a herd of 40 to 50 sows was maintained. Research with gestating and lactating sows, feeder pigs, and growing and finishing pigs was done in cooperation with Dr. Robert Meade from St. Paul. This work included trials to study the use of antibiotics, feed additives, protein levels, vitamins, fat supplements, and age at weaning.

In 1981 the interior of the swine barn was remodeled to accommodate 100 sows in individual stalls and a swine nursery addition.
was constructed. Research then focused on the nutrition and management of the gestating and lactating sow and the young pig. Landrace sows were bred (primarily by artificial insemination) to Yorkshire boars. In addition to the nutrition research, several studies on the ventilation and air quality were conducted by Dr. James Boedicker and others from the Agricultural Engineering Department. In 1995 and 1996, the swine herd at Grand Rapids was phased out as part of the decision to consolidate swine research at other University locations.

In the 1960s farmers in the area were increasing their interest in raising beef cattle. The Experiment Station terminated the sheep projects at Grand Rapids and moved to beef cow-calf research. The beef project started with the purchase of the Rosemount Experiment Station Hereford herd of 35 cows in the fall of 1968. Studies were initiated to determine the energy requirement for gestating cows during the winter months and in the summer several grasses were compared using a rotational grazing system.

The beef project was revised in 1973. This study involved 72 cows over a period of several years, half of which were Angus X Hereford cows and half were Angus X Holstein which were fed at two levels of energy during gestation and early lactation. A new beef barn and lot with facilities for feeding cows individually was constructed in 1973 to accommodate this research. Various beef cow-calf feeding and management, and pasture utilization studies were conducted during the 1980s with these crossbred cows. In 1992 when the decision was made to concentrate all of the University beef cow research at the Grand Rapids location, the crossbred cows were replaced with the purebred Angus herd from the Rosemount Experiment Station. A new beef barn and feed lot was constructed at the Station’s South Farm in 1994. Pasture research plots were developed in 1996. In 1996 the beef herd consists of over 140 Angus cows and heifers. Research will concentrate on feeding, management, and grazing. The same cows will also be involved in animal breeding studies to determine methods of selection for leaner carcasses.

Gerald Sullivan served as an area extension agent for beef cattle and had his office at the Station from 1974 to 1979. Mr. Sullivan was assigned to the Northern Minnesota Beef Project funded by the federal Upper Great Lakes Regional Commission. The project worked with northern Minnesota beef farmers to demonstrate management practices that could be used to improve their operations. Demonstrations were set up on several northern Minnesota farms and included forage and grazing systems, cattle handling facilities, land use and improvement, performance testing, nutrition, herd health, and farm management systems.

A small herd of Angora goats came to the Station in 1989 from St. Paul. In addition to studies on parasite control, the goats have been used to study grazing management on small plots of grasses and legumes.
The Guernsey dairy herd continued to be a part of the University of Minnesota and USDA dairy cattle breeding project. The project to compare linebreeding vs. unrelated A.I. sires with the greatest proven potential for increasing milk production began in 1961 and continued until 1986. The results showed a definite advantage for using the best proven sires compared to linebreeding. The North Central Guernsey herd continued to be one of the highest in the state for milk and butterfat production. Several cows in the herd achieved recognition for ideal body conformation also.

In 1982 a new breeding project was initiated with the dairy herd. The project involved the introduction of new germplasm into the Guernsey herd by breeding one half of the cows to Holstein sires. The comparison of cross breeding vs. purebred Guernseys continued with several generations of the population until the North Central Experiment Station dairy herd was dispersed in 1992. Now there were no dairy cattle on the Station for the first time since it was founded in 1896.

Dr. Tom Heeg became the animal scientist in 1981 after Dr. Joe Rust became Superintendent. Dr. Heeg left in 1984 and Dr. Rust returned to the animal scientist position until he retired in 1991. Dr. John Hall became animal scientist in 1995. Three herdsman retired after many years of service to the Station: dairy herdsman Archie Johnson and swine herdsman Louis Hansen in 1978 and sheep and beef Herdsman Wil Ahonen in 1980. The position of assistant animal scientist was created in 1978. This position has been filled by John Roach, followed by Bill Creamer, and then by Dan Brown.

**Agricultural Engineering Research**

Agricultural Engineer, Dr. Jim Boedicker, like his predecessor, Richard Aakre, became involved in a variety of projects at the Station.

Research projects which received attention included animal waste management, air quality and ventilation design for swine buildings, wild rice combines and processing, drainage, building design for farm animals, snow cover and irrigation for blueberry plants, and rate of application and spreader design for application of ash to farm fields. In addition to research,
Dr. Boedicker became involved in the planning and design of several buildings constructed at the Station, such as the two beef barns, greenhouse, and remodeling of the swine barn.

Plant Pathology Research

Dr. Robert Nyvall became the first plant pathologist to be located at the North Central Experiment Station in 1991. Research in plant pathology is focused primarily in two areas; (1) the development of mycoherbicides to control weeds (biological control), especially purple loosestrife, and (2) diseases of cultivated wild rice and to a lesser extent control of diseases of fruits and vegetables. Mycoherbicide research is centered on isolation, identification and testing for pathogenicity of fungi isolated from diseased purple loosestrife plants. Research on diseases of wild rice is involved with testing of fungicides to control fungal brown spot and studying the etiology of the organisms which cause fungal brown spot and other wild rice diseases. Work on diseases of fruits recently has centered on determining the cause of dieback of a new strawberry germplasm, MN US 52.

Numerous fungal cultures have been isolated from diseased purple loosestrife plants found throughout Minnesota. At least two genera of these fungi have been demonstrated to be promising as mycoherbicides which might be used to control the weed. Brown spot in wild rice was found to be two different diseases requiring separate methods of control. Propiconazole (Tilt) was found to be effective in controlling brown spot in wild rice.

Forestry Research

Other than the historic Chapman Plantation established in 1900, there was very little reforestation or organized forest management practiced at the Station until 1952. In 1952 the College of Forestry supervised the planting of 5 species of trees on a site near the Chapman Plantation. The five species were red pine, white pine, jack pine, balsam fir and tamarack. Small areas of the forest have been cleared and replanted at various times since then. Much of this work of clearing and replanting was done in connection with the forest technician school. These plantings of mostly red pine now provide a valuable resource for observations and research on forest management. They also provide a single site having trees of various species at various stages of maturity and at several population densities. Research in silviculture has focused on thinning of red pine stands. Work on establishing white pine in the red pine understory is of current interest. The Station’s newly established White Pine Foundation will help support this effort.

Work on tree improvement through forest genetics began at North Central in the 1950s. The genetic studies have been primarily under the direction of Dr. Scott Pauley and Dr. Carl Mohn of the College of Natural Resources Department of Forest Resources. Selection and development of improved growing stock with emphasis on black and white spruce and cottonwoods have been carried out on several locations on the Station and on Blanding Paper Company lands. This work involves grafting, controlled pollination, stem cutting collection, and propagation. The process of selecting and propagating superior trees has resulted in seed stocks that have improved rates of growth and fiber quality. These seed stocks have been made available to growers.
An extensive program to develop improved strains of hybrid poplar and aspen has been carried out for several years. The tree nursery at the Station has been especially valuable for these projects. The nursery at the North Central Experiment Station is the only tree nursery available to the College of Natural Resources faculty. The nursery area was expanded in 1992 to accommodate over 100,000 trees for research plantings.

The Station forester William Cromell and plot coordinator Tim O'Brien have provided the on-site management and data collection for the genetics and silviculture research. Mr. Cromell retired in 1986. When Dr. Howard Hoganson joined the Station faculty in 1987, a new avenue of forest management research was added. His approach to research in forest management and economics is focused on modeling methods for forest management scheduling and timber supply analysis.

Aspen and Larch Genetics Project
The aspen/larch genetics project at the North Central Experiment Station was a result of a concerted industry and governmental effort to address the issue of Minnesota's future timber supply. The project was formerly located with the Institute of Paper Science and Technology in Appleton, Wisconsin. The research staff, records, and plant materials were moved to the University of Minnesota in 1989. The research staff who came with the project were scientist, Gary Wyckoff, and assistant scientist, Egon Humenberger. State funds were obtained for a Ph.D. level scientist in 1990. A greenhouse and office building was constructed for the project in 1990 on the site of the former superintendent's residence. A fifty-acre tract of land located south of Grand Rapids on the Harristown Road was purchased from Olaf Grimsbo in 1991 to establish a plantation of genetic materials. The project is administered by the College of Natural Resources and on-site administrative assistance is provided by the North Central Experiment Station. The project is assisted in direction by a cooperative of 23 members from industry and state and county governments in the United States and Canada who have an interest in hybrid and improved aspen and larch materials.
The goal of the cooperative is to provide fast growing, well-adapted trees with improved wood and fiber characteristics. Breeding research involves the selection of superior trees and the production of fast growing hybrids with good fiber characteristics. The project also involves screening for disease resistance and aspen propagation from stem cuttings.

Tourism and Economic Development

Dr. Larry Simonson was a Minnesota Extension Service specialist working with the tourist industry from 1960 until his retirement in 1990. Dr. Simonson maintained his office at the North Central Station while organizing events and conducting tourism workshops and hospitality training sessions throughout the state. In 1990 the Minnesota Experiment Station administration considered a need for a research component of the tourism program. In 1991 Dr. Dan Erkkila joined the North Central Experiment staff with a joint appointment in research and extension. Dr. Erkkila is responsible for conducting research in support of improved profitability in Minnesota's tourism industry. His work includes research relating to community economic development and designing and delivering educational programs for businesses in the travel and tourism industry.

Station Physical Facilities

A number of additions and improvements to the physical facilities have taken place during the past 30 years. In 1965 a main sewer line was installed to connect the experiment station and community college to the Grand Rapids city sewer system, eliminating the previous system of dumping raw sewage into the Prairie River. The administration building was built in 1968 after the Itasca Community College moved into the former experiment station buildings. A potato warehouse was built in 1972 and a greenhouse used primarly for horticulture and wild rice research was constructed in 1979. A 150' x 36' open beef barn with accompanying feed lot was constructed in 1973. Two homes for herdsman were built on the campus in 1974 and 1975. In 1982 a nursery wing was added to the east side of the swine barn and the north wing was extensively remodeled with individual sowstalls. An office building and greenhouse was built for the Aspen-Larch Genetics Project which came to the Station in 1989. Other smaller additions and remodeling projects included new machinery and lumber storage sheds, a storage shed near the forestry nursery, an addition to the north side of the farm shop, and employee's lunchroom added to the "old creamery building."

Development of the beef and forage research farm south of Grand Rapids on the Harristown Road began after the farm was purchased in 1986. Clearing the trees from the wooded areas began in 1989 and was completed in 1993. The State Legislature provided funding for a headquarters and laboratory building which was built in 1994. The beef cow research facility with an open barn (215' x 50') and eight feed lots was constructed in 1995. Small plots for agronomy forage research were laid out in 1988 and field size plots for pasture research were laid out and fenced in 1996.

The Oil Spill

The North Central Experiment Station was the site of the largest oil spill in Minnesota history on March 3, 1991. A 34-inch pipeline carrying crude oil for the Lakehead Pipeline
Company passes through the Station. The pipeline ruptured in the peat area on Station property west of the Itasca Community College and the USDA Forestry Lab, releasing 1.7 million gallons of crude oil and causing a ten acre pool of oil in the bog area. An estimated 20 percent of the amount spilled entered a 16 inch main of the tile drainage system and traveled into the Prairie River.

Local officials quickly blocked roads and evacuated nearby residents. Pipeline personnel blocked the drainage system and placed booms in the river to minimize the damage to the environment. The cleanup involved pumping many gallons of oil from the surface of the bog and excavating tons of soil which was incinerated. In the months ahead, while checking for any underground contamination, the tile line leading to the river was dug up and replaced. Monitoring for groundwater contamination was continued for several years. The wetland area where the rupture occurred has been restored and is now an educational area used by the Community College and area schools as a wetlands environmental and biological laboratory.

North Central Station Research Fund

The North Central Experiment Station Research Fund was established in 1986 as a part of the University of Minnesota Foundation. The Foundation is a 501 C-3 nonprofit corporation. The purpose of the fund is to establish and maintain support of research at The North Central Experiment Station. The fund is administered by a committee of 10 to 12 persons representative of the North Central School Alumni Association and the northeast and north central Minnesota community. Margaret Matalamaki was the first president of the fund committee. The Committee has been effective in raising over $190,000 as of May 1996. They have set a goal to raise an additional $100,000 during the Centennial Campaign in 1996.

Public funds cannot keep pace with the growing cost of doing research and supporting new initiatives; therefore, the Station must seek to increase support from private sources through gifts and grants. The fund helps support research by accepting donations from private industry and individuals. Gifts can be given in the form of cash donations, annual pledges, or deferred gifts, such as wills or trusts. Donors may specify an area of research
that they want to support. Unrestricted gifts are assigned to projects on the basis of need and merit as judged by a research fund committee.

Recreation

In 1989 cross country and hiking trails were established through a part of the wooded area of the Station. Visitors are welcome to enjoy the 7.9 K. of trails which wind through a variety of tree and plant species providing an abundance of scenery and wildlife.

Approximately 14 acres of the Station woodland has been designated to be preserved as a natural area. Parts of the upland area contains old growth red and white pine which are 130 to 150 years old with balsam fir coming in as an understory. The lowland areas contain mostly black spruce with scattered tamarack. There is also a variety of wild flowers and alder typically found in marsh lands of northern Minnesota.

![Information booths at a Station Visitors' Day.](image)

Changes in vegetable gardening have evolved over the last 100 years. For example, broccoli and cauliflower were not grown in 1896. Today we find them to be well suited to northern Minnesota gardens. In 1896 the citizens of northern Minnesota were very dependent on what they could grow in their gardens and what could be stored for the winter. Root crops, such as potatoes, carrots, and turnips, were popular. Root cellars used for storing these crops were common. Today we can enjoy an inexpensive and easily available supply of food from around the world. This evolution has brought changes in the kind of vegetables that we grow locally as well as improved cultivars and varieties which suit our current needs and tastes.

* * * * *

In Conclusion

The 1996 Centennial Celebration of the North Central Experiment Station includes centennial garden and crop exhibits comparing old "heritage" cultivars and varieties with new "modern" cultivars and varieties. Many of the same field crops that were grown in the early part of the century are grown today, mostly forages and small grains. But new improved varieties and cultural practices have been developed through the years of University research.

As we look forward to the next century, we give credit to all of those dedicated employees of the Station, including many not mentioned in this history, who contributed in a variety of ways to the accomplishments of the First 100 Years.
North Central Experiment Station Personnel
1996

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Howard M. Hoganson
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Animal Scientist
Forester
Agronomist
Plant Pathologist
Wild Rice Genetics
Horticulturist
Animal Science

Principal Accountant
Assistant Scientist-Animal Science
Maintenance Carpenter
Horticulture Research Plot Coordinator
Jr. Lab Technician-Horticulture
Senior Secretary
Farm Animal Attendant
Automotive Mechanic
Junior Scientist-Wild Rice
Senior Laborer-Animal Science
Executive Secretary
Accounts Specialist
Building & Grounds Worker III
Forestry Research Plot Coordinator
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Egon Humenberger
Joline Leone

Scientist
Sr. Lab Technician
Research Plot Technician
Assistant Scientist
Research Plot Technician
Looking Ahead To The Next 100 Years

As we prepare for the future we are committed to continuing to strengthen our collaborative relationships and to build strong, cooperative partnerships with other units of the University and the community. We look forward to serve the people of our state and region. We will continue to explore new opportunities through a diversity of research and outreach activities. In addition to traditional crop and livestock research, scientists will be involved with agricultural engineering, environmental issues, forestry, industrial by-product utilization, horticulture, mycoherbicides, tourism and travel and wild rice. We believe the unique soil, climate and social and economic environment in north central Minnesota provides opportunities to conduct research which will contribute to sustainable economic systems and improved quality of life for people of Minnesota.

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