The Early History and Background
of the
School of Agriculture
at
University Farm, St. Paul

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with the
assistance of Carl A. Franzmann
and others

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FOREWORD

THIS short history of the School of Agriculture of the University of Minnesota at University Farm, St. Paul, has been written in an attempt to record the chief events in connection with popularizing agricultural education in Minnesota and establishing the School. An account is given also of the early growth and development of the School and of its influence upon rural education and rural life during the fifty years of its existence.

No attempt has been made to chronicle all events or to name all of those who have at one time or another served as instructors in the School. A roster of the instructors and charts of the curriculum are being prepared, which will be filed with a copy of the original text in the archives of the University Library, in the library at University Farm, and with the State Historical Society.

In compiling the history, an extensive examination has been made of the agricultural periodicals of the pioneer days and of the official records of the University. The enactments of the State Legislature have been carefully searched for legislation enabling the establishment of the School and regarding its support and welfare since establishment. No known sources of information have been left unexplored. The author realizes that matters of importance have been briefly treated. Some may have been omitted which should have been included. If so, it is because of inadequacy of the early records or because of their present inaccessibility.

Acknowledgment and appreciation is granted to many who have given freely of their time for conference and interview on questions of fact or policies. Miss Harriet Sewall, librarian at University Farm, has given invaluable service in providing working space and assisting in the collection of source material. L. Mae Centerwall, Lillian A. Chamness, Mrs. Minnie J. Brown, Myrtle F. Hales, Amy M. Klein, Fannie E. Wakely, B. Ruth Phelps, Marie C. Spriestersbach of the library staff at University Farm, and Harold G. Russell, Joseph Komidar, and Blanche Moen of the reference division of the University Library have cooperated fully in making available records, documents, and publications. To Frank K. Walter, University librarian, sincere thanks is due for providing a room in the main library. The staff at the State Historical Society, in all departments, have ren-

dered valuable aid in a time when facilities there have been taxed to the utmost. In the reference and newspaper rooms and in the manuscript division, the help given by the Society has been of great service. It ought to be mentioned here that this history reflects merely a fraction of the materials consulted at these libraries. Notes and extracts have been made to form a basis for continued reference work in the history of our institution. Members of the early classes have been freely consulted regarding the early history of the School. Messrs. T. A. Hoverstad and R. S. Mackintosh, members of the first class graduated from the School, have given many helpful suggestions. Mr. C. P. Bull has given invaluable assistance in analyzing the contributions of the Grange organizations. These, with the addition of Mrs. Fred H. Gorham, have served as an advisory committee in the preparation of the manuscript. To Mr. Carl A. Franzmann, a graduate student in charge of the W.P.A. workers assigned to the project, most sincere gratitude is expressed for careful preparation of the annotations, and assistance in completing the manuscript.

Part I

Epochs in the History of the School of Agriculture of the University of Minnesota

Part II

The School of Agriculture of the University of Minnesota: An Outline of Its History and Achievements

This history is based upon data compiled under the auspices of the School of Agriculture, through aid supplied by the Works Projects Administration, Project No. 65-1-71-140.

Part I

Epochs in the History of the School of Agriculture of the University of Minnesota

1858 Experimental farm and agricultural college established at Glencoe, Minnesota by legislative enactment. Pages 12-17.

1865 Land grants available to the State under the provisions of the Morrill Act of 1862 made over to the agricultural college at Glencoe by legislative enactment. Page 18.

1868 Charter for the Glencoe Agricultural College given up, and its interests merged into the newly reorganized University of Minnesota at Minneapolis. In the merger, land grant funds made over to the University on the condition that an agricultural college be established and an experiment farm provided. Page 18.

1868 Two-year practical course recommended by the Principal of the Preparatory Department. Not activated. Page 21.

1874 President Folwell proposed a one hundred day lecture course in agriculture for young men "either actually engaged in some branch of agriculture or intending soon to begin." Put into operation by Professor Porter in 1882. Pages 23-24.

1882 Physical separation begins. The experimental farm contiguous to the University campus at Minneapolis found unsatisfactory and sold by the Board of Regents. Under legislative authority the proceeds from the sale were used for the purchase of a new farm at St. Anthony Park, St. Paul, four miles distant from the campus, and for the erection of buildings. Pages 29-30.

1884 Experiment Station buildings erected on the new farm. Page 32.

1886 A school of practical agriculture of the apprenticeship type authorized by the Board of Regents. The Experiment Station buildings were used as headquarters and the experimental farm as a laboratory. Students were required to perform manual labor on the farm as a part of their training. Pages 33-34.

1886-1887 Continued criticism of the Agricultural College by farmers brought to a focus by the State Grange and the Farmers' Alliance. Pages 29-30, 32-33.

1887-1888 Organization of the Experiment Station under the Hatch Act. Specialists available for instruction in the School. Pages 44-45.

1888 The School of Agriculture of the University of Minnesota established by action of the Board of Regents. The Home Building located on the new University Farm erected at a cost of $17,000. Pages 33-40.

1888 School opened October 18, 1888. W. W. Pendergast made principal. Attendance limited to male students. Course offered extending over period of two years of twenty-four weeks each. October to March. Students expected to spend summer months in practical training on farms. Page 40.

1889 An additional dormitory building provided with capacity for one hundred students. Preparatory year provided for students deficient in common school subjects. Page 51.

1891 Course extended from two years to three years of twenty-four weeks each to permit the inclusion of laboratory courses. Pages 53-54.

1891 New Experiment Station building erected and Dairy School organized. Pages 55-56.

1893 Drill hall and manual training quarters provided. Page 57.

1893 Reorganization of courses and additions to faculty required by increasing specialization of instruction. New textbooks developed. Pages 57-62.

1894 H. W. Brewster appointed principal to succeed W. W. Pendergast. Page 58.

1895 Increased enrollment. Dining hall and dormitory building erected. Pages 62-63.

1897 The School made coeducational. Girls' dormitory provided with capacity for 120 students. Pages 63-69.

1897-1898 Courses in home economics organized. Pages 69-71.

1900 F. D. Tucker appointed principal to succeed H. W. Brewster. Pages 74-75.

1903 D. D. Mayne appointed principal to succeed F. D. Tucker. Page 75.

1905 The first branch school of agriculture established near Crookston, Minnesota by action of State Legislature. Instruction begun in 1906. Page 80.

1909 West Central School of Agriculture established near Morris, Minnesota by legislative enactment. Instruction begun in 1910. Page 82.

1921 School at Grand Rapids authorized by legislative enactment. Buildings authorized in 1923. Instruction begun in 1926. Page 83.

1929 J. O. Christianson appointed to succeed D. D. Mayne. Page 86.

Part II

The School of Agriculture of the University of Minnesota: An Outline of Its History and Achievements

Contents

Part II

THE SCHOOL OF AGRICULTURE OF THE UNIVERSITY OF MINNESOTA: AN OUTLINE OF ITS HISTORY AND ACHIEVEMENTS, 1851-1938

The Background

SOON after the settlement of the territory that later became Minnesota, demands were heard from settlers for information about how to grow crops and care for the soil in this new land. At that time the territory was looked upon by many as a frigid region of doubtful agricultural value.[1] Settlers coming from eastern and southern states and from Great Britain and Europe found a soil and climate differing from those to which they were accustomed and an agricultural environment entirely new.[2] They soon came to the conclusion that the solution to their problems must be worked out within the local environment for the good of the commonwealth. Somewhat familiar with educational institutions in other areas and with the agitation in the older settled states for agricultural societies, schools, and colleges, their needs soon found expression in a demand for agricultural schools. Those coming from the New England states were particularly emphatic in their demands for lyceums, institutes, and societies with educational objectives. Many of them had been members of and had participated in such organizations in the states from which they came. They were also acquainted with legislative activities then under way to provide such institutions. Their ideas of what kind of an agricultural school would satisfy the need were varied and indefinite, though most of them specified that it must be a "practical school" where their sons would be taught to farm. One of the early leaders in this agitation was Colonel John Harrington

[1] This statement may be found in a number of sources. It was not dispelled until settlers actually grew crops and put Minnesota agricultural products upon the market. It was to remove some of these erroneous notions that Le Duc, later Commissioner of Agriculture, undertook to arrange an exhibition of Minnesota products. See: W. G. Le Duc, "Minnesota at the Crystal Palace Exhibition, New York, 1853." *Minnesota History*, 1:351-368, August, 1916.

[2] Minnesota farmers today are not so much aware of these climatic differences as the pioneer farmers in the 1850's, 60's, and 70's. The climate has not changed, but hardy varieties have been sought out, some from foreign lands and some developed by selection in Minnesota and the Midwest. The pioneer's awareness of the difference in climate between Minnesota and the East and western Europe is clearly shown, time and again, in early agricultural periodicals of Minnesota. See: *Minnesota Farmer and Gardener*, 1860; and *Minnesota Monthly*, 1869. The minutes of the Minnesota State Fruit Growers Association, which later became the State Horticultural Society, show a thorough appreciation of the climatic factor.

Stevens, who was the first settler on the west side of the Mississippi River on what is now the site of the city of Minneapolis. Colonel Stevens, along with others, brought to the west the New England ideas of public institutions. There is no record of his having received more than the common school education of the day, but his writings in agricultural journals and newspapers show him to have had a surprisingly large fund of knowledge. That he became, through his own efforts, a competent cruiser and surveyor of land is indicated by the duties later assigned to him. He also acquired an intimate knowledge of the laws in effect at the time. Colonel Stevens soon took an active interest in agricultural education, and advocated with enthusiasm public institutions that would not only aid scientific investigations in agriculture, but which would also teach farmers and their sons the art of good farming. For the most part, his preaching of the gospel of science and education in agriculture fell upon deaf ears. The state was too young to feel the effect of a ruinous one-crop system of farming, and too young, perhaps, to benefit by the experience of older states.

Stevens, apparently, was one of the few who resolved that the new state of Minnesota ought to be spared the follies of the older states. It is not surprising, therefore, to find that he took the lead in organizing, in 1853, the Hennepin County Agricultural Society.[3] Out of the first meeting of the Hennepin County Society grew the movement for the organization of the Minnesota Territorial Agricultural Society, the progenitor of the present State Agricultural Society. The foregoing facts are noted here to indicate the great need of these pioneer settlers for a knowledge of the natural laws governing agricultural production in this virgin area, and to show the demand that because of it grew up for an agricultural school, or college, or other institution that would lead to improved farming. The county and state agricultural societies held agricultural fairs annually or oftener as a means for getting people together to compare products, to exchange experiences, and to develop new ideas about their business affairs. In this way, farmers were given an opportunity to demonstrate to their neighbors, and to others, the kind of products that could be raised under the prevailing conditions. The annual meeting of the societies was an open forum for the discussion of agricultural topics and social problems which were of great interest to most of them. That what to grow and how to grow it was a most common topic of conversation and discussion is testified by articles and com-

[3] Return I. Holcomb and Darwin S. Hall, *History of the Minnesota State Agricultural Society*. St. Paul, Minn. 1910. p. 15-24.

ments published in the press and periodicals of the time, and by the reports of these societies.[4]

It was against this kind of a background that the first movement for an institution adapted to the needs of farmers was set up.

The First Attempt to Provide Agricultural Education

THE State of Minnesota was organized and entered into statehood in 1858. Among those elected to the first state legislative body was John Harrington Stevens, before mentioned as an early settler and an active organizer of the Hennepin County and the Territorial Agricultural Societies. Also elected as a representative in the lower house was a farmer by the name of William S. Chowen, who had migrated from Pennsylvania to western Hennepin County. Mr. Chowen, as a farm boy, had been denied the privilege of adequate elementary education. A visit, while he was a youth, to a farm some fifteen miles away from his native Pennsylvania home impressed him with its neatness and good management. Inquiry brought out the fact that the operator of the farm was a man of education and business ability. This stimulated in young Chowen a belief that pioneer agriculture had much to look forward to, and that farming was more than mere rule of thumb, and drudgery. He reached the conviction that art and science could be applied to farming with great profit and satisfaction. To a brother, who had taught him arithmetic by the glow of pine knots, he confided the wish that he might some day work for a "high school for farmers' children." At maturity, he moved west, hoping to find in the new State of Minnesota, a greater range for his ambition and dreams. Election to the House of Representatives in the fall of 1857 gave him, as he said to his wife, "The very chance of my life to do what I have been after."[5]

Immediately upon the convening of the Legislature, Stevens and Chowen joined forces and became active in promoting legislation that

[4] A discussion of the role of these agencies as forces in agricultural education is taken up in a history of the beginnings of agricultural education and experimentation in Minnesota—unpublished manuscript filed in the Department of Agriculture of the University of Minnesota. The nature of these agricultural forums can be well understood by examining the minutes of, for example, the Horticultural Society. See: *History of the Minnesota Horticultural Society*. St. Paul, Minn. 1873. 208 pages. This volume is generally considered as Volume I of the Reports of the Minnesota State Horticultural Society.

[5] Memoir of W. S. Chowen, filed in the historical papers of the Department of Agriculture of the University of Minnesota.

would specifically provide for agricultural education. Discussion with his colleagues indicated to him that two thirds or more of them were in favor of an agricultural college. There appears to have been no clear definition of the type of institution desired by these pioneers other than that it must be practical. The terms "school" and "college" were used synonymously and seemed to have equal weight in the minds of the proponents. Though Governor Ramsey advised that it was too early for action, Chowen secured, as he states, "the assistance of a Senator to write a resolution to Congress, asking that body for a grant of land for an agricultural college in Minnesota." Who the senator was, Chowen does not state. He does state, however, that the senator asked that he be not identified with the memorial, as he was politically ambitious, and afraid of the consequences if known to have prepared it.[6] It is hard, at this time, to understand why a senator should be anxious to avoid publicity on an enterprise of the kind. It may be said, however, that there probably were more opponents to new institutions in those days than there are at the present time. The memorial prepared at Mr. Chowen's request was introduced by a Mr. Ebenezer Bray, who represented Carver and Wright counties. Mr. Stevens, at the time, had been exploring the land west of Minneapolis, and had gone through the "Big Woods" as it was called, to the open country surrounding the present site of Glencoe. Mr. Bray, representing the territory between Glencoe and Hennepin County, undoubtedly was drawn into the movement by Messrs. Chowen and Stevens, who were working for the establishment of an agricultural institution to be located at Glencoe, where Mr. Stevens and others had filed claims and laid ambitious plans for a community.

The memorial was introduced on January 11, 1858. It had its second reading on January 12, and its third reading on January 19, when it passed the House by a vote of 59 to 1. The memorial was approved by the State Senate on February 1, and signed by Governor Charles L. Chase on February 2, 1858.[7]

It is quite possible that the idea of a memorial to Congress was prompted by the knowledge of the activities of Jonathan B. Turner of Illinois, and others, who were attempting to induce Congress to make land grants to the several states for the establishment and support of "industrial universities" where a vocational education might be provided. That these pioneer statesmen had knowledge of the movement

[6] Dictated statement by W. S. Chowen, being part of the material collected by W. M. Hays illustrating the history of agricultural education, is filed in the historical papers of the Department of Agriculture of the University of Minnesota.

[7] Minnesota Legislature. *Journal of the House, 1857-1858.* p. 153, 199, 270, 277.

is suggested by the fact that the "Prairie Farmer," published at Chicago, and which had closely followed Turner's campaign, even at their time, had a comparatively wide circulation in Minnesota.[8] The memorial was received by Congress and undoubtedly favorably considered, as Congress in 1859 passed a land grant act allotting land to the states.[9] The act, however, was vetoed by President Buchanan. The bill was reintroduced in 1861, and became the Morrill Land Grant Act of 1862, which was approved by President Lincoln.[10]

Following the submission of the memorial to Congress and possibly in anticipation of favorable Congressional action, Mr. Chowen, Mr. Stevens, and others, prepared a bill providing for the establishment of an agricultural college. The bill was headed "An Act for the Establishment of a State Agricultural College." The preamble read: "Be it enacted by the State Legislature of the State of Minnesota, Section One: That Section Sixteen in Township One-Hundred Fifteen, Range Twenty-eight, be and is, hereby donated to the State of Minnesota for the purpose of an experimental farm, and site for an agricultural college, which shall be under the control of the president and the executive committee of the state agricultural society."

Section Two provided for appropriations from time to time as it might be necessary, but Section Three is significant, as indicating the vision of these pioneers. It states: "There shall be established on the above named section under the direction and supervision of a board of education hereinafter specified, an *agricultural school* by the *name and style of the agricultural college of the State of Minnesota,* and the chief purpose and design of which shall be to improve and teach the *science and practice of agriculture.*"[11]

The wording of this paragraph indicates that there was some confusion of mind as to the nature the hoped for institution might take on. Whether or not Mr. Chowen had in mind a vocational high school for farmers, it is impossible at this time to determine. If he did have, the idea was obscured in the provision for an agricultural college. It is quite possible that a compromise was made between Mr. Chowen, who had the agricultural school in mind, and others possessed of greater educational advantages, who believed that the institution should be of collegiate grade. Mr. Stevens was probably

[8] In the middle 50's the *Prairie Farmer* had more than a dozen agents in Minnesota. In the 60's the correspondence from Minnesota readers of this paper indicated a pretty wide reading public.

[9] A. C. True, *A History of Agricultural Education in the United States.* (Misc. Pub. 36, U.S.D.A., 1929) p. 93, 99-104.

[10] Ibid. p. 104-106.

[11] Minnesota Legislature. *Journal of the House, 1857-1858.* p. 323, 373 (Stevens' Report), 374, 406, 407, 430, 466, 474. *General Laws of Minnesota for 1858.* Chap. 21, p. 43. Section 3 is cited in the text.

more interested in getting a state institution for his home town than he was in the exact nature of the institution.[12] He had just taken land in the community and expected to open up a new farm as opportunity permitted.

Mr. Chowen introduced the bill as House file No. 148, on February 10, 1858. The bill was referred to the committee on agriculture and manufactures. On February 24, Mr. Stevens presented the report of the committee, hurrying the recommendation for action, and making a strong plea for the passage of the act. As indicating the earnestness and sincerity of the belief of these pioneer farmers that an agricultural college would be of great value to them and to the state, Mr. Stevens' report is presented in full:

> The Committee on Agriculture and Manufactures, to whom was referred House bill No. 148, have had the same under consideration, and would respectfully report with some amendments:
>
> That the agricultural interests of Minnesota demand a College as contemplated in the bill under consideration. Governor Medary in his Message wisely says, "the prosperity of the State is, and must ever be dependent chiefly upon its agricultural resources." Your Committee would say that the time has arrived when measures should be taken to foster, and spread abroad to the world that there is science in the mode of farming, and that the young but vigorous State of the great northwest has established an institution for the benefit of agriculturalists.
>
> The bill richly deserves the favorable action of this Legislature. The land which it provides shall be donated to the State for an experimental farm and site for an Agricultural College, cannot be excelled for the purposes contemplated, it is in the heart of a vast and rich agricultural country, easy of access from all parts of the State, and containing all the necessary requisites. It appears that the hand of nature established the lands in question for the purposes mentioned in the bill.
>
> The high character of Institutions of this kind in the States where they exist, and the successful manner in which they have been conducted, abundantly prove to your Committee that it is not premature that Minnesota should at this early day take all necessary steps for the benefit of the farmer, and for the purpose of enlightening and bettering their condition. Whatever is to their advantage, must necessarily be an advantage to the State at large, and all the different people therein.[13]

[12] W. W. Folwell in his *History of Minnesota*, 4:77-85, and elsewhere, has spoken slightingly of the motives of J. H. Stevens. Stevens' interest in agricultural education continued long after he left the Glencoe enterprise. Stevens, in common with a host of pioneers, was a "booster" for the interests in which he was a leader. Stevens tried to get Hamline University, now located in St. Paul, to Glencoe. Agricultural College affairs are illuminated by many interesting letters in the J. H. Stevens' papers filed in the library of the Minnesota Historical Society.

[13] Minnesota Legislature. *Journal of the House, 1857-1858*. p. 373.

With some minor amendments and much discussion of the land, the manner of its selection and its location, the bill was ordered engrossed for a third reading by a vote of 53 to 5. It was given its third reading, and passed by the House on March 3, 1858 by a vote of 57 to 3, showing practically unanimous support for the College. The action of the House was confirmed by the Senate on March 9. Acting Governor Charles L. Chase approved the act on March 10, 1858, thus legalizing the act and initiating the agricultural educational policy of the State.[14]

Unfortunately, legalizing the act did not provide the College with funds. No support funds were allotted to it by the Legislature. The land was selected, paid for, and donated by Mr. Stevens and others of the community whom he was able to interest. In addition to funds, labor was freely donated by the citizens of Glencoe, Stevens, himself, leading the list with one hundred hours. A fund of $10,000 was raised by subscription to provide for buildings and to start the College. A period of depression came on which, with the outbreak of the Civil War in 1861, and the Indian Uprising of 1862, prevented sustained activity in behalf of the College.[15] The Legislature of 1861 granted the swamplands within McLeod County as an aid in supporting the College.[16] These lands were to be sold and the funds used for the construction of buildings. They were not immediately converted into usable funds, however.

The allotment of land to Minnesota under the Morrill Act of 1862 was accepted by the House of Representatives on January 19, and by the Senate on January 23, 1863. A joint resolution of acceptance by the House and the Senate was received and approved on January 31, 1863 by Governor Alexander Ramsey.[17] It was expected that the lands thus donated would be sold, in part at least, in support of the College of Agriculture at Glencoe. The stress of the Civil War, the conflict with the Indians in which Colonel Stevens was called to field duty, and other matters interfered and delayed action. Owing to the delay, other institutions in the State expressed a desire to share in the benefits of the Land Grant Act. The normal

[14] Although the Glencoe venture was abortive in results, the memory of it lingered long in the minds of many influential agricultural leaders in the State. See unpublished manuscript mentioned in note 4.

[15] McLeod County, which embraced Glencoe, was the scene of many encounters in the Sioux uprising of 1862. See: W. W. Pendergast, *Sketches*, in Minnesota Historical Society Collections, 10:69-89 (1905).

[16] Minnesota Legislature. *Journal of the House, 1861*. p. 243, 262, 282, 284, 301, 305, 349, 352, 391. *General Laws of Minnesota for 1861*. Chap. 65, p. 199.

[17] Minnesota Legislature. *Journal of the House, 1863*. p. 34, 40, 46, 69, 89. *General Laws of Minnesota for 1863*. Appendix, p. 262, Number III.

schools, provided for by legislative action in 1858, were pressing their claims, with the proposal that the Land Grant funds be divided among the normal schools and the State Agricultural College. This proposal was hotly protested by the State Agricultural Society, acting as sponsor for the State Agricultural College at Glencoe. The right to the land was made over to the College at Glencoe in the year 1865, but no land sales were made for the benefit of the College.[18] The claim to the land was not finally disposed of until 1868 when, under the leadership of Regent John S. Pillsbury, overtures were made for the reorganization of the State University established by territorial act in 1851. In this reorganization of the University, the land grant of 1862 for the encouragement of agricultural education, which had been made over to the Agricultural College at Glencoe in 1865, was given to the University on the condition that it provide for a college of agriculture, a college of mechanic arts, and an experimental farm.[19]

The people of Glencoe who had supported the agricultural college movement and Mr. Stevens were placated, to some extent at least, by a transfer of the swamp lands pledged to the Glencoe Agricultural College to the support of an institution called Stevens Seminary, in honor of Mr. Stevens. Thus the responsibility of providing agricultural education for the farmers of Minnesota was transferred from the Board of Education of the State Agricultural Society to the Board of Regents of the University of Minnesota. Had the Regents known the difficulties to be experienced, the criticisms they were to draw from the agriculturists of the State, and the great delay that would attend success in their efforts, it is doubtful if they would have agreed to carry the load. The funds to be accrued from the land sales, however, loomed large in the days when money for educational institutions was scarce and hard to get, and were, no doubt, a major objective in this move by the University. Support for the combination was gained, too, by advancing the view that the combination of all education of collegiate grade in one institution would avoid institutional competition, and save large sums of money to the State. This view

[18] Op. Cit. Holcomb, *History of the Minnesota State Agricultural Society*. p. 85. Minnesota Legislature. *Journal of the House, 1865*. p. 111, 204, 239, 333, 334, 383. *General Laws of Minnesota for 1865*. Chap. 7, p. 26, Sec. 17.

[19] John S. Pillsbury, *Address Delivered before the Alumni of the University of Minnesota*. Published by the Alumni Association. [1893]. 33 pages. Willis M. West, *University of Minnesota* in John N. Greer's *History of Education in Minnesota*. (United States Bureau of Education. Contributions to American Educational History, No. 31. 1902. p. 99-101). Minnesota Legislature. *Journal of the House, 1868*. p. 133, 141, 165. The bill had little opposition in the Senate, and but two votes were cast against it in the House. *General Laws of Minnesota for 1868*. Chap. 1, p. 1, see especially Sec. 12.

was later strongly contested and made a matter of bitter controversy during the period when methods and policies for supplying agricultural education were being formulated.[20]

The University Accepts the Responsibility for Agricultural Education

SPACE does not here permit an exhaustive discussion of all the experiences and difficulties of the University in meeting the responsibility it had taken on. A brief presentation is given of incidents and events experienced in the processes of evolution through which it was necessary for the thought or concept of the term "agricultural education" to pass before a reasonable degree of success was reached. That neither the Board of Regents of the University nor the officials of that institution had clear ideas about agricultural education, and the form in which it should be offered, is evident from the succession of experiences which followed.

The act establishing an agricultural college at Glencoe had required the purchase of an experimental farm as the site of the College. The terms of the Land Grant Act of 1862 also implied the provision of an experimental farm. The early constituted Board of Regents immediately proceeded to provide the farm. Under the leadership of Regent John S. Pillsbury, who had been largely responsible for extricating the University from early financial difficulties, a committee of the Board undertook the task. A tract of ninety acres which Pillsbury had purchased on his own account at some time previous, during a period of depressed real estate values, was turned over to the University at the original cost. Later, thirty additional acres were purchased, making a total of 120 acres in the first University Farm.[21] This land was located on both sides of University Avenue, and extended approximately from the intersection of Washington and University Avenues almost to the foot of Prospect Park Hill, and south to Franklin Avenue. Little weight was given to the quality of the land when it was purchased. Its proximity to the University was its chief advantage. In a report to the Legislature the following

[20] Most of these arguments found their way into newspaper discussions. The citations for such arguments are to be found in the unpublished manuscript mentioned in note 4. Newspaper extracts relevant to the issue are filed in the historical papers of the Department of Agriculture of the University of Minnesota.

[21] Minnesota University. Board of Regents. *Minutes* March 4, 1868; June 16, 1868; August 18, 1868. *Report, 1868*. p. 8; *Report, 1869*. p. 8-9.

year, the board stated that "the farm lies a quarter of a mile east of the University on the road to St. Paul, and is composed of a good variety of soils."[22] Those who were called on later to use the farm for experimental farming purposes were quick to note that the report did not imply that any of the soils in the good variety were good soils and suitable for farming.

As evidence of further progress, the Board also reported that "to give permanence to the department [of agriculture], and to take charge of classes of applied chemistry and such natural sciences as are more closely connected with the agricultural course, the Board appointed Mr. Edward H. Twining." With the farm provided and an instructor employed, the Board and the officials believed that they had provided the necessary facilities for agricultural education, and waited expectantly for the farmers to send in their sons to be educated.[23] But few of the sons came, however, and it is reported that those who did were attracted into other courses rather than the agricultural course. To understand the reason for this, it is necessary to examine the status of education in the State at that time.

The schools of the State did not give suitable preparation for college entrance. This was a matter of great concern to President William Watts Folwell, who had been elected first president of the reorganized University. To meet the situation, a preparatory department was maintained by the University. In this preparatory department, students expecting to take the agricultural course were required to have the same preparation as those who were entering the scientific courses. It was expected that a full four years' college course would be required of each, following the completion of the preparatory work. Professor W. W. Washburn, principal of the preparatory department, and instructor in the Greek language, was the first to note that this requirement was not entirely satisfactory. The pioneer farmers who made the first move toward providing an agricultural college demanded *a practical education*. There was little of the practical either in the preparatory course, or in the four-year college course following. These offered largely Greek, Latin, mathematics, and similar courses shaped for those who were to follow classical pursuits. Chemistry as applied to agriculture, and the few lectures on subjects closely related to agriculture which were offered, did not seem to have the practical value required for farming. In a report to the Superintendent of Public Instruction in 1868, Professor Washburn recommended "that there be established an abridged agri-

[22] Minnesota University. Board of Regents. *Report, 1868*. p. 9.

[23] Ibid. p. 9-10.

cultural course extending through only two years after completion of the studies of the preparatory course as now organized."[24] He pointed out further that:

> Such a course would meet the wants of quite a large number of students who are somewhat advanced in years, or who have not the time or cannot be spared from the farm to complete the full four years' course, by directing their attention at once to those subjects that are of greatest importance.
>
> This course should embrace less mathematics and natural science, and should be made up of such studies as have a most direct practical bearing, such as Botany, Practical Agriculture, Animal Physiology, Stock Breeding, Diseases of Domestic Animals, Horticulture, Entomology, etc.
>
> The different courses to study, as at present organized in the preparatory department, are in brief as follows:
>
> 1. The classical course, in which the Latin, and Greek are the leading studies.
> 2. The agricultural course, which is composed of the Natural Sciences, English Language, and Mathematics.
> 3. The scientific course, which is the same as the agricultural.
> 4. The Latin and scientific course, in which the Natural Sciences and Mathematics take the place of Greek.
> 5. The German and scientific course, which is the same as the last, except that German takes the place of Latin.
>
> These will each be introductory to a corresponding University course.

This recommendation is noted here because it appears to be the first reference to the necessity of recognizing an abridged, non-degree course suited to the needs of farm boys who were expected to become farmers rather than scholars or scientists. Whether or not this recommendation had anything to do with the final adoption of an abridged course is, of course, a matter of conjecture.

In the report for 1869, Pillsbury, then president of the Board of Regents, in reporting to the Governor, stated that all students had been employed who desired to work and that the number who desired to pursue the agricultural course was comparatively small. He announced optimistically, however, that "everything is in readiness, and as soon as the farmers send a sufficient number of their sons, we shall have this department of the institution in a flourishing condition." President Folwell commented in the same report that he believed commendable progress had been made in the agricultural department. That the experiment of having a professor of natural sciences teach agriculture was not entirely satisfactory is indicated by transfer of Twining to the Professorship of Chemistry and instruc-

[24] Ibid. p. 19-20. The principal's report is given with the Regent's report. This holds true, also, for the presidential reports which followed thereafter.

torship in French in the year 1869. It is further recorded that Colonel D. A. Robertson of St. Paul had been appointed as the Professor of Agriculture (the first in the University). Colonel Robertson was a journalist of note and experience, a man of large views, and of great strength of mind and character. He had been mayor of St. Paul, and a member of the State Legislature, serving in the session of 1859 and 1860. He had been Sheriff of Ramsey County, member of the City Board of Education, and a director of the public library, as well as a member of the State Historical Society. Strongly interested in agricultural affairs, he was a frequent contributor to the agricultural press and newspapers of the time. He was one of the charter members of the State Horticultural Society organized in 1866 under the name of Minnesota Fruit Growers' Association, and served as its first president. He also was actively identified with the Grange movement, and was known as a friend of the farmers. He was pressed to take the chair in agriculture, in the belief that he would be able to draw farmers' sons into the College course. That the results expected did not follow is suggested by the fact that he resigned before the end of the year, having given a series of lectures to classes of two or three students, and having taught botany to eleven. After Robertson's resignation, the chair of agriculture remained unfilled until 1871.

The agricultural farm, in the meantime, was in charge of "a thoroughly practical farmer." In an act of economy in 1872, the chair of chemistry was again combined with the chair of agriculture under Dalston P. Strange, a graduate of Michigan Agricultural College. That President Folwell considered this a doubtful move is indicated by his urging before the Board of Regents the importance of "securing the services of some gentleman competent to fill the chair of agriculture, and disposed to push the department with vigor."[25]

The year 1873 was no better. Scarcity of students was a first worry, and subject matter to teach in an agricultural college a second one. Folwell reports, "that so far as he is aware, not a single young man has come to the University desirous to learn the science of farming."[26] Hope is expressed that the completion of a special building for agriculture may lead to a change in this respect. An interesting sidelight is thrown upon the problem by reference to Folwell's report on the experimental farm, in which he says:

> I take occasion to remark that the separation of the farm by a wide stretch of unfenced territory difficult to traverse by reason of drifting sand, renders it practically impossible to employ student labor. Many young men would be glad to work on the

[25] Ibid. *Report, 1872*. p. 135.
[26] Ibid. *Report, 1873*. p. 29

farm if they were not obliged to consume time and strength in getting to and from it. If any kind of manual labor system is at any time to be introduced into the Agricultural College, the farm and the College must be approximated, or other experimental grounds provided which shall be more accessible.[27]

The lack of ability to interest students in agricultural education brought much criticism to the University from many sources. The newspapers, agricultural periodicals, and agricultural organizations throughout the State were frankly and emphatically critical of the kind of education offered. Investigations were threatened not only in Minnesota, but in other states where agricultural colleges were making slow progress. Congressional inquiry regarding the use of funds arising from the Land Grant Act was imminent. In recognition of these rumblings and in a desire to still the tempest that was brewing, work on the Agricultural College Building was pushed. The combination of chemistry and agriculture was dissolved by failure to re-elect Professor Strange, and the employment of an assistant professor of agriculture to fill the chair. The appointee this time was Charles Y. Lacy, a bachelor of agriculture from Cornell University, who took charge of the farm and entered upon his duties as assistant professor in the fall of 1874. That President Folwell was attempting to attract students into the College of Agriculture is indicated by a paper read before the Board of Regents on April 24, 1874, in which he suggested, as a last alternative, the following:

1. That the Board of Regents offer a course of free professional instruction in Agriculture and Horticulture, beginning in November and ending in March, covering about 100 working days.
2. That there be formed a class, to be composed mainly of young men, either actually engaged in some branch of agriculture, or intending soon to begin.
3. That the instruction be given partly by members of our permanent corps, and partly by lecturers brought from other quarters.
4. That such gentlemen as the following be employed as the lecturers: Professor Warder, on Horticulture; Professor Riley, on Entomology; John Stanton Gould, on Agricultural Machinery; Professor Laws, on Veterinary Science; Professor Miles, on General Agriculture. These names are suggested merely as representatives. From ten to twenty lectures might be had from each expert.
5. That the lectures be open to all comers; that no conditions be put upon admission, except a registration and a general pledge to punctual attendance; and that an examination be offered to all who may please to undergo it.

[27] Ibid. p. 33-34.

6. That if resolved upon, this plan be promptly and industriously advertised, and that arrangements be made for the maintenance of students from abroad at low rates.

The argument for this plan has already been made. It appears to be the last alternative. In my judgment it always was the best one. It proposes to go to work without any theory; to take such students as can be got and give them such instruction about their business as they desire to gain and are competent to acquire.[28]

Professor Lacy entered upon his duties with intelligence, earnestness, and sincerity. He undertook experimental work in connection with various crops, and undertook to subdue and operate the farm. In these enterprises, he employed students as opportunity and finances permitted. He became affiliated with the Horticultural Society, and sought the acquaintance and friendship of farmers whose advice he desired. The results on the farm were disappointing, though not altogether wanting. He found it poorly adapted to the work of an experimental farm. He called the attention of President Folwell to the desirability of a larger farm, and one better suited to the needs. He found that students coming to the University preferred to pursue scientific and literary courses rather than such as directly related to agriculture. Only two had shown an interest in agriculture, and one of these had withdrawn before the end of the year. The attention of agricultural leaders had been drawn to the farm, however, and to the University through the annual meeting of the State Agricultural Society held at the University in February. This was followed in June by a meeting of the Horticultural Society on the University grounds. The State Grange also accepted an invitation to visit the University in a body in December. These meetings were greeted by the University officials as opportunities to acquaint these agricultural leaders with their efforts in behalf of agricultural education, and to show them the progress of the work under way. In spite of these demonstrations of friendliness which were repeated in 1877, there was little progress toward attracting farmers' sons. While the farmers were friendly in their attitude, they were free in their criticism of the experimental farm and also of the College, which by 1877 could boast of only one student in the advanced course, and one in the elementary. The President was disturbed by the failure to attract students to the College of Agriculture. That Professor Lacy also was disturbed and dissatisfied with the response to the offerings of the University, is shown in his report to President Folwell in 1877. He reports: "Two students have received direct instruction in agriculture during the past year. One pursued the subject of 'How Crops

[28] Ibid. *Report, 1874*. p. 36.

Grow,' 'How Crops Feed,' and 'Farm Drainage' during the second and third term, 1876-77, and one student at the beginning of the present school year began the subject of 'How Crops Grow,' but since has dropped from the University."[29] Advertising was resorted to by means of posters and postal cards, advising of special courses open to all without preliminary examination. Offers to open courses in any agricultural subjects desired were made, but the farmers still failed to send their sons in numbers or to specify what kind of courses they desired.

Lacy reported in 1878 three persons pursuing courses in the College of Agriculture. One was enrolled in the elementary course, one in a special course, and a third was a graduate of the University pursuing a course in agricultural chemistry. A farmers' lecture course had been offered and widely advertised, but it met with no response. Becoming discouraged by the lack of interest in agricultural education and by the failure of the Board of Regents to appreciate his efforts when they refused to grant him an increase in salary, Lacy terminated his connection with the University at the close of the College year in 1880.[30] During his six years' period of service in the College of Agriculture, there had been little advancement in understanding of the problems of agricultural education, or in satisfying the demands of farmers for a practical school of agriculture in which their sons might be taught how better to farm. The experimental farm had been improved, tree plantings made, and grounds laid out for experimental work. Field trials in varieties of crops had been undertaken, but were in the main unsatisfactory because of the poor quality and condition of the land. Professor Lacy was firm in his conviction that the farm should be sold, and one secured that was better suited to the purposes of comparative field trials. He had so recommended to the Board of Regents at the conclusion of his second year of service, and he had repeated the recommendation throughout his period of service at various times.[31]

With the retirement of Professor Lacy in 1880, an era in the history of agricultural education at the University came to a close. More modestly, it was a stage rather than an era, for nothing truly significant had been accomplished except to "clear the air" for new conceptions that were to guide the destinies of the Agricultural College.

[29] Ibid. *Report, 1877*. p. 57.

[30] Lacy's resignation, however, was tied up with some other elements in the situation affecting both him and Folwell. See unpublished manuscript mentioned in note 4, especially the chapter on Folwell and the chapter entitled "A Period of Trial and Adversity."

[31] Minnesota University. Board of Regents. *Report, 1875*. p. 97.

No matter how wide a latitude the Regents may have taken in their interpretation of the provisions and intent of the Morrill Act, there was a general feeling that matters were not right. David L. Kiehle has summed up the state of affairs then existing:

> The second, and no less difficult problem, was how to meet the requirements of this grant in a manner satisfactory to the public sentiment which prompted it. If it had been required to carry out technical and detailed instructions, so leaving the responsibility of success or failure with those who imposed them, the course of the University would have been simple and comparatively easy. On the contrary, the grant practically imposed upon the University the task of devising a course of instruction and training which would make the culture and scientific knowledge of our higher education available for agricultural life.
>
> To realize the difficulty, we must take into account the conditions under which this demand was to be satisfied. It will be remembered that in the early history of education all claims to its advantages were limited to free citizens; and that as citizenship was extended by the enterprise, thrift, and struggles of the people, education and its institutions widened their doors and extended their curricula. In this progress the trades and burghers of cities and towns took precedence, while the laborers on farms have been the last to receive recognition. From time immemorial they have been peasants, serfs, and slaves, confined to the country, and excluded from the privileges of culture and the schools. This was true in Greece, in Rome, and has been true in modern Europe down to the present. In America, at the opening of this question of agricultural education, the sentiment was practically universal among all educators and educated men that the farmer has, and can have, no use for more than a common school education. And when farmers' sons went to schools of higher education, it was to rise above farm life into the more remunerative, and the more respectable occupations of mercantile and professional life. There existed an educational caste spirit which excluded agriculture, and which intensified the determination of talented and ambitious sons of farmers to escape its conditions. It has been the boast of great men, that, born and reared as farmers, they have risen to positions of political and social distinction. A third condition, and one not distinct from the preceding, was, that the teaching body of the rising schools was necessarily selected from the schools of classical culture—at that time the predominant ones. Whether the agricultural schools were incorporated as departments of the regular university, as in our own, or organized as separate agricultural colleges, the feeling of the faculty, and the sentiment of the student body, was that agricultural education was an incongruity, if not an absurdity. The conviction prevailed that the general culture of regular colleges served the purposes of all occupations, even that of agriculture for those who chose to pursue it. The one result that followed was universal east and west, that farmer students

were socially an ostracized class, and that the better class of students soon changed their courses. These, then, were the general conditions prevailing over the entire country, and under which the University of Minnesota had to solve the problem of agricultural education.[32]

Perhaps the root of these difficulties lay in the vague wording of the Morrill Act. Taking the matter further, the provisions of that act were rather clear-cut to those who were familiar with the agitation that brought it into being. The spiritual fathers of that act, Jonathan Baldwin Turner, and before him a host of agricultural journalists, leaders, and lecturers, were not its executors. The handsome grants of land were sought avidly. Presidents of impoverished colleges welcomed such funds, and were quite willing to give lip-service to an idea, or even put it into nominal operation, without making strenuous efforts to insure its success. Indeed, the disinterested observer can hardly fail to conclude that whatever the points of difference there may be in the "industrial" and "classical" conceptions of education, the classicists of the age refused even to entertain, much less agree to arguments that would modify their stand appreciably. Charles W. Eliot of Harvard in a letter to Folwell on March 19, 1870, stated:

> Is there anything "which every educated man or woman needs to know" except the mother tongue? I am sure that knowledge of Agriculture, Horticulture, and the Mechanic Arts would be quite easily spared by most people. Is not the notion that this, that or the other thing is essential to education a thoroughly mischievous one? Why should everyone know how a suction-pump works? or how roses are best propagated? To my mind the construction of a steam engine may as well be a mystery to most people as the anatomy of a horse. An average lawyer or an average wife has no more need to comprehend the doctrine of rotation of crops than an average farmer has to comprehend the uses of the subjunctive mood. We have all of us need to get our water, and to love roses, and to travel fast, but very few have to know the ways and means of these things.[33]

Eliot's views, perhaps, were extreme. It is not necessary to point out that not even the most fervent supporters of agricultural education ever advocated a program as sweeping as Eliot would have Folwell believe. President Folwell in his early presidential years gave

[32] David L. Kiehle, *Education in Minnesota.* Minneapolis. H. W. Wilson Company, 1903. p. 68-70.

[33] W. W. Folwell, *Autobiography.* (Edited by Solen J. Buck). Minneapolis. University of Minnesota Press. 1933. p. 204-206. Another letter is reproduced on p. 210-211. For a full consideration of Folwell in relation to agricultural education the reader is referred to the unpublished manuscript mentioned in note 4. The chapter on Folwell is based on a study of Folwell's published and private papers.

much thought to the problem of agricultural education, but he lacked support from his faculty, and the Regents were inclined to be indifferent to a wholehearted attack on the problem. Other University presidents, situated somewhat the same as Folwell, were inclined to let agricultural matters drift as they might, with just enough agriculture to stave off any popular clamoring. There were other controversial matters within the University, and President Folwell did not have the freedom of action to pursue and conclude each problem as it arose.[34]

Operating in an atmosphere of uncertainty, doubt, and even contempt, it is small wonder that the Agricultural College attracted few students. Education in agriculture had few influential friends. The Grange, it is true, was attempting to aid in improving the situation, but its spokesmen were men of toil and under grave disadvantages at public meetings, and mute where opponents waxed eloquent.

To many people of this time, the Grange represented a rather crude reaction to severe economic distress. Few saw that it had developed a social philosophy that aimed to attack the ills of agriculture on a wide front. Reading, discussion, and education were cardinal elements in the Grangers' program.

If the Grangers had not convinced the Regents of the benefits of agricultural education, they had at least prodded them into action. It should be stated, too, that the Regents had learned from bitter experience the dangers of financial distress, and were thus reluctant to enter whole-heartedly upon a new venture, for in those days agricultural education was still a novelty and looked upon as experimental.

The Board, having supplied an experimental farm to serve as a laboratory and a building in which to teach, believed they had made a fair start. Most important to them at the time seemed the matter of securing someone competent to give the right kind of instruction and make the course attractive, besides possessing the ability to make ready and easy contacts with farmers.

The Board commissioned Regent Pillsbury, who had long borne the burdens of the University, including those of the College of Agriculture, and President Folwell to seek earnestly to "secure a capable and experienced person to take charge of the professorship of agriculture." A diligent search through the educational institutions of the East led to an interview with Professor Edward D.

[34] The general tenor of the later phases of Folwell's administration as indicated in a letter to Andrew D. White which is reproduced on p. 217-221 of the *Autobiography*.

Porter of Delaware College, Newark, Delaware, with which institution he had been connected for some thirty years. Impressed by Professor Porter's qualifications, they invited him to meet the Board of Regents and look over the University. Satisfied that they had found the man they wanted, Porter was offered an appointment which he accepted. He began work for the University in January, 1881.

Through the Melting-Pot: A New Era Begins

WITH the coming of Professor Porter, new life was instilled into the department of agriculture. Porter brought to the new field the accumulated knowledge from a long and varied experience in teaching and research. He was a man of excellent scholastic accomplishments, vigorous mentality, and aggressive action. Of him, Folwell later said: "At fifty-two, he was still young in spirit, alert, widely informed, and perhaps too versatile and industrious for his best success."[35]

Porter agreed with Lacy's contention that the experimental farm was neither of suitable quality nor large enough for future needs of the University. In this view, he had the support of representative farmers, and of the members of various farmers' organizations. Finding that the farm near the University could be broken up into city lots and sold to advantage, the Board of Regents authorized the selection and purchase of a new farm, to be paid for from the funds thus accruing. Porter was instructed to select the farm, which he at once proceeded to do. Early recognizing the necessity of gaining the support of the farmers, he had quickly affiliated himself with the State Horticultural Society, the State Agricultural Society, and the Grange. He frequently attended the meetings of these organizations, and sat in their councils. It is not strange, therefore, to find that in the matter of selecting a new farm and developing a type of agricultural education that would be satisfactory, he conferred frequently with the members of these organizations. Particularly helpful in these matters were the members of the local and state Grange. Keenly interested in education, and more particularly farm education, the Grange organization maintained, as one of its standing committees, a committee on education. Appointed to that committee by the master of the State Grange were the Honorable William S.

[35] W. W. Folwell, *History of Minnesota*, 4:89.

Chowen, Chairman, John D. Scofield, and James A. Bull. Their special mission was to seek establishment of a farm school for farm boys where the practical side of subjects pertaining to farming would be taught. It will be remembered that Chowen, as a boy, had decided to devote his life to the "founding of a high school for farmers' children." The other two men were equally interested in the establishment of a school of practical agriculture for farmers' children.[36]

This committee proved to be exceedingly helpful in the selection of the new farm. Scofield, at least, was early acquainted with the locality in which the new farm (the present University farm) was founded, having preempted a quarter section a mile east of it on his arrival in Minnesota in 1849. All were experienced farmers from New York and Pennsylvania originally, and worked harmoniously as a committee in the selection of the new farm, and later in the establishment of the kind of a school that they thought would best meet the needs of the farmers. Descendants of these men, now living, vouch for the fact that these men tramped over the proposed farm with Professor Porter, and recommended its purchase. Porter, also, had the advice of members of the Horticultural Society, State Agricultural Society, and representative farmers. These approved of the new farm and the new location, and the farm was purchased in 1881-82.[37]

Porter started upon the difficult task of organizing and developing the new farm, and popularizing agricultural education with characteristic aggressiveness and vigor. In addition to operating a portion of the old farm and selecting and setting up the new one, he attacked the problem of drawing students into the agricultural courses. Farmers' lecture courses which had been suggested as early as 1875 and which had been advertised and offered in various forms in the interim, had failed to attract farmers in numbers sufficient to warrant giving them. Professor Lacy had attempted to organize the lectures on a plan mapped out by the Regents and President Folwell, but farmers had failed to cooperate or to support it by attendance. Professor Porter set about reviving this lecture course which he hoped to make of great value to the farmers. A course of lectures, which was to extend through four weeks, was widely advertised and arranged for the winter of 1882; lecturers of note were to appear. The first lecture course under the new administration was opened on February 28, 1882, with an address by the Honorable George E.

[36] No attempt is made here to provide adequate citations for this section which is based upon the unpublished manuscript mentioned in note 4, which is, in turn, based on a variety of sources, none of which taken singly could be taken as an adequate citation.

[37] Minnesota University. Board of Regents. *Supplement I to the Fourth Biennial Report*. p. 17, 21-23.

Loring, then Commissioner of Agriculture of the United States. Other prominent lecturers in that first course were the Honorable W. P. Hazzard, vice-president of the American Dairymen's Association; Ex-governor N. J. Colman of Missouri, editor of Colman's Rural World; the Honorable J. M. Smith, president of the Wisconsin Horticultural Society; Thomas Hays, president of the Minnesota Horticultural Society; and various members of the University faculty.[38]

The first lecture course was regarded as highly successful. Whereas it had not been previously possible to attract as many as 30, the number required for the opening of a lecture course, 255, other than those connected with the University, were reported to have attended. Inspired by the large attendance, arrangements were made to repeat the course in the succeeding year, and a third course was offered in 1884. While attended in large numbers, it was noted that attendance was largely from the cities, and that genuine farmers were not yet being reached in large numbers.

Porter's experience in the College was much like that of his predecessors. But few students enrolled at the University in the agricultural courses. There was, therefore, practically no teaching to do. Because farmers and students did not come to the University, Porter decided to try taking education out to them. He therefore initiated a type of meeting known as Farmers' Institutes. This type had been in vogue in some of the eastern states, and was known by them to be of some value. Farmers' Institutes had been proposed and talked about at the University previously, but nothing had been done about it. He believed that these Institutes would be useful in giving additional contacts with farmers, which would enable him to take information to them and, at the same time, get their views on the matter of desirable agricultural education. In inaugurating the Farmers' Institutes under the auspices of the University, Porter had the moral and financial support of John S. Pillsbury, who clearly saw the time had come for the University to make a whole-hearted attempt to reach the working farmer. Pillsbury induced Oren C. Gregg, of Lynd, Minnesota, to assist Professor Porter in the first Institutes. O. C. Gregg was a farmer of wide repute, for his work in dairying and in giving popular lectures on the dairy cow at informal institutes and at county fairs. So successful were these University Institutes that they were established as a separate function of the State, and put under the immediate supervision of Mr. Gregg. The connection between the Institutes and the University was never

[38] Ibid. p. 33-35. Folwell, *Autobiography*. p. 189-190.

really separated even though the administration of the former was in the hands of a separate body, and many advantages undoubtedly accrued to the agricultural department of the University. These activities gave Porter wide acquaintance with the agriculture of the state and with representative farmers, and led to the establishment of the well-known Farmers' Institute type of education, which was so successful in Minnesota in the following years.[39]

The years 1883 through 1886 were years of great activity for Professor Porter. Between planning and organizing the new experimental farm, and clearing it from weeds, trees, and other impediments, the erection of the new farm and experiment station buildings, and attendance at lecture courses, farmers' meetings, and other public activities, he was fully occupied. To add to the load, he had been delegated to prepare and install an exhibit of Minnesota products at the National Exposition in New Orleans in 1884. As a consequence of these activities, the educational program seemed to be making but little progress. Criticisms arose again and again, and delegations began to visit the President of the University and the Board of Regents to register their complaints. President Folwell vigorously defended both Professor Porter and the Board of Regents so long as he was president. Cyrus Northrop, who became president in 1884 on Folwell's retirement, joined with Regent Pillsbury in a defense of the University.

During the winter of 1885-1886, the situation became tense and critical. The Farmers' Alliance, a political party which functioned actively during the eighties and early nineties, was persistently critical. Many of the farmers, including at least some members of the Grange, were of the opinion that the University was diverting the funds accruing from the Land Grant Act from the support of the Agricultural College and farm to support of the University. Arguments were numerous and prolonged at the annual meetings of these organizations. Resolutions were passed and committees appointed to investigate the truth of these charges. There was talk of separation of the Agricultural College from the University, with a view of getting the full benefit of the funds from the Land Grant Act. The controversy grew bitter, and action was asked of the Legislature. The chairman of the Grange committee, and officials of the Farmers' Alliance both expressed the opinion that separation of the agricultural department was necessary if agricultural education was to succeed. Mr. Chowen's opinion was expressed at a meeting of the Farmers' Alliance on February 26, 1886. At this meeting Professor Porter strongly defended

[39] Minnesota University. Board of Regents. *Supplement I to the Fourth Biennial Report*. p. 36-39. See also: W. P. Kirkwood, "The Man Who Roused the Farmer." *Northwestern Miller*, 88:649-650, December 13, 1911.

the course at the University and protested the charge that funds were being diverted. He was ably supported in the press by Sidney M. Owen, editor of *Farm, Stock and Home*; on the floor by C. L. Smith of the State Horticultural Society; and by President Northrop who, in a ringing speech before the Horticultural Society in 1887, succeeded in allaying the immediate discontent, and, at this critical moment, in preserving the union of the Agricultural College with the University.[40] In the meantime, plans had gone steadily forward for developing a system of agricultural education. In the spring of 1887, the Board of Regents had appointed an advisory committee of farmers to cooperate with Professor Porter and the Board of Regents in the operation of the experimental farm and the development of a school of agriculture. Named to this committee were G. W. Sprague, Fillmore County; D. D. Burns, Faribault County; Thomas T. Smith, Dakota County; Wyman Elliot, Minneapolis; Louis H. Stanton, Stearns County; Springer Harbaugh, St. Paul; and D. L. Wellman, Frazee City.[41] The Grange Committee of Chowen, Bull, and Scofield continued to advise the University authorities, though not always in agreement with the action taken.

The next step in the development of plans for the School was a sort of apprentice-lecture combination, where instruction would be coupled with part-time work, under the supervision of an instructor on the experimental farm. A circular describing the course was published and circulated widely, and in May, 1886, a "School of Practical Agriculture" was opened. The circular is reprinted here to illustrate one of the many phases through which it was necessary to go to reach the desired objective:

> The School of Practical Agriculture in the University of Minnesota
>
> This school will be opened for the reception of students on and after May 1, 1886. No fees or examinations will be required.
>
> The design of this school is to give young men a thoroughly practical knowledge of American agriculture in all its branches and to illustrate the instruction of the class room and laboratory.
>
> Pupils in this department will reside upon the University farm and be regularly employed in all its operations; they will not be required to engage in regular studies or recitations, but will have access to the library of the University and will be di-

[40] In this case, as above, the reader is again referred to the unpublished manuscript mentioned in note 4. An interesting, and not too unreliable account of Northrop's part in this struggle, is given by Oscar Firkins in his *Cyrus Northrop: A Memoir*. Minneapolis, University of Minnesota Press. 1925. p. 345-362.

[41] Minnesota University. Board of Regents. *Minutes*. April 7, 1887.

rected in their readings. Practical lectures and instructions will be given upon those branches of work which from time to time engage their attention.

Labor will be paid for at the rate of from five to fifteen cents per hour, depending upon the age, skill, and the industry of the pupil.

Board, washing, furnished room, fuel, and lights will be charged at their cost and the balance to the credit of the student paid to him in monthly settlements. No student will be retained whose labor will not be equivalent to his board.

This school will open May 1 and close November 1, but a limited number of students who wish to prosecute their studies in the winter management of stock and the dairy can remain the entire year.

Regular and systematic labor will be required of all students on the farm and strict conformity to all rules and requirements.

All candidates for graduation in the College of Agriculture will be required to take during their course the equivalent of two full sessions in this school.[42]

Ten young men reported to Professor Porter in response to the circular. These were enrolled and received instruction as outlined. They were housed in several small rooms in the farmhouse and the adjoining coach barn just then completed. Special facilities were arranged for boarding them in connection with the dining room provided for the farm help. That the quarters provided were not entirely satisfactory is indicated by the severe criticism later leveled at the Regents by critics of the University.[43]

Much encouraged and with new views gained by the experiment, Porter, now convinced that there was a demand for a practical school of agriculture and a place for it in the educational program of the University, attacked the problem with renewed vigor. In a report to the Board of Regents he says:

At the close of the first year of this school of practical agriculture, I was convinced that, while it met a certain demand, it did not meet all the requirements of the class whom it was intended to serve—a large class of farmers' and mechanics' sons, who desired not only to become practically familiar with the best methods of agriculture, but who also wished to acquire a better education than could be obtained at their district schools. This class could not afford to spend either the time or money necessary to take a collegiate course of study, and if they could, the quality of the education there obtained was not such as they desired.

In the spring of 1887 I presented to the Board of Regents plans for the expansion of this school. These plans were

[42] Ibid. *Supplement I to the Fifth Biennial Report*. p. 35-36.

[43] *Farm, Stock and Home*, 3:378, November 1, 1887.

adopted, and the following announcement of them was made in the catalogue of the University for that year.

The New School of Agriculture

Observation and experience have shown that all the facilities afforded by the regular colleges of the country, for agricultural education, have failed to attract any large number of farmers' sons.

The requirements for admission are such as to compel the average farmer's boy to leave home for one or two years to secure such preparation, and this, together with the four or five years necessary to complete a full course, entails an expenditure of time and money which comparatively few can afford, and the education thus received, while valuable in itself, fails in many respects to furnish the training and knowledge needed by young men for the practical duties of the farm and workshop. The five or six years of time devoted to study, without manual labor, has a tendency to direct attention to other pursuits, and but few such students return to the occupation of agriculture.

In order to meet the wants of this class the Board of Regents of the University has authorized the establishment of a School of Agriculture, with its full equipment of buildings and instructors, to be located on the experiment farm, where students will live, work, and study during the two years devoted to this department.

It is proposed to give in this school thorough instruction in all the elementary branches of a practical education, including arithmetic and its applications, bookkeeping, penmanship, and composition, practical mensuration, land surveying and leveling, botany, chemistry, elementary physiology, and veterinary science.

The school year will be divided into two terms of five months each, with a vacation in the spring and fall. Students will be admitted to this school at the age of fifteen years and above, and with such preparation as can be obtained in any of the district schools of the State.

All students will devote a portion of each day to the practical and experimental work of the farm and shops, and when such labor is productive, it will be paid for at its full value, thus not only keeping up habits of manual exercise, but aiding young men in defraying a portion of their expenses.

This school is not designed to take the place of the College of Agriculture of the University, but to meet the wants of a great number of young men who wish to secure a better education in those branches of science which relate directly to agriculture, than is furnished by the ordinary district schools of the State, but who do not wish to go to the high school or college; while to those who wish to take a more extended course of instruction, the College of Agriculture is open, with all the facilities which the University can furnish.

Full details of this new School of Agriculture will be made

public as soon as the necessary buildings can be erected and furnished. It is expected to be ready for the reception of students in the spring of 1888.

In accordance with the above announcement, plans were prepared for the buildings necessary for the accommodation of the teachers and pupils of the proposed school, and work was commenced upon them October 12, 1887, with the design of having them completed in time for the opening of the school, May 1, 1888.[44]

Careful study of this second announcement shows that Porter's idea of the School at the time was that it should be divided into a two years' course, with two terms of five months each, and a month's vacation between the spring and the fall terms. Delay in the construction of the building and a desire further to develop plans for instruction prevented the opening of the School as announced for the spring of 1888.[45]

The advisory committee of farmers appointed on April 1, 1887, meeting with the Board of Regents on April 13, presented certain resolutions for consideration. Among these were the following:

(2) Resolved, that the Board of Regents be advised to make such appropriations as may be necessary to provide suitable accommodations for the students in the School of Agriculture on the experimental farm.

(3) Resolved, that the proposition to establish a School of Agriculture on the experimental farm be approved and endorsed by this advisory committee, as promising the best possible solution of the problem of agricultural education in Minnesota.[46]

These resolutions were given favorable consideration by the Board, and it was voted to establish a School of Agriculture at the experimental farm in conformity with the recommendation of the advisory committee, it being understood that the building (later designated as the "Home Building") without equipment should not exceed in cost $10,000, and should be erected as soon as funds should be available.

Thus at last "education for farmers" was out from under the lethal effect of the overshadowing classical, literary, and scientific courses. The physical separation of the "practical School of Agriculture," carrying with it the nucleus of a College of Agriculture, then in a somnolent state, proved later to be a good thing for both.

[44] Minnesota University. Board of Regents. *Supplement I to Fifth Biennial Report*. p. 37-39.

[45] Ibid. p. 39. For a full discussion of the change of plans, see chapter in the School of Agriculture mentioned in note 4 above.

[46] Minnesota University. Board of Regents. *Minutes*. April 13, 1887.

Even though the financial and administrative control was still vested in the Board of Regents, the Grange Committee, the Advisory Committee of farmers, and the farm organizations heartily supported the new venture in the belief that their sons would now be offered an education fitting them for the vocation of farming.

In the meantime, Professor Porter had been authorized to attend the convention of representatives of agricultural colleges at Washington, October, 1887. He was also authorized to visit the agricultural institutions and manual training schools in Baltimore, New Haven, Amherst, Geneva, Philadelphia, University of Virginia, University of Vermont, and the Institute of Technology at Boston. Following a report on these visits, December 17, 1887, the Board requested Porter to prepare and present to the executive committee a plan for the organization of the School of Agriculture, including a curriculum for such a school.[47]

It would be incorrect to say that Professor Porter or any other one individual prepared the plans and the curriculum for the School of Agriculture. He, undoubtedly, led the attack on the problem, but the ideas and suggestions of many were sought and used before the curriculum was completed. Working closely with him were the members of the Grange Committee, Chowen, Bull, and Scofield, still intent on starting a practical school of agriculture. D. L. Kiehle, who had been Superintendent of Public Instruction since 1882, and ex-officio member of the Board of Regents, also became interested in this new educational enterprise. W. W. Pendergast of Hutchinson was an assistant to Kiehle. Pendergast was a man of experience in school organization, a pioneer farmer and school teacher at Hutchinson, Minnesota. Kiehle, being acquainted with educational institutions, not only in the West, but in the East, took an active part in getting information on courses of study. He visited several of the vocational schools and agricultural colleges, including the agricultural college at Guelph, Ontario. At Guelph he found much to appeal to him as subject matter for an agricultural school. His ideas were contributed to the group as were those of Pendergast, who later became the first principal of the School of Agriculture. Pendergast, as an experienced school man and as a practical farmer, was in a position to give valuable assistance. The Grange Committee took an active interest in the matter, and each individual member had a part in molding the curriculum. Bull enlisted the services of a Mr. James A. Taggart, a manual training instructor in the school near Mr. Bull's home, who contributed many valuable suggestions. Scofield and his

[47] Minnesota University. Board of Regents. *Minutes of the Executive Committee*. December 17, 1887.

wife, who had been a school teacher, gave much study to the problem.

It is probable that the ideas gathered from these many sources were summarized into a curriculum by Mr. Chowen in cooperation with the other members of the Grange Committee and Professor Porter. The curriculum so prepared was discussed with Dr. Kiehle and left with him for final adjustments and presentation to the Board of Regents. It was published under Kiehle's name in *Farm, Stock and Home* in February, 1888.[48] Upon the maturing of this curriculum, a circular was issued in July, 1888, under the heading:

A Prospectus of the State School of Agriculture, Organized A. D. 1888, Located at the State Experiment Farm in St. Anthony Park, Minnesota

INSTRUCTORS

Physics, Physical Geography, Mathematics—W. W. Pendergast, Principal.
Chemistry, Mathematics—H. W. Brewster, A.B., Assistant Principal.
Penmanship, Accounts—D. W. Sprague.
Horticulture and Applied Botany—Samuel B. Green, B.S.

LECTURERS

Soils, Stock, Farm Management—E. D. Porter, Ph.D.
Animal Physiology, Veterinary Science — M. J. Treacy M.R.C.V.S.
Agricultural Chemistry—D. W. Harper, Ph.B.
Superintendent of Work Shop—William A. P. Pike, S.B.
Entomology—Otto Lugger, Ph.D.
Political Economy, Civil Government—W. W. Folwell, LL.D.
Commercial and Farm Law—W. S. Pattee, M.A.

ADVANTAGES AND LOCATION

The site of the school building is a beautiful and commanding eminence on the state experiment farm, midway between St. Paul and Minneapolis, affording a magnificent view of both cities and the adjacent country. It is surrounded by a charming grove of young oaks. It is supplied with an abundance of pure water brought from the farm well. Every part of the building is heated by steam. The drainage is perfect. In short, no more delightful or healthy spot could have been chosen in the state, and none more easy of access.

[48] *Farm, Stock and Home*, 4:83, February 1, 1888. The publication of the plan under the sole authorship of D. L. Kiehle drew fire from the Grange Committee, especially W. S. Chowen who, in his memoirs, accused Kiehle of ignoring the groundwork done by the Grange Committee and Professor Porter. In view of the absence of one essential document—the preliminary plans supposed to have been given by Chowen to Kiehle for the purpose of inspection and information—the question probably can never be decided. The matter is subject to review in the unpublished manuscript mentioned in note 4.

AIM

The object of the school is to take such boys as aspire to become successful and intelligent farmers, overseers of farms, veterinary surgeons, entomologists, agricultural chemists, botanists, lecturers, etc., who have already had some experience in farm work, together with a good common school education, and give them a sound practical training that will broaden and strengthen them as citizens of the state, while it educates them in the branches of natural science which will cultivate their tastes for agriculture and develop skill in the practice of it.

It is hoped that it will meet the wants of those who desire a knowledge of such matters of business, science, and agricultural experience as belong to the calling.

It will aim to give the diligent boys who will be attached to it a good business, mechanical, and agricultural education with a practical knowledge of the elements of the sciences on which such education is based, so that they can read and observe intelligently whatever may have a bearing upon the work in which they are engaged. The natural sciences, such as animal physiology, zoology, and chemistry, will be studied in connection with their practical application to agriculture and associated industries. The importance of a clear understanding of the reason why each step is taken will be impressed upon the student so that he may be strong, self-reliant, and able to distinguish between the false and the true in theory—thus saving time and expense that would otherwise be wasted in useless experiments.

As it is intended for those whose life and labor are on the farm, the terms have been made to include the time when they are most at leisure, from the middle of October to the middle of April. It will be the constant endeavor to so reduce the expenses as to bring the advantages of the school within the reach of all the farmers of the state.

COURSE OF STUDY

The course of study will extend through two years. Each year will consist of two terms of twelve weeks each, with subjects as follows:

First Year—English, arithmetic, algebra, accounts, physical geography, botany, physics, woodwork and mechanical drawing, lectures on farm management, farm architecture, and horticulture.

Second Year—Algebra, geometry, civil government, political economy, agricultural chemistry, and animal physiology.

Lectures on grains, soils, and fertilizers, stock and dairying, horticulture, and veterinary science.

The object of the course is to train the student in the foregoing branches of scientific knowledge, and to develop such skill in their application as best will fit him for success in agriculture, horticulture, and kindred pursuits.

Instruction will be given in the natural history of our do-

mestic animals, in their care and management, in dairying, feeding, and fattening. These subjects will be illustrated with the grade and thoroughbred cattle in close proximity on the experiment farm.

TERMS

The year will open October 18, 1888, and close April 17, 1889. Holiday vacation, December 22, to January 3.

A SUMMER COURSE OF PRACTICE

A summer course of practice is provided, by which all students who desire may continue on the farm in practice under the instruction and direction of the professor of agriculture, in the several lines which are there pursued.

Reasonable remuneration, not exceeding twelve cents per hour, will be allowed students for services having industrial value.

All the students receiving the certificate of graduation are required to give the summer to practice in some department of agriculture, and those who do not remain at the farm will pursue the work under some other management.[49]

The announcement of this course brought response from farmers and farmers' sons. A program of class work and a schedule of recitations were made out, and arrangements completed for opening the school on the 18th of October. Attention should perhaps be called to the fact that the course of study was arranged for two years of twenty-four weeks, instead of two years of ten months each. The school year was divided into two terms of twelve weeks each—the fall term opening in October and the winter term closing in April. To Dr. Kiehle, perhaps, should go the credit for this arrangement of the program; at least, he points out the wisdom of offering the course in two terms annually of twelve weeks each during the winter season. In this way, students were to be spared from the home farms during the inactive season, with the expectation that they would return to the farm for summer work. Attention should be called also to the provision of a summer course of practice where the students would receive instruction under the direction of the professor of agriculture. An alternative is offered to those students receiving the certificate of graduation who "would be required to practice during the summer in some department of agriculture either on the farm or under some other management." That provision was the nucleus from which sprung the idea that the School of Agriculture in reality was a year-round course with summer work on the farm or in the home arranged to carry the teaching of the School into practice on the farms of the State.

[49] Minnesota University. Board of Regents. *Supplement I to the Fifth Biennial Report*. p. 39-41.

The Educational Committee of the Grange and the Advisory Committee of Farmers viewed the proposed school with great satisfaction. At last a practical School of Agriculture was in sight. With zealous care they observed every step in its development. So much was it on the minds of these pioneers in agricultural education that direct descendants now living "well remember how each morning at family worship, Grandfather expressed his thanks to God for the establishment of the School and for the Home Building."[50]

A Faculty Selected

EARLY in 1888, Professor Porter and the Regents began the task of selecting a faculty for the School. Dr. Folwell had often pointed out the need for a number of professors in the College of Agriculture competent to instruct in the various lines of science and practice. His hope was that a strong faculty would attract students. However, the large staff of professors he thought necessary had never been employed, as there had been little teaching in the College of Agriculture for even one professor to do.

The records do not show just how the faculty was selected. Undoubtedly, Governor Pillsbury, who had been a consistent supporter of the Agricultural College under the Land Grant Act; President Northrop, then just nicely initiated into his duties as President of the University; Dr. Kiehle, Superintendent of Public Instruction, Secretary of the Board of Regents, and scout for them in learning what other institutions were doing; and Professor Porter, cooperated in the selection. It is quite certain, also, that the Grange Committee was consulted, and that S. M. Owen, Editor of *Farm, Stock and Home,* just then entering upon an aggressive part in the educational program of the State, exerted his influence. He, at least, expressed the view that what was wanted was a "school that would articulate with the farm" rather than with the College or University. No doubt others advised or were consulted in the matter of finding the right persons for the several positions established. That wise selections were made is indicated by the results that followed. Not only did farmers' sons come to the School when it opened, but they stayed through to finish the course. The success and experience of those spread and induced others to come. This was, no doubt, due in part to the warmth and sincerity of welcome with which they were met

[50] Letter, N. L. Mattice to Dean W. C. Coffey, January 19, 1939.

by the faculty. The building provided to house the officers and students of the School was called the "Home Building." In it, country boys were made to feel really at home. Physical separation which had given freedom from the irritating ridicule of students in the classical courses also had an effect on the morale of the students. The nature of the subject matter offered and the efficiency and understanding with which it was taught also were factors in the success of the new movement.

That first faculty should go down in history as the vitalizing influence that built up, from past failure in agricultural education at the University of Minnesota, a new type of education which has not only lived through a half century but which has been a large factor in establishing good farm practices and better standards of life on the farms of the State. People of the present day should know of that first faculty and their contribution to the solution of the early problems in agricultural education.

The faculty was headed by Professor W. W. Pendergast, principal, who was also instructor in physics and physical geography. Pendergast was a member of a large family and reared on a New Hampshire farm. He first attended district school, and then earned his way through Durham Academy and Bowdoin College by teaching intermittently. He was an experienced school teacher, having taught in graded schools and served as a high school principal in Massachusetts. Upon taking permanent residence in Hutchinson, Minnesota, in 1866, he became principal of the schools there, and later County Superintendent of Schools, from which position he was appointed Assistant Superintendent of Public Instruction for the State in 1882.[51]

Mr. Pendergast and his family lived upon and operated a farm during much of the time he was serving educational institutions. This fact, no doubt, gave him good standing with the farm and Grange committees. A better background for heading an agricultural school would be difficult to prescribe. Of him, Latham, Secretary of the State Horticultural Society, said in a memoriam published at his death.

> It was conceded by all that he was the one man in Minnesota for that position [principal] during the first formative period of its existence. His whole heart and soul were in the work, for which both by nature and long years of training he was so preeminently fitted. It was literally a labor of love with him, more especially as his youngest son, Warren Wendell, then

[51] C. E. Flandrau, *Encyclopedia of Minnesota Biography*. Century Publishing and Engraving Co. Chicago. 1900. p. 421-422.

a lad of fourteen, was graduated with the first class in 1890. 1890

His wise administration was marked not only by material growth, but by unbroken harmony and enthusiasm among students and faculty. Every boy that graduated from the school was its firm friend, and to the influence of the first principal is due in large measure the unswerving devotion of the alumni and the loyal support of the State.[52]

Professor Pendergast was a friendly, lovable man. He never forgot that he had once been a boy himself. His good nature seldom failed him, and was a large factor in establishing friendly relations with "his Boys" as he loved to call them. His fund of stories and experiences lightened many a dull evening. Readings and recitations by Professor Pendergast were looked forward to by the boys as rare treats during or following the evening study hour in the assembly room. The morning roll call at the assembly at seven-forty o'clock also was a period of good fellowship filled in with songs and discussions of various types and kinds related to local or world events. And he was, withal, a good instructor. The part he played in stimulating good fellowship, scholarship, and cooperation between faculty members, and between faculty and students, can hardly be overdrawn.

Professor H. W. Brewster was assistant principal and instructor in mathematics and English. Professor Brewster also was a member of a large family and reared on a farm near New Lisbon, Wisconsin. His early education was procured at a district school while he was living on the farm. As he sought advanced education, he worked on the farm summers and taught school during winters. At the age of twenty years, he entered the state normal school at Whitewater, Wisconsin, there completing the elementary course. He taught graded schools in Wisconsin and Minnesota until 1885, when he entered the University of Minnesota. While taking work at the University, he taught the graded school on the Gibbs corner at Larpenteur and Cleveland Avenues. He thus became acquainted with activities at the new University farm, and, no doubt, watched its development with interest. Upon completion of the classical course at the University in the summer of 1887, he taught in the high school at Little Falls, Minnesota, for a year. Following that experience, he was made assistant principal of the new State School of Agriculture just being opened.

Brewster was a good disciplinarian, an excellent instructor, a deep student, and a man of broad experience. He was practical in his

[52] A. W. Latham, *William Wirt Pendergast*, in the Annual Report of the Minnesota State Horticultural Society, 1903, 31:321-324.

views and did not hesitate to undertake new ventures in education. He made a careful study of what would benefit and help the students. He was a friend of the students, and knew them all intimately and individually. Living in the dormitory as he did, with Mrs. Brewster, he became a father confessor and adviser to many of the boys. No one connected with the School did more to develop studiousness and scholarship, nor to establish good manners, good ethics, and fair play among the students.

Mrs. Florence A. Brewster, wife of Professor Brewster, was employed as matron and librarian. Although she gave no formal instruction, she took an active part in the everyday affairs of the School, and did much to shape the home life of the Institution. To her duties as matron, she added those of nurse and mother to the ill, homesick, and discouraged. She established the custom of a school reception by staging what were called "Mrs. Brewster's Lectures." These were simply gatherings in the assembly room where Mrs. Brewster distributed oranges, apples, and other favors during an hour of social fellowship. Daily visits to the sick or to those needing help of any kind were a regular thing with Mrs. Brewster. Her personal work among the students coupled with the friendly interest of her husband and Professor Pendergast laid the foundation for the friendliness and good fellowship that prevail in the School of Agriculture to the present day. Though the Brewsters retired from the School in 1900, they never lost interest in the Institution. Upon removal to Florida, they founded a vocational school based upon the experience obtained at Minnesota. Notwithstanding their interest there, Mrs. Brewster, upon the death of her husband, established scholarships in the School which have been maintained until a recent date. To the Brewsters the School is greatly indebted.[53]

Fortunately for the School of Agriculture, the agricultural experiment station had been authorized by the Legislature of Minnesota in 1885, and had been organized under the provisions and financial aid of the "Hatch Act," passed in 1887 a short time prior to the establishment of the School. During the early part of 1888, Professor E. D. Porter was made director of the experiment station. He recommended the employment of a number of research men to become the staff of the station. By arrangement with the director of the station, several of these men were asked to serve as instructors in various branches in the School of Agriculture. Thus men of scientific attainment with college training became available to give instruction in the School. For this service, the School was required

[53] C. E. Flandrau, *Encyclopedia of Minnesota Biography*. p. 423.

to pay only part-time service, much to its financial advantage. Among those asked to serve in this capacity were S. B. Green, horticulturist; W. M. Hays, assistant agriculturist; D. N. Harper, chemist; Otto Lugger, entomologist and botanist; Olaf Schwartzkopff, veterinarian. Director Porter was lecturer on livestock and farm management. These men also should have special mention as they contributed in large measure toward making the School the success which it became.[54]

Professor S. B. Green, unlike Pendergast and Brewster, was city-born. Though born in a city, he spent all of his summers on a New Hampshire farm, early developing a taste for agriculture. He expressed a determination to become a farmer. His father said that if he was to be a farmer, he must be an educated one. Accordingly, he entered Massachusetts Agricultural College at Amherst at sixteen years of age. Running short of funds at the end of his third year, he dropped out a year and worked on a milk and fruit farm. He returned and graduated with his class, taking first place for the best written and oral examination on agricultural subjects. Upon finishing college, he became superintendent of a farm in Connecticut where he had charge of a large herd of dairy cattle, and where a large amount of fruit was produced. After a year's experience in that position, he turned his attention to gardening, and eventually to horticultural work. Determined to gain all the experience possible, he worked at various nurseries, and for fruit and vegetable gardeners in the vicinity of the Boston market. After taking a post-graduate course for six months, he spent additional time with high-class seed and vegetable growers, and nursery men. Eventually, he took charge of the horticultural department at the Houghton Farm experiment station, at Cromwell, New York, where he remained for three years. While there, he developed a knowledge of landscape work which became one of his absorbing interests. From these varied experiences in horticultural and landscape work, he was called back to the Massachusetts Agricultural College as superintendent of the horticultural department. From that post, he came to Minnesota in the spring of 1888 as horticulturist of the experiment station. His splendid training and experience made it possible for him to contribute in many ways to the success of that institution.

Professor Green took an aggressive part as a member of the

[54] Without doubt, the School could not have assumed full proportions for a long time had not the specialists, made available by the Hatch Act, been able to offer instruction. And it is extremely doubtful if the School would have been accepted so wholeheartedly by the State had it been under the direction of one or two, or at best three men, who were conversant in agricultural subject matter. In all probability, the School would have failed under the guidance of an overworked, jack-of-all-trades agriculturist, no matter how brilliant he may have been.

faculty of the School of Agriculture. He gave the instruction in horticulture and botany during the first years of the School. His knowledge of the subject matter in his field, his vigorous mentality, and his insistence on prompt and thorough work in the classes he taught won the respect and admiration of the students. Aside from being a first-class teacher, he was a good counsellor and adviser to the farm boys. His enthusiasm for his work, his interest in horticulture, and his knowledge of farm life were distinct assets in popularizing agricultural education.[55]

Another instructor drawn from the experiment station was Willet N. Hays, assistant to Professor Porter in the general agricultural field. Professor Hays gave the instruction in farm management and field crops. Hays was born on a farm in Hardin County, Iowa. His father died when the children were still young, so the operation of the farm fell to the mother and the sons, who were still in their 'teens. In this way Hays gained, at first hand, an intimate knowledge of farm life and of the problems of those who farmed. He gained his early education in the common schools. Entrance to Oskaloosa College marked the next step in his education. Later, he entered Drake University. Seeing greater opportunities for service to agriculture in an agricultural education, he entered Iowa State College in 1883. Throughout his school and college career, he was obliged to earn his own way. This he did by assisting in the operation of the home farm and by teaching country schools. Thus he became familiar not only with farm problems, but also with rural school problems. This familiarity and experience materially aided him in understanding the problems of the new School of Agriculture, and in developing the right kind of teaching program for it. While primarily a research man and giving most of his time to that field, he nevertheless made outstanding contributions to the teaching in the new School of Agriculture. He was clearly in sympathy with the idea of practical education and became a strong advocate of vocational education for the masses. Completion of the college course at Ames, Iowa, a year as assistant to the agriculturist of that institution, and a year of service as an editorial writer for Orange Judd's *Prairie Farmer* gave him a broad outlook over the agricultural and educational fields. Hays entered enthusiastically into the life of the students, and was particularly interested in giving them practical training under field conditions. He used many students in his work on the experimental grounds, and in the general work of caring for the livestock.

[55] A. W. Latham, *Samuel B. Green*, in the Annual Report of the Minnesota State Horticultural Society for 1904, 32:1-3.

Hays was a man of great vision and breadth of interests. He was mentally active and aggressive, sometimes to a point of discomfort to those of less ambitious nature. As a counsellor and stimulator of research, he was outstanding. No one on the faculty did more to direct student energy into useful lines or to develop the desire for knowledge in new fields. Withal, he was tolerant and companionable and a friend to those needing a helping hand over the rough spots in life.[56]

Dr. Otto Lugger was also drawn from the experiment station staff and asked to give instruction in entomology and zoology. Dr. Lugger was foreign-born, the son of a German professor of chemistry from Westphalia, Germany. He was educated at the Gymnasium at Hagen, Germany, and later at the University at Münster, Berlin. After coming to the United States in 1865, he entered the United States Engineering Service where he remained for three years, and then became an assistant to the State Entomologist of Missouri, C. V. Riley. He became curator of the Maryland Academy of Science at Baltimore for a time, and afterward entered the Johns Hopkins University at Baltimore. From there he went to the United States Department of Agriculture for a period of three years, from which post he came to the Minnesota experiment station as entomologist. Dr. Lugger, it may be seen, was well-trained and broadly experienced. Of delightful personality, his conversation and his lectures always were entertaining and instructive. Through his activities as entomologist for the experiment station, and later as State Entomologist, he knew many of the problems of the farm and what to do about them. His services were widely sought by the farmers, and his classes were always well filled by students. While highly trained in the technical science, he could make practical application of his knowledge both in the classroom and on the farm.[57]

D. N. Harper, the experiment station chemist, was assigned to give instruction in chemistry. However, he was with the station for only a little over a year, and as chemistry was given in the second year of the course, he did but little teaching. Because of the short term of service, his influence on the School of Agriculture was not as deeply felt as that of others on the staff although his class work was conducted in a creditable manner.

Olaf Schwartzkopff, who held the position of veterinarian in the experiment station, gave instruction in animal physiology and veterinary medicine. Schwartzkopff was German-born, trained in

[56] For a penetrating and sympathetic account of Hays, see articles by Andrew Boss in the *Journal of Heredity*, 20:496-509, November, 1929.

[57] C. E. Flandrau, *Encyclopedia of Minnesota Biography*. p. 324-325.

German universities, and had been a member of the Prussian Army. Other than holding classes in the assigned subjects, he had little contact with the School and did not exert as much influence over it as many other members of the staff.

Edward D. Porter, professor of theory and practice of agriculture in the Agricultural College and director of the experiment station, who was so largely instrumental in the establishment of the School, attempted but little teaching in it. During the first year he gave a course of lectures on livestock feeding and breeding. As there were no students of college grade at the time, and as his time was fully demanded by experiment station duties and other work, teaching in the School of Agriculture had been assigned largely to other members of the staff. Unfortunately, due to criticism partly from outside but largely within university circles, friction arose because of Porter's aggressiveness and liberal spending policies in developing the Institution. He terminated his connection with the University in the summer of 1889 to become Dean and Director of the College of Agriculture and experiment station of the University of Missouri; therefore, he did not see the full fruition of the Institution for which he had so well laid the foundation.[58]

The faculty was completed by the assignment of Mr. Daniel W. Sprague, who had been employed in 1887 to initiate a record keeping and accounting system at the experiment station, to give instruction in penmanship and farm accounting; and the employment of Mr. Charles Ronald Aldrich, a special student in the Mechanical Engineering Department of the University, as instructor in manual training.

Mr. Sprague, like many of the pioneers of Minnesota, was of Eastern origin. He was reared in a dairy and fruit region in the State of New York. After completing a course at the Albany Normal School, he taught in village schools in New York and Pennsylvania. After coming to Minnesota in 1867, he was successively Superintendent of Schools at St. Cloud, Rushford, and Anoka; instructor in the Curtis Business College; and instructor in the Normal School at Madison, Wisconsin. In 1882 he became superintendent of a large farm in North Dakota, and, incidentally, was elected to the North Dakota Legislature of 1887.[59]

The farm accounting required in the School consisted of elementary commercial accounting with adaptations calculated to suit the

[58] The situation at the time of Professor Porter's resignation is discussed in the unpublished manuscript mentioned in note 4.

[59] W. W. Folwell, "Daniel W. Sprague." *Minnesota Alumni Weekly*, 13:10-11, November 3, 1913.

sympathetic understanding of farm life, farm boys, and farm problems, and concentration of that faculty on the application of the findings of science in the operation of farms gave a new and hopeful outlook for agricultural education in the University.

The School of Practical Agriculture Meets Approval

THE School of Agriculture, so long in coming, at once appealed to farmers' sons and others desiring a practical education in agriculture. During the first year, forty-seven students enrolled in the School, and when they returned home in the spring with good reports of the new institution, there was an immediate response from the friends of these students. There was every indication that the following year would bring an increased registration. The growth from year to year was no accident, however. Some of the Regents made personal appeals to farmer acquaintances to send their sons. O. C. Gregg, in his Institute circuits, seldom let a meeting go by in which he did not stress the advantages of a school of agriculture. The Institute *Annual* each year ran attractive, illustrated articles about the School. Faculty members were active in gathering students, as were the Grangers who had fought long for a school of just this sort. Above all these personal appeals and above the desire to do a good job of a venture that demanded the utmost in cooperation from all concerned, there was the feeling, not always expressed in so many words, that agriculture and the farmer were entering upon a new era. Dairying, diversification, and the increased use of machinery stimulated the imagination of those who had long dreamed of better days for farmers. All this increased complexity in farm technique made a school of agriculture so much more desirable. Nor should it be forgotten that a general rise in the standard of rural living made it possible for young men and boys to attend a school hopelessly out of the reach of most of them ten years before. All of these things—a good faculty, an inspired student body, good reports, helpful aid from outside forces, the change in farming conditions, and the rise in living standards—helped to infuse a spirit of optimism into the venture. The "Home Building," housing the students and the facilities for instruction, which had been expected by some of the Regents at least, "to meet the needs for all time," soon proved inadequate to the demand for rooms. A second building was erected during 1889. This building—Pendergast Hall—

was a four story brick building planned for joint dormitory and classroom service with rooming capacity for ninety boys. It was erected at a cost of $25,000 under the administrative supervision of Professor N. W. McLain who had succeeded E. D. Porter as Director of the Experiment Station and Superintendent of University Farm. Attendance increased steadily, and this building also was filled to capacity within two or three years after its erection.[60]

The School, once established, rapidly gained favor and support from the groups that had been clamoring for a "practical school" that would educate farm boys for farming. Their approval was expressed in reports of individuals and visiting committees of societies at annual or other public meetings. Extracts from some of these reports are quoted to show the enthusiasm with which members greeted the advances made in popularizing agricultural education. From the report of the Horticultural Society, January, 1891, is the following:

Farm School

> Our farm school is a great success; we have now over one hundred students of a high class of boys, which is about as many as can be accommodated. It is only within a few years, perhaps in this state within the last six years, that the larger part of the farmers have become convinced that any special education was needed in order to pursue their avocation successfully. I think too, that many of the states have made the mistake of making the standard of admission to their agricultural college too high, and they have thus excluded those whom these institutions were designed especially to benefit. We would, I think, have been the gainers had we begun with low grade agricultural schools. At present all over the country there is a loud call for agricultural education. The demand is that it shall be helpful by being practical, painstaking, cheap, and accessible. In Minnesota we have the most successful of these schools to be found in the country and educators in other states are looking to us and wondering if we have solved the problem. . . . .[61]

The State Grange likewise voiced its approval in a report from its committee on Agricultural School and Experiment Farm at its annual meeting on December 14, 1892, as follows:

> . . . . We find in our investigations that the object of the school work is to take such boys as aim to be successful and

[60] The enthusiastic reception of the School can be gauged, to some extent, by the great number of news items, editorials, letters, etc. relating to the School which appeared in the *Farm, Stock and Home* in 1888-1900. The School, too, was followed closely and given more than ample publicity in the rural press. Extracts from the agricultural and rural press are on file in the historical papers of the Department of Agriculture of the University of Minnesota.

[61] Minnesota State Horticultural Society. *Annual Report, 1891*, 19:70-71.

intelligent farmers, overseers of farms, veterinary surgeons, entomologists, agricultural chemists, botanists, lecturers, etc., who have already had some experience in farm work together with a good common school education and give them a sound practical training that will broaden and strengthen them as citizens of the State, while it educates them in the branches of natural science which will cultivate their taste for agriculture and develop skill in the practice of it. . . . .

We have great hopes that the boys now being educated at the Agricultural School will prove to be the Moses in his locality to lift up and lead the Agriculturist out of the Slough of Despond in which they are now wallowing on account of their ignorance.

We find that the School of Agriculture educates the boy toward the farm instead of away from it as all of our other schools have a tendency to do. The farmers in the United States have a grave question to solve. If we do not educate our bright boys to take possession of these fine farms and become leaders and educators of the agricultural class in general, what is to be the final outcome of the wholesale exodus of our best blood to the cities? Is agriculture to gradually decline and are our agriculturists to retrograde to the condition of the peasant of Russia and be the prey of all other classes for all time to come as we are now, or will the farmers arouse themselves and see to it, that every School of Agriculture has at least one thousand boys and five hundred girls in attendance, instead of the few boys who attend these schools each winter?[62]

Students attending the School were likewise warm in their praise of the subject matter taught and of the friendly, understanding attitude of the faculty that had been selected to initiate this new venture in agricultural education. The life of students in the dormitories was pleasant and comfortable. It is possible that the new experience of warm, steam-heated rooms in contrast to wood fires and unheated bedrooms, at that time customary in farm homes, had something to do with overcoming the nostalgia usually following a first period out of the home nest. The fatherly interest of Principal Pendergast in their affairs and the kindly ministration of Assistant Principal Brewster and his wife, who as matron and Librarian looked after the health and social welfare of the student group, were large factors in the harmony and good will that prevailed.

Not the least in endearing the School to the hearts of the farmers and students alike, was the fine appearance and surroundings of the buildings on the wooded knoll, more prominent in their setting than are the buildings of today. Under Professor Porter's guidance, the farm presented a neat and yet not too ostentatious appearance. The

[62] Minnesota State Grange. *Proceedings, 1892*. p. 30-32.

flower beds and walks, especially the large bed in front of the farm house, inculcated a love for the tasteful ornamentation of the farm home. Professor Green continued the work of making the farm grounds a model of attractive landscaping. Not forgetting the educational aspects of such a display, Green labeled the shrubs and trees surrounding the walks and drives with their common and botanical names. The general setting of the farm in the open country, and yet not too distant from all of the educational advantages that a large city can offer the student, served to allay any distrust the farm parent might feel in sending his sons away from home.[63]

As a result of the friendly spirit that grew up about the School, it became common for those in attendance to draw their friends into enrollment. Favorable mention by members of the Farmers' Institute Corps at meetings led by O. C. Gregg, further centered attention on the School. These influences led to steadily increasing enrollment.

During the first years of the School, many mature students, poorly prepared in the rudiments of elementary education, applied for admission to the School. Rather than reject these, whose difficiencies in most cases were more of a reflection upon the poorly developed rural school than upon their own achievement, preparatory classes were organized to give instruction in arithmetic, geography, grammar, and other rudimentary subjects.

The Course Extended

IN 1891-92 the course was extended to three years, and the preparatory course was eliminated. Some of the common school subjects were included in the first year of the curriculum as many boys were found to be deficient in preparation. Those wishing to do so could pass these subjects by presenting accredited credentials from other schools or by passing examinations in the various fields covered. The course as outlined for the year 1893-94 follows, to indicate the scope of instruction offered under the three year term.[64]

[63] It may seem trifling to mention the appearance of the campus, yet the number of comments in the press on this score showed that visiting farmers, either as individuals or as members of various agricultural societies, were not at all oblivious to the charm of good landscape gardening. The School and Station became the scene also of a great many agricultural gatherings. The School was always open to inspection, and this policy had its rewards despite occasional fault-finders who, at occasions, noisily voiced their opinions in the press.

[64] Minnesota University. School of Agriculture. *Announcement, 1893-1894.* p. 7.

COURSE OF STUDY, 1893

First Year

First Term	Second Term
Arithmetic (5)	Agriculture (3)
Botany (5)	Botany (5)
Manual Training and Farm Buildings (7½)	Farm Accounts (5)
Physiology (5)	Manual Training and Blacksmithing (7½)
Military Drill (2)	Physiology (2)
	Military Drill (2)

Second Year

First Term	Second Term
Breeding and Dairying (7½)	Veterinary Science (3½)
Dairy Chemistry (2)	Agricultural Chemistry (5)
Fruit Culture (3)	Breeding and Dairying (4)
Veterinary Science (5)	Entomology and Vegetable Gardening (5)
Physical Geography and Zoology (5)	Field Crops (5)
or	or
Algebra (5)	Algebra (5)
Military Drill (2)	Military Drill (2)

Third Year

First Term	Second Term
Agricultural Chemistry (7½)	Feeding (4)
Forestry (3)	Greenhouses and Hotbeds (3)
Physics Applied to Agriculture (5)	Physics Applied to Agriculture (5)
Plane Geometry (5)	Soils and Fertilizers (5)
Lectures on Farm Law	Civics (4)
Military Drill (Optional) (2)	or
	Geometry (4)
	Military Drill (Optional) (2)

The addition of the third year to the curriculum permitted more time for laboratory work in the elements of chemistry, zoology, and botany commonly accepted as sciences closely related to agriculture.

Professor W. M. Hays, constantly on the alert for courses or ways of expanding the curriculum in order to make it more adaptable to the need of the farm, paid particular attention to those studies developing skill in farm art. This was in the day when the farmer still lived in comparative isolation, and the more knowledge and skill he possessed, the more independent and resourceful he would be and the better his economic welfare. Courses in blacksmithing and in home dairying were part of the accepted curriculum. It was through Professor Hays that Andrew Boss, just beginning a long

period of service to the Agricultural School, developed courses in the dressing and curing of meats and in handling grain and farm machinery. The former course was developed from visits to slaughterhouses and stockyards, in consultation with buyers, and cold storage operators, and in hunting up the few scraps of printed knowledge that existed on the subject at this time. It was a pioneer venture in giving instruction on dressing and curing of meats. From the foundation laid in the School this course was later developed into a standard college course and adopted in many of the agricultural colleges. The course in handling grain and farm machinery was developed in 1894-95. This course also proved to be the forerunner of established courses in farm machinery and implements, now included in well-organized college curriculums.

Director W. W. McLain, who, as Professor of Agriculture, had given instruction in animal breeding and feeding in the School, resigned from his position on February 12, 1891. He was succeeded in the Directorship by Professor Clinton DeWitt Smith, a graduate of Cornell University, who had been closely associated while at college with Professor I. P. Roberts, famous Cornell Agriculturist. Smith came to Minnesota from Arkansas where he had served as Director of the Experiment Station.[65]

Dairying Emphasized

MINNESOTA, at the time of Smith's election to the Directorship, was in the transition stage from small grain raising to clover, corn, and cows. Smith, raised on a New York State farm and familiar with the practices of dairy farmers, at once threw his influence behind a campaign initiated by O. C. Gregg of the Farmers' Institute for more dairy cows on Minnesota farms. Under his direction and in consultation with some of the most experienced dairymen of the time, the Experiment Station Building, which had been destroyed by fire on October 5, 1890, was replaced by a Dairy Hall in which classrooms and laboratories were provided for a greatly expanded program of instruction in butter and cheese making and the care of dairy products. The Experiment Station offices were given space on the second floor of the building. Smith, at the same time, sought to increase the size of the dairy herd at the University Farm and to encourage the dairy industry throughout the State.

[65] For a sketch of Smith's life see: W. J. Beal, *History of Michigan Agricultural College*. East Lansing, Michigan. 1915. p. 435-436.

The expanded program for instruction in dairying called for services of a specialist in dairy manufacturing. Regents J. S. Pillsbury and Knute Nelson, on a visit to the University of Wisconsin early in 1891, had been impressed by the progress made in teaching dairying at that institution, and had made the acquaintance of T. L. Haecker. Impressed by his knowledge of the dairy business, they had, upon their return to Minnesota, advised Director Smith that Haecker would be a good man to employ in completing the organization for instruction in dairying. Smith negotiated with Haecker and succeeded in bringing to the School the man who was later to win international fame for his instruction and research work in dairy husbandry. To Smith must go the credit of organizing the Minnesota Dairy School.[66]

Smith also brought to the School and Station another scientist destined to play a large part in the development of practical educational policies in agriculture. This man was Professor Harry Snyder, chemist, also from Cornell University, and for many years an instructor in the School of Agriculture and in the Dairy School courses.

Snyder popularized instruction in chemistry by developing elementary textbooks adapted to schools on the secondary level and by developing laboratory exercises suited to the preparation and capacity of the students. While his chief duties in later years were to the Agricultural College and Experiment Station, Snyder made significant contributions to the adaptation of courses in chemistry to students in the secondary schools.

It was under Smith's tenure of office that J. A. Vye was appointed to the position of secretary and accountant of the Experiment Station and instructor in penmanship and farm accounting in the School of Agriculture. In this latter capacity he devised practical accounting courses based on farm records secured from farms cooperating with the agriculturists of the Station in a study of production costs. Vye also developed a course in accounting for cooperative creameries. He was particularly active in bringing Lyceum programs to the Agricultural campus. They were of high educational value, as well as good entertainment. Both students and faculty participated in these affairs and naturally, in this as in other cases, the Lyceums brought many wholesome contacts between the faculty and the student body. To many of the farm boys the lectures were a revelation and stimulated hitherto unsuspected interests. The objective was not so much to teach people how to use their

[66] Everett E. Edwards, "Theophilus L. Haecker, the Father of Dairying in Minnesota." *Minnesota History*, 19:148-161, June, 1938.

leisure, but rather to convince the boys that many things other than work fitted into the pattern of rural life. It was the opinion of a good many agricultural leaders of the time that the farmer's working efficiency might actually be increased by judicious use of leisure time. In any case, much good came of Vye's efforts to supply the farm boys with a demonstration of how things could be done to make life in a rural community more rich and enjoyable. Secretary Vye also supported the literary societies on the campus.

Military Drill Introduced

WHILE the so-called "Practical School of Agriculture" was below collegiate grade, the University administration felt that in the absence of enrollment in the College courses, students in the School of Agriculture should take courses in mechanic arts and military tactics if the University was to fully meet the provisions of the Morrill Act.

To satisfy the need for this type of instruction, a third building was added in 1893 which was financed by an appropriation of $30,000 by the State Legislature. This building was a combination drill hall and manual training building. It provided, also, offices for the Horticulturist and the Entomologist-Botanist of the Experiment Station staff. The drill room was also used as the School gymnasium. The manual training quarters provided facilities for instruction in mechanical drawing, carpentry, and blacksmithing which had just then been added to the curriculum. The attic provided dormitory rooms for ten to twelve students.

Reorganization and Expansion

THE year 1893-94 again brought reorganization of the faculty and of the closely related Station staff which, while painful and disturbing in some respects, proved in the end to be only the pangs of progress.

Professor Pendergast, under whose guidance the School had started so auspiciously and who had gained and held the confidence and goodwill of students, faculty, and Regents alike, was called from the Principalship to succeed D. L. Kiehle as State Superinten-

dent of Public Instruction. His resignation was looked upon by many as an irreparable loss to the School. However, as State Superintendent and ex officio member of the Board of Regents, he was still in position to give valuable advisory aid to the rapidly growing institution.

Director Smith, who had so well organized the instruction in dairying and so vigorously stimulated interest in the dairy industry, found himself at variance with other members of the Station staff on matters of administrative organization, and resigned to accept the position of Director of the experiment station at Michigan Agricultural College where he continued his work in the promotion of dairying.

Dr. Olaf Schwartzkopff, veterinarian who had joined the faculty when the School was organized, resigned in 1892 to organize a veterinary college in connection with the University.[67] He had been followed as instructor in physiology and veterinary medicine in the School by Dr. Christopher Graham of Rochester. Graham resigned in 1893 to complete a medical course at the University of Pennsylvania, later becoming associated with his brothers-in-law, C. W. Mayo and W. J. Mayo, in founding the Mayo Clinic at Rochester, Minnesota.[68]

In the reorganization which followed these resignations, several changes were made in the School curriculum and in the assignment of subject matter fields to faculty members. Professor Brewster, as assistant principal, was asked to carry the responsibility for School administration for the current year. In the next year, 1894-95, he was appointed to the principalship, a post which he filled with eminent satisfaction until his retirement because of ill health in June, 1900.[69]

The Board of Regents did not consider it advisable at the time to appoint a successor to Smith as director of the Experiment Station. Instead, the Board asked Colonel William H. Liggett, who had been a member of the Board since 1889 and a member of the Committee on Agriculture, to act as chairman of the Experiment Station Corps.

[67] The veterinary college was of short duration. Schwartzkopff, upon leaving Minnesota in 1894, became dean of the McKillip Veterinary College in Chicago. He later returned to the United States Army as veterinarian.

[68] While the University has not had a veterinary college, there has been no break in giving instruction in veterinary science to students in the School and College.

[69] The instruction given by Professor Brewster was in English and mathematics. The work of Brewster, while not associated with agricultural studies, lay mostly in the powerful influence he exerted upon the students of the School. See tribute by Vye in the historical papers of the Department of Agriculture of the University of Minnesota.

Liggett, who was at the time chairman of the State Railroad and Warehouse Commission, consented, much to the satisfaction of the members of the Corps and to the eventual good of the School.

While Liggett, as chairman of the Corps, was not on the School faculty and did no teaching, he had gained a clear knowledge of its functions and objectives as a member of the Agricultural Committee of the Board. He was widely experienced in agriculture, having operated a large stock farm in Swift County which he was still supervising. Liggett, also, had a wide acquaintance with men then in public life, a matter of importance in securing appropriations and financial support in the following years. When made Dean and Director in 1896, with the support of President Cyrus Northrop, Regent John S. Pillsbury, and others, he carried the School to great popularity and public favor, serving until ill health forced his retirement in June, 1907.

Changes and expansion in courses of instruction were brought about by several influences. Livestock raising was increasing rapidly in the State and the demand was growing for more instruction along that line. Haecker, in May, 1893, had been put in charge of all instruction in dairy husbandry in the School, including dairy cattle breeding and feeding.

W. M. Hays, a member of the original faculty of the School but who had resigned in January, 1891, to help organize the North Dakota Agricultural College and Experiment Station at Fargo, was called back to duty in Minnesota in 1893. He was appointed Professor of Agriculture in the College of Agriculture, and Agriculturist of the Experiment Station. The post also involved instruction in general agriculture in the School which had, up to this time, included animal husbandry. Feeling that greater specialization was needed, Hays suggested that the animal husbandry subjects be split off from the general agricultural course and an additional specialist be employed as instructor in that field.

The suggestion was favorably considered and an agreement was reached to offer the post to Professor Thomas Shaw, then Professor of Agriculture and Superintendent of the College farm at the Ontario Agricultural College at Guelph, Ontario, Canada.

It may be well to point out that the Ontario College was one of the institutions visited by D. L. Kiehle, as a member of the Board of Regents, when ideas were being formulated for establishing a practical school of agriculture in Minnesota. That college, more than any other, seemed to have hit upon the right approach to agricultural education and was favored by public support and a high en-

rollment. Shaw, as the owner and operator of a 500 acre farm in Ontario and as part owner and publisher of the *Canadian Live Stock and Farm Journal,* had gained prominence in Canadian agriculture before going to the College.[70]

The post in veterinary medicine left vacant by the resignation of Dr. Graham was filled by the appointment of Dr. M. H. Reynolds, M.D., V.M.D., a graduate of Iowa State Veterinarian College. Reynolds had completed training for medical practice before taking the course in veterinary medicine, thus holding two degrees.

During this year J. M. Drew, a former student at Cornell University who had returned to Winona County, Minnesota to farm, was called to the faculty to initiate instruction in farm blacksmithing in the belief that knowledge of blacksmithing would enable farmers to make many of their own repairs.

The School, once more fully staffed with a faculty trained in the sciences and possessing first-hand knowledge of rural life and affairs gained by actually living upon and operating farms, moved steadily forward to new heights. Fortunately, this faculty, individually so well prepared for the work ahead and so completely in harmony with the aims and objectives of the School, was held intact for nearly a decade. Under the leadership and inspiration of this group, responsible for instruction in School and College and for research work in the Experiment Station, farm boys gained new visions of farm life and of the agricultural industry. They gained, also, new ambitions for education in the agricultural professions and began slowly to put the breath of life into what had been an inanimate agricultural college. Graduates from the School were fired by the desire for more knowledge and found their way to college entrance. By the end of the decade, the College had an annual enrollment of twenty to twenty-five students most of whom had come up through the secondary school. The College soon thereafter became attractive enough to draw students from high schools, and college attendance steadily increased.

While through the years a small percentage of the graduates of the School had gone on to college and professional work, the greater part of them had returned to farm life. The best data available show that 86 per cent actually engaged in farming after leaving the School. Thus it was demonstrated that the School had met well the ideals and hopes of the Grange and other pioneers who wanted an education for farm boys that would send them back to the farm.

The first faculty at the School of Agriculture was faced with a

[70] "The Work of Thomas Shaw." *Breeders' Gazette,* 74:53-54, July 11, 1918.

problem that was pretty much a common experience with all pioneer teachers in agriculture: the almost total lack of suitable textbooks. Conditions had improved somewhat since the days of Professor I. P. Roberts of the Iowa State Agricultural College in the early 1870's when, as he stated, materials for the teaching of agriculture were as rare as cranberries in the Rocky Mountains.[71] Instead of having his students peruse bad or unsuitable textbooks, he took them to the open fields where he lectured upon and discussed what lay before his eyes. The School of Agriculture, of course, had only winter sessions, and lectures in the field were not feasible. The system of instruction at the School was built, in a measure, around the formal lecture. In the absence of good textbooks, the early teachers at the School spent considerable time and care in devising their lectures since the lecture was the nucleus of the course. Readings supplementary to the lectures were generally assigned in station bulletins, government bulletins, and a miscellany of material. In order to allow more time for discussion, the lecture notes were expanded and typed and later mimeographed for direct use by the students. This arrangement naturally allowed for much more classroom discussion and prevented instruction from becoming too formal. Thus it came about that the lectures were more exactly suited to the needs of the students than any possible textbook of the time could have been.

The few textbooks that did exist were designed for the use of students in colleges, who, it was presumed, were already well-grounded in the basic sciences. A textbook for a secondary school of agriculture thus had to teach some basic science as well as to outline the general field of the matter at hand. It had to strike a nice balance between the practical and the theoretical. This the lectures did since, in many respects, they were a joint product of the student and the teacher. After a few years of use in the classroom, many of these "trial texts" were printed and bound in permanent form. Their wide sale, not only in Minnesota but elsewhere, showed the great need for books of this sort. Only a few of them can be indicated here. In 1893 Samuel B. Green published his *Amateur Fruit Grower*. In 1895 Thomas Shaw, who was a gifted and prolific writer, produced his textbook on *Grasses and Clovers*. This was followed in 1897 by two more texts, *The Study of Breeds* and *The Feeding of Live Stock*. In that year Harry Snyder brought out his textbook on *The Chemistry of Dairying*. All of these had been developed from lecture notes. In 1898 Green published his *Forestry in Minnesota*, one of the pioneer textbooks in its field. A year later he published *Vege-*

[71] I. P. Roberts, *Autobiography of a Farm Boy*. Albany. J. B. Lyon. 1916. p. 160.

table Gardening, another very popular text. In that year Shaw produced *Forage Crops Other Than Grasses* and Snyder published *The Chemistry of Soils and Fertilizers.* J. A. Vye, who taught accounting at this time, wrote his *Creamery Accounting* which was designed to aid the student in comprehending the accounting problems of the cooperative creamery which was then a rapidly growing institution in Minnesota, and in which the graduates of the School played a prominent part. In the field of home economics, Juniata L. Shepperd in 1902 issued *The Handbook of Household Sciences,* a product, too, of course work developing in the School of Agriculture.[72]

At the turn of the century when more and more students entered the College, it is difficult to state the exact origin of textbooks because some of them were used both in the School and in the College. Not all textual materials appeared in the form of textbooks. The early Class Bulletins of the Station were designed in part for use in the classrooms of the School of Agriculture, and many of the regular bulletins were used as classroom aids. Since the bulletins of the Experiment Station were always written with a view to answering the agricultural problem in Minnesota, most all of them could be used in varying degree in the School of Agriculture. Some of them were used to such an extent that they can probably be properly classed as textbooks. Representative of bulletins put to this use are Haecker's *Investigation of Milk Production* (Station Bulletin 67) which was issued in 1900 and appeared in a number of revisions and reprints; W. M. Hays and Andrew Boss' *Wheat: Varieties, Breeding, Cultivation* (Station Bulletin 62) 1899; and various bulletins by Otto Lugger. Andrew Boss' *Meat on the Farm* appeared as Farmer's Bulletin 183 of the United States Department of Agriculture. This bulletin represented the work done in his course, "Dressing and Curing of Meats." The bulletin was widely used and served as a base from which a number of bulletins and texts were prepared at other institutions. Most all of these early textbooks and bulletins that served as textbooks went through a great number of reprints, demonstrating their worth not only in Minnesota, but also in other schools and colleges, besides being of value to many people on the farm who were not attending school.[73]

By 1894 the School had again outgrown its quarters. In 1895 another building was added to the physical plant. This building,

[72] It should be mentioned, too, that some lectures never appeared in textbook form, and that priority in publishing in the cases cited is no claim for basing "firsts" in the development of courses.

[73] A partial list of textbooks and bulletins used as texts developed at the School by members of the School faculty and of the Experiment Station staff is given in Appendix II.

financed by a legislative appropriation of $42,000, provided dormitory rooms for 100 additional students. It also contained a well equipped kitchen and a dining room with seating capacity for 400 to 500 students. The enrollment, limited at the time to male students, had increased to 223 in the school year 1894-95.

The School Becomes Coeducational

THE efforts of the pioneer farmers, the Grange Committee, and the various agricultural organizations had been first centered on the establishment of a "School of Practical Agriculture" for farmers' sons. For some reason the daughters of the farmers seem to have been overlooked; but not for long. The Grange, organized on the concept of improvement of family life as well as improvement of the farm, believed in education for adults as well as for children, and for female as well as for male members. It is probable that the girls were not forgotten and that only scarcity of finances and uncertainty of methods prevented asking for facilities for coeducation at the start. There was objection, too, from some sources to housing both sexes on the same campus in the belief that the moral conditions might be endangered. Whatever the reasons, "boys only" were admitted to the School of Agriculture when it was first organized.

No sooner was the school for boys organized and functioning successfully, however, than the women of the Grange began to agitate the question of education for the daughters of farmers in the arts and skills of homemaking. Farm homemaking in those days involved not only breadmaking with other forms of cookery, and family sewing, but also on many farms, the art of buttermaking. While not strictly in the category of homemaking, the women sometimes were also expected to milk the cows and care for the gardens. Why should not they, too, have education to prepare them for these duties? Thus argued the women at their Grange meetings and, as opportunity permitted, in public meetings as well. In this matter, they quickly gained the support of their husbands and the local Granges. Committees were appointed to work for the cause and to gain public support. At the annual meeting of the State Grange in December, 1890, the Committee on Education reported on the success attending the Agricultural School for boys, and appealed for provision of equal accommodations for girls in the near future.[74] The State Horticul-

[74] Minnesota State Grange. *Proceedings, 1890*. p. 25-26.

tural Society at its summer meeting in July, 1891, passed a resolution endorsing coeducation in the School of Agriculture.[75] Cyrus Northrop, President of the University, early in 1891 pronounced himself in favor of providing education for girls at the Agricultural School.[76] It was at this time, too, that Clara Shepperd Hays, wife of W. M. Hays, was conducting itinerant cooking schools in the Minnesota Farmers' Institutes. Her lectures and demonstrations were exceedingly popular and must have done much toward encouraging the women who were working for coeducation in the School of Agriculture. Here was advance proof that such instruction would not be wasted nor suffer from lack of attendance.[77]

Sentiment generally among the faculty of the School was favorable to the idea of education for farmers' daughters. Opinions differed somewhat as to how and when it should be offered. There were advocates of a summer school for girls when the boys were not in attendance. Others thought that the winter course for boys could be varied sufficiently to meet the needs of education for the girls with both sexes attending at the same time. For two years or more the question was argued and discussed. The Board of Regents hesitated to take on additional responsibilities. The School for boys was functioning well and receiving popular support. The Board was hard-pressed to provide facilities for them and was reluctant to go to the legislature with a request for financial support for an additional enterprise. Admission of girls to the School would require a dormitory, additions to the staff, and increased funds for operation. Appropriations then, as now, were difficult to get. There was honest skepticism, too, in the minds of many members of the Legislature as to the necessity or even the possibility of teaching household economy and arts outside the home. "Girls could best learn by helping their mothers."[78] The Regents held back ostensibly on the grounds of poverty of finances, while in fact they dreaded quite as much the responsibility for maintaining good moral standards with a student population consisting of both sexes.[79]

[75] Minnesota State Horticultural Society. *Annual Report, 1892*. p. 33.

[76] *Minneapolis Daily Tribune*. February 22, 1891. p. 17.

[77] Ibid. Twenty women applied for admission to the newly organized Dairy School in 1891.

[78] The general tone of the opposition can be judged from various items in the papers relating to coeducation in the historical papers of the Department of Agriculture of the University of Minnesota. See also Brewster letter in *Pioneer Press*, November 14, 1896; and editorial in *Pioneer Press*, November 13, 1896.

[79] President Folwell had introduced coeducation on the main campus simply by never refusing to admit women. Students were boarded with families in what is now southeast Minneapolis. Many feared that the dormitory system at the farm would throw the men and women into too close proximity.

The results were: first, compromise and second, capitulation. The compromise came in the form of a Summer School for Women in 1894. It was advocated by committees of women from the Grange and from the State Dairymen's Association. The idea had the support, too, of influential members of the School faculty. Professor W. M. Hays took a keen interest in organizing the course. His wife, Clara Shepperd Hays, was a pioneer in Domestic Science Education and a member of Superintendent O. C. Gregg's Institute Corps in 1889 and 1890, before going to North Dakota Agricultural College as Professor of Domestic Science in 1891. T. L. Haecker prepared a folder advocating the summer course which was distributed at Farmers' Institute meetings and elsewhere. Professor S. B. Green and Professor H. W. Brewster, Principal of the School for boys, threw their influence behind the proposal. Finally, the Regents gave approval to what was considered to be a test course to determine whether or not there was a demand for education in homemaking for women. The course, organized for a four weeks' period beginning on June 5, 1894, was built largely around foods and cookery and home dairying. Lectures were also given on the control of household pests and on vegetable gardening and plant propagation.

The instruction in Foods and Cookery was entrusted to Miss Juniata L. Shepperd, a sister of the aforementioned Clara Shepperd Hays, who at the time was taking advanced work in home economics at Pratt Institute, Brooklyn, New York. She had been persuaded to teach at the Summer School, and then return to Pratt Institute to complete her course at the end of the term.

Quarters for the work were improvised in the Drill Hall. Equipment, in the way of woodburning ranges, was rented from a local dealer. Kitchen tables and utensils were purchased or borrowed from the School dining hall.[80]

The instruction in Foods and Cookery given by Miss Shepperd was the center of attention. Scarcely less important was the class work in the care of milk and in buttermaking taught by Professor T. L. Haecker. The course was rounded out by Professor S. B. Green, horticulturist, who provided the instruction in plant propagation, floriculture, and vegetable and fruit growing, and by Otto Lugger, who prescribed methods for the control of household pests.

The enthusiastic reception given this inauguration of Home Economics Education in Minnesota by the mothers and their

[80] A detailed account of the origins and early history of the home economics division is given by Miss Juniata L. Shepperd in an unpublished manuscript filed in the historical papers of the Department of Agriculture of the University. The manuscript is typed and may be consulted.

daughters accomplished three things: First, it removed all doubt as to whether the people of the State desired a girl's school at University Farm; second, it showed the men teachers plainly that homemaking is a family affair and that some of the subjects taught boys are of interest to girls; third, it made plain the fact that young women and girls were very much interested in home economics and home economics education. Moreover, the large number who registered on the opening day made it impossible for one teacher to handle all the students in a single section, hence it was clear that those in charge of the program had done well to provide for the teaching of some allied subjects as well as for that of foods and cookery.

It was evident at the end of this first session that all doubt as to whether the people of the State did or did not want girls admitted to the Agricultural High School had been dispelled. The Board of Regents announced that a session in home economics would be held each summer thereafter until such time as provision for a full-time course for girls could be made; that sewing and English would be added to the curriculum for the 1895 session and that the 1895 session would be six instead of four weeks long.[81]

The six weeks' session of 1895 was held in the same improvised kitchen in the Drill Hall. Better equipment was provided as it was felt that the experimental stage had been passed. Courses in English language and in sewing and textiles were added. Miss Shepperd, who had returned to Pratt Institute to complete a course in home management, was not available for instruction in foods and cookery. Her place was taken by Miss Mary Thompson, who had replaced Clara Shepperd Hays on the Farmers' Institute Corps. Miss Thompson, who later married T. A. Hoverstad, Superintendent of the Northwest Experiment Station at Crookston, gave instruction in foods and cookery through the 1895 and 1896 Summer School sessions.

The instruction in sewing and domestic art was given in 1895 by a Miss Birch from Armour Institute, Chicago. Mrs. Margaret J. Blair, a woman from a Minnesota farm home who had become proficient in needle work and garment making, gave domestic art instruction in 1896 and thereafter. The courteous cooperation of the School faculty was continued in giving instruction in the other subjects as in 1894. Poultry raising was added to the course in 1896. J. M. Drew, a southern Minnesota farmer who had been a student at Cornell University and was serving as instructor in the manual

[81] Shepperd narrative, typed page number four.

training courses in the Agricultural School, gave instruction in poultry raising during the summer sessions. H. W. Brewster, Principal of the School, continued to give instruction in English.

Experience with the summer school courses for girls served well to confirm the opinion of the women of the Grange that the School of Agriculture should be made coeducational. Firm in the conviction that the course for girls should parallel the course for boys and be given during the winter months, they renewed the attack begun in 1891. A committee of women was appointed by the State Grange to press the matter before the Board of Regents and the State Legislature. The committee consisted of Mrs. J. A. Bull, Mrs. J. D. Scofield, Mrs. Mary R. McGregor, Mrs. Eliza J. Alexander, and Miss Celeste Chowen. Significantly, two of these were the wives and one the daughter of the committeemen, who, with others, had so successfully fought the campaign for the School for boys.

These women wisely consulted with the faculty of the School and were given assistance and ideas on what to ask the Regents to request from the Legislature.[82] Persistently they pushed their claims before the Board of Regents, finally gaining the consent of the Board to have a bill introduced in the Legislature in 1895 asking for a dormitory for girls and additional funds for support and operation. This bill provoked much discussion pro and con, both before the Legislature and in meetings of the Board of Regents. The bill was eventually pigeonholed and did not come to vote, somewhat to the relief of the Board who at heart were not enthusiastic about taking on the responsibility.[83]

Undaunted by the failure, the committeewomen immediately organized a renewal of the attack. Letters were sent to local Granges, to students and graduates of the School for boys, and to friends urging the election of representatives who would favor coeducation in the School of Agriculture.[84]

The merits of the case were talked at local Grange meetings and in public gatherings. The Farmers' Institute Corps gave assistance, as did the State Dairymen's Association. S. M. Owen, editor and publisher of *Farm, Stock and Home*, and at the time a member of

[82] Brewster address at the twenty-fifth anniversary celebration of the School of Agriculture filed in the papers relating to coeducation in the historical papers of the Department of Agriculture of the University of Minnesota.

[83] *Minneapolis Daily Tribune*. February 6 and 7, 1895.

[84] Original drafts of these letters and petitions are filed with the papers relating to coeducation in the historical papers of the Department of Agriculture of the University of Minnesota.

the Board of Regents, favored the idea and "helped to educate the Board of Regents to the needs of the farmers' daughters and to the duty of the State of Minnesota to those daughters."[85]

The School faculty favored the movement and worked openly for it. Still the Board of Regents held back. Dean W. M. Liggett, who had just then been made Dean and Director of the Department of Agriculture, hesitated to advise the Regents to plunge into this new venture. And well might Director Liggett hesitate. The agricultural department of the University was growing. The Regents had just acquired two farms to serve as branch experiment stations in the northwestern and the northeastern portions of the State, and a third was cooperatively operated as a branch experiment station in the southwestern portion of the State. These ventures were by no means an assured success.[86] Was it wise to begin so many things, when so few were tested? Liggett was in the position of an executive who felt obliged to apply the brakes on the plans of eager associates. Only after being absolutely assured that everyone on the faculty would shoulder the new responsibility, did he give his consent to having the girls in the School.

A committee from the Legislature was sent to interview Liggett early in the 1897 session. When asked the pointed question, "Colonel Liggett, do you want the girls to come?" he answered, "I do." The committee consisted of C. F. Staples from Dakota County and J. F. Jacobson from Lac qui Parle County; they immediately promised their support and returned to the Legislature to exert their influence for coeducation.

A bill providing for an appropriation of $25,000 for a dormitory and $7,000 for support and maintenance of coeducation in the School of Agriculture was introduced in the House by the Honorable Henry Feig of Lac qui Parle County. It is needless to record here the full details of the struggle involved in getting favorable action on the bill from the 1897 Legislature. More experienced in legislative maneuvers than in 1895, the Grange committee of women kept in close touch with proceedings. W. S. Chowen, himself an experienced legislator, and enthusiastic in his support of the bill, was asked to spend time at the Capitol to see that it did not again get pigeonholed. In close cooperation with the faculty of the School and with the

[85] Op. Cit. Brewster address.

[86] The branch station idea was pushed with great enthusiasm by W. M. Hays. Support from the Regents was not entirely whole-hearted; some Regents were bitterly opposed to these farms and were biding their time to curtail activities there. In 1897 the worth of branch stations was still a matter of opinion.

support of Regents Pillsbury, Owen, and Liggett, the women pushed the case for coeducation. In the end they were successful and in the University Section of the Omnibus Bill of the 1897 Legislature were included items of $25,000 for a dormitory for girls and $7,000 for maintenance and support.[87]

This Act marked the capitulation of the Board of Regents, and the conscientious objectors who had at first opposed the idea of coeducation in agriculture, though it did not at once quiet their fears.

Wisely, the provision was made that funds for the dormitory should be immediately available. Plans for the building had been prepared in anticipation of successful issue. Construction was immediately begun and the building was ready for occupancy in October, 1897 with the opening of the School year. Coeducation in the School of Agriculture was at last a reality.

Home Economics Course Organized

THE work for girls was organized in three sections: (1) Domestic Science, (2) Domestic Art, and (3) Domestic Economics. The Domestic Science section was headed by Miss Juniata L. Shepperd who had given the instruction in Domestic Science in the first Summer School and had completed her training in Domestic Science and Home Management at Pratt Institute. Miss Shepperd also became manager of the School kitchen and dining hall. Miss Mary L. Bull, daughter of J. A. Bull, Grange Committeeman, who had attended and assisted with the Domestic Science summer course, was appointed as an assistant to Miss Shepperd. The Domestic Arts section was placed in charge of Mrs. Margaret J. Blair, who had so successfully initiated sewing and other arts in the Summer School of 1896. The Domestic Economics section was headed by Mrs. Virginia C. Meredith, who in addition was appointed preceptress in charge of the girls' dormitory.

The course of study for 1897-1898 given below shows the range of subjects offered to the boys and girls. As would be expected, this first year of coeducation showed a balance of courses in favor of the boys.[88]

[87] Minnesota Legislature. *General Laws for 1897*. Chap. 155, p. 289, Sec. 5.

[88] Minnesota University. School of Agriculture. *Announcement, 1897-1898*. p. 10-11.

COURSE OF STUDY

First Year

First Term

Agriculture (2)
Botany (5)
Drawing (2)
Music or Athletics (1)
Physiology (5)
Study of Breeds (2)

Agriculture (1) Blacksmithing (1) Carpentry (2) Carpentry, Lecture (1) Military Drill (1) Study of Breeds (1)	or	Laundering (2) Physical Culture (1) Sewing (3) Social Culture (1)

Second Term

Botany (5)
Farm Accounts (2½)
Music or Athletics (1)
Physiology (4)
Algebra (5) or

Carpentry (2) Carpentry, Lecture (1) Drawing (2)	or	Cooking (3) Drawing (2)
Blacksmithing (1) Military Drill (1)	or	Home Management (1) Physical Culture (1)

Second Year

First Term

Dairy Chemistry (2)
Dairy Husbandry (2½)
Fruit Growing (3)
Music or Athletics (1)
Zoology and Entomology, or Algebra (5)

Breeding (2½) Military Drill (1) Physics (5)	or	Cooking (3) Household Art (1) Physical Culture (1) Sewing (3)

Second Term

Agricultural Chemistry (5)
Dairy Husbandry (2½)
Music or Athletics (1)
Physics (5)
Vegetable Gardening (3)
Algebra (5) or

Field Crops (5)	or	Cooking (3) Home Economy (2)
Military Drill (1)	or	Physical Culture (1)

Third Year

First Term

Agricultural Chemistry (5)
Forestry (3)
Music or Athletics (1)
Plane Geometry (5)

Handling Grain and Machinery (1) Veterinary Science (3)	or	Sewing (4)

Second Term

Civics or Geometry (4)
Dressing and Curing Meats (1)
Green Houses and Hot Beds (3)

Feeding (3) Soils and Fertilizers (5) Veterinary Science (3)	or	Cooking (3) Domestic Chemistry (3) Hygiene (3) Sanitation (2)

Mrs. Meredith came to the School from an Indiana livestock farm of which she had become the owner and manager upon the death of her husband, the Honorable Henry Clay Meredith, a few years previously. Mrs. Meredith consented to become preceptress only upon the continued insistence of Dean Liggett, who for some years had known not only of her successful farm operations, but also of her views on home life and social affairs. She was a woman of broad education and experience. She also possessed culture and refinement and great ability in writing and in public speaking, for which she later won national renown.[89] Holding high ideals for social behavior,

[89] *Farm, Stock and Home,* 13:275, 290; August 1 and 15, 1897. 14:162, April 15, 1898. Purdue University. *Virginia Claypool Meredith, 1848-1936. A Memorial.* See also: *Who's Who in America.* v. 19.

she quickly set up rules of conduct and established regulations governing the dormitories which proved highly effective in controlling student behavior and educational to both girls and boys in attendance at the School, much to the relief of Dean Liggett and to the satisfaction of the Board of Regents.

It may be well to note here that this first staff of instructors for girls were, like the instructors for boys, definitely farm minded. They were without exception from and of the farm. They possessed full knowledge of the scope and limitations of farm life, which enabled them to treat with sympathy and understanding the social and economic problems arising in the lives of the students. Their influence and that of the girls reacted favorably on the social manners of the boys. This influence was expressed by the boys in more careful attention to dress, refinement in table manners, and in the little courtesies that so greatly embellish right living.

Progress Under Tucker and Mayne

WITH coeducation firmly established as an integral part of the Institution, the School of Agriculture experienced a period of steady growth and expansion. From an enrollment of 312 in the year 1897-98, attendance increased steadily year by year. At the end of the decade, 1908-09, enrollment had mounted to 583. Under the leadership of Dean Liggett, strongly supported by an earnest and enthusiastic faculty, the School moved into high public favor. This rapid growth resulted in a seemingly insatiable demand for dormitories and classrooms. The Board of Regents lent their support to the growing institution and provided buildings and additional faculty as rapidly as the State Legislature could be educated to the merits of the School and induced to appropriate funds for its support. While appropriations were made under the covering name of the School of Agriculture, it must be remembered that many of them served at the same time to provide offices and laboratories for the research staff of the Experiment Station and facilities for instruction of college classes as well.

These improvements in the physical plant began in 1897 when a central heating and lighting plant with connecting tunnels to the various buildings replaced the low-pressure heating plants that had, until that time, served the individual buildings. Electric lights also replaced the kerosene lamps for lighting the buildings. These in-

novations added greatly to the comfort and safety of the inhabitants of the buildings, which, for the most part, were of frame construction and highly inflammable. The additions to the physical plant during the following decade may best be shown in the following tabular statement:

Year	Name of Building	Use of Building	First Cost
1897	Power House	Heating plant and electricity generators	$ 18,000
1897	Girls' Dormitory	Living rooms and parlors, capacity 120 girls. (School)	52,000
1899	Horticulture and Forestry	Classrooms, laboratories, greenhouses, and offices for instructors, and staff. (School, College, and Station)	35,000
1901	Abattoir	Classrooms for dressing and curing meats. (School, College, and Station)	7,500
1901	Veterinary	Classrooms, laboratories, and offices for veterinary staff and hospital for animals. (School, College, and Station)	25,000
1902	Agricultural Chemistry	Classrooms, laboratories, offices for chemists. (School, College, and Station)	30,000
1902	Boys' Dormitory	Living rooms and parlors, capacity 100 boys. (School)	40,000
1904	Livestock Pavilion	Offices, classrooms, judging arena, stables attached. (School, College, and Station)	32,000
1906-1907	Main Administration Building	Executive offices for School, College, and Experiment Station. Contains auditorium with seating capacity for 1,000 people, and library and reading rooms.	195,000
1907-1908	Girls' Dormitory	Living rooms and parlors, capacity 50 girls. (School)	45,000

The resignations of Dr. and Mrs. Brewster in June, 1900, on account of ill health, were regretfully accepted by the Board of Regents in deference to their desire for relief from duties that they

felt had grown too heavy for them to carry. Equally keen was the regret of their associates in the faculty and of students and alumni of the School to whom they had greatly endeared themselves as supervisors of dormitory life and sponsors of social functions on the campus.

During the decade there was growth in faculty and expansion of courses to meet the ever enlarging demand for instruction in new fields. Space will not permit the inclusion of detailed description of these changes nor is it possible to record here the names and contributions of all who served as instructors in the School. Charts showing the growth and changes in the curriculum and a roster of those who have taught in the School are being prepared for the archives of the University. They are not ready for submission here. Mention will be made, therefore, only of changes in the most important administrative offices as they occurred from time to time.

Brewster was succeeded as Principal by Reverend Frederick D. Tucker, a Congregational minister, who had been successfully serving a church at Morris, Illinois. Tucker, at an earlier period, had been for a time a student at Massachusetts Agricultural College, Amherst, Massachusetts. He later finished his education at Yale and Chicago universities. Tucker was a magnetic, enthusiastic, inspiring character, a good conversationalist, and forceful speaker. He immediately became popular with the students, and with the assistance of Mrs. Tucker, greatly enlivened their social life. Because of his limited knowledge of western agriculture, he was not so warmly received by the more practical minded members of the faculty who were, perhaps, more agriculturally than socially inclined.

Tucker, in 1902, became involved with Mrs. Meredith, the preceptress, in an unfortunate dispute as to administrative responsibility for the students. He held that, as principal, he had jurisdiction over the girls as well as the boys. Mrs. Meredith, on the other hand, claimed undisputed authority over the girls. In this view, she was upheld by Dean Liggett. Friction over the matter increased to the point where Tucker carried his case to the Board of Regents. Wisely or unwisely, depending on the viewpoint of the contestants, the Regents solved the problem by securing the resignation of both Principal Tucker and Preceptress Meredith in August, 1903. While this allayed the internal strife to some extent, it did not at once heal the wounds caused by it. The sympathy of a large part of the student body and of a liberal share of the faculty had been with Tucker, and they were slow to accept the verdict of the Regents. The editor of *Farm, Stock and Home* roundly criticized the Board

and demanded public investigation of their action, even going so far as to criticize the administrative ability of Dean Liggett.[90] Fortunately, a public outbreak was avoided and time gradually mellowed the minds of those concerned. The event, however, was a factor in further impairing Dean Liggett's health which earlier had been undermined by the heavy responsibilities he had carried in the interest not only of the agricultural department, but of the University as a whole. Because of impaired health, he was obliged to resign the Deanship in June, 1907, after eighteen years of outstanding service to agriculture and the University as Regent, agricultural committeeman, Chairman of the Experiment Station Corps, and Dean and Director of the University Department of Agriculture. None had done more than he in his time to firmly implant the School of Agriculture in the educational program of the State.

The Board of Regents was fortunate in their choice of a principal to succeed Professor Tucker. It fell upon Professor D. D. Mayne, a man with a rural background who had won fame as an educator in schools at Fennimore, Elhorn, Fort Atkinson, and Janesville, Wisconsin, and Ishpeming, Michigan. Mayne had successfully introduced agricultural subjects in the public schools and was among the first to write a textbook for public school agriculture. Entering upon his new duties with enthusiasm and good judgment, he continued for twenty-six years to lead the School forward and upward through a period of dynamic change in educational thought and processes. Under his guidance, the curriculum was broadened and elective selection of subject-matter courses introduced, that students might successfully prepare themselves for the more highly specialized types of agriculture then developing. He introduced, also, the home project course which definitely tied the student's home life with the instruction received in the classroom and stimulated the application of knowledge gained in the classroom to the everyday affairs of the farm family.

Emphasis was placed on the social sciences as affecting rural living conditions and community welfare and upon economic and business courses tending to improve the earning power of the young people returning to the farms of the State. He was an inspiring leader who fully upheld the best traditions built up by the pioneer farmers and educators who had established the School on a firm foundation. Education for the masses rather than for the classes was his chief interest and ambition.

[90] *Farm, Stock and Home*, 19:255, 270, 286, 302, 318, 336, 356, 397; June 15, July 1 and 15, August 1 and 15, September 1 and 15, October 15, 1903.

The vacancy caused by the resignation of Mrs. Meredith was filled by the advancement of Miss Catherine Comfort to the position. Miss Comfort had been appointed a year previously as an instructor in English in which position she had demonstrated ability and high character. As preceptress, she served with distinction until called to a more remunerative post in Mills College, Oakland, California in 1906. She in turn was succeeded by Mrs. Fannie C. Boutelle—1906 to 1918. Mrs. Boutelle worked closely with Principal Mayne in broadening the course work of the School, adding emphasis on the economic phases of domestic economy and on social customs and etiquette.

Influence of the Minnesota Plan on Other States

THE success attending the practical School of Agriculture in Minnesota soon attracted the attention of agricultural educators in other states. Many of the colleges and universities had experienced the same difficulties in popularizing agricultural education on a college level that had troubled the officials of the University of Minnesota. Attendance was limited in most such institutions and criticism of the instruction offered was both abundant and emphatic.[91]

Perhaps the deepest influence of the School operated indirectly rather than in a direct fashion. There were many colleges that carried the label "agricultural," which everyone knew were carrying a top-heavy load of classical and literary scholars. The recital of enrollment figures from institutions of this order aroused skepticism and doubt. The steady growth of the School at the University of Minnesota aroused no such distrust. Its courses were openly and demonstrably agricultural—open to inspection by whomever should take the trouble to do so. The continued growth of the student body did much to hearten the morale of agricultural educators and sponsors of agricultural education. Here was proof positive that a curriculum in agricultural subject matter could be not only thoroughly sound, but could also hold and attract more and more interest from students coming from the farm. This was in direct contradiction to the

[91] The files of the *American Agriculturist, The Country Gentleman,* and *Breeders' Gazette* for the decade 1880-1890, clearly indicate the dissatisfaction existing in the quarter of agricultural opinion as to the course and worth of agricultural education as it then existed. Citations from these magazines and others relating to the general status of agricultural education in the United States from 1860 through 1890 are on file in the historical records of the Department of Agriculture of the University of Minnesota.

sayings of a generation of skeptics that when the farmers' sons took up books it was only to seek a way to avoid farming. To men who lived in the generation of Hays, the success of the Minnesota School and similar institutions did much to hearten them for more work in agricultural education and for seeking ways to make such education more widely available to those seeking an agricultural education.[92]

By 1893, favorable reports were being published of attendance attracted to the School in Minnesota and of the favorable attitude of students to the instruction offered. Favorable, also, was the attitude of the farmers of the State who were solidly backing the School and its founders in the belief that their boys now would be educated for farming. The requests for outlines of the Minnesota plan were frequent and insistent. Delegations came to see the School at work and went away well pleased by what they saw. Other agricultural colleges gave consideration to school courses of less than college grade in the hope of meeting the demand for practical education in agriculture. Note is made in the report of the United States Department of Agriculture in 1893 of efforts to attract more youths from the farms to the colleges by the establishment of short courses.[93]

The Yearbook for 1894 contains a report from the director of the Office of Experiment Stations in which he states:

> The success of the schools of agriculture having a curriculum of lower grade than that of the college, in Minnesota, Rhode Island, and Connecticut, is evidence that there is a demand for institutions which will receive students directly from the common schools and give them training in agricultural subjects along with those ordinarily taught in high schools. Experience in agricultural education in this country during the past thirty years shows that colleges of agriculture are mainly for those who have the means and the leisure to gain that liberal education which will fit them to be investigators, teachers, journalists, and managers of large agricultural enterprises. In a word, the colleges are principally useful in training the leaders in agricultural progress. This is a high duty, and its successful performance should entitle an institution to the gratitude and support of the people. But there is need that the masses of our agricultural population should have more ample opportunities for education in agricultural lines.[94]

[92] In the history of secondary education in agriculture, Willet M. Hays must be mentioned as one of the prime forces. He dreamed, preached, and worked in the evangelism of improvement of the living conditions of rural people. The Department of Agriculture of the University of Minnesota is in receipt of a bibliography of Hays' writings from Miss Claribel Barnett, Librarian of the United States Department of Agriculture.

[93] A. C. True, *Report of the Director of the Office of Experiment Stations*, in the Report of the Secretary of Agriculture, 1893. p. 420, 448-452.

[94] A. C. True, *Education and Research in Agriculture*, in the Yearbook of the United States Department of Agriculture, 1894. p. 112-113.

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[94] A. C. True, *Education and Research in Agriculture*, in the Yearbook of the United States Department of Agriculture, 1894. p. 112-113.

In the 1897 Yearbook, A. C. True calls attention to the need for agricultural education in schools standing between the common schools and the colleges, and again cites the success attending the Minnesota plan.

> Between the college and the common school is the high school, normal school, or academy. Large numbers of farmers' boys and girls go to these schools, commonly located near their homes, who are unable to attend the longer and more expensive college courses. Surely some provision for agricultural instruction ought to be made in such schools. Thus far only a few attempts have been made in this country to provide agricultural instruction of the high-school grade. It is true that some of the agricultural colleges receive students directly from the common schools, but the constant tendency is to raise the grade of instruction in these institutions to a college basis and, under any conditions, they very imperfectly perform the duties of secondary schools of agriculture. The University of Minnesota has in recent years maintained a school of agriculture in which instruction in agriculture of a lower grade than that given in the college of agriculture has been successfully imparted. This school has proved quite popular. Some 300 students were in attendance last year, and it has been found desirable to offer courses for girls as well as boys.[95]

One of the enthusiastic advocates of secondary education in agriculture was Professor W. M. Hays, a member of the first faculty engaged at Minnesota. Hays, after an absence of a year and a half from the Minnesota institution, returned to it with the understanding that he would be free to promulgate plans for branch experiment stations and more secondary agricultural schools in Minnesota. This plan he immediately began to promote in frequent attendance at gatherings of educators and research men, and at the annual meetings of the National Association of Agricultural Colleges and Experiment Stations. He talked freely of the success of the Minnesota School and of his plans for putting schools of a similar nature within reach of more people.

A study of the points of origin of the School population in attendance at Minnesota each year clearly indicated that there was a limit to the distance to which parents would send their children for instruction in agriculture. While a few students were enrolled each year from distant parts of the State, by far the larger proportion came from nearby areas, and most of them from within a distance of seventy-five to one hundred miles. This fact served to support the idea that there should be not only several branch experiment

[95] A. C. True. *Popular Education for the Farmer in the United States*, in the Yearbook of the United States Department of Agriculture, 1897. p. 287-288.

stations in the State, but a number of secondary agricultural schools as well. His efforts were, therefore, exerted in behalf of the organization of an agricultural educational program built upon the basis of: (1) Consolidated rural schools embracing an area of four to six miles square and employing two to four teachers. (2) Secondary schools serving ten to twelve counties or a congressional district. These schools were to provide dormitories and living quarters, as well as classrooms, and were to be located on farms of several hundred acres. It was anticipated that from fifteen to thirty instructors would be employed at one of these schools in teaching four hundred to six hundred students, which was thought to be the desirable size. (3) Normal school courses in agriculture to prepare teachers for giving instruction in the consolidated rural schools. (4) A first-class agricultural college for the preparation of teachers for the secondary schools and for service in agricultural research in state experiment stations, the United States Department of Agriculture, and elsewhere.[96]

Believing that this plan might well be nationalized, Hays secured the cooperation of members of Congress and influential people interested in educational matters. Bills were introduced in Congress proposing legislation and financial support for a system of agricultural education built along these lines. For the most part, the proposals were believed to be ahead of the times and progress was slow; however, by 1905 a considerable following had been built up. At a Farmers' Institute meeting held at Berkeley, California, December 25 to 29, 1905, emphasis was laid upon the need for teaching agriculture in high schools and in a limited number of secondary agricultural schools. This meeting was followed by the establishment of such a school at Davis, California in 1907.[97]

Called to the United States Department of Agriculture as Assistant Secretary in January, 1905, Hays was in a position to further promote his program for agricultural schools in each congressional district. Georgia adopted the plan in 1906 and established eleven congressional district schools. These schools, like the Minnesota School, were coeducational; however, they took students at a much younger age and provided a four year course. Manual training or laboratory work was required three hours a day, and one fourth of the students enrolled were required to work during the summer months on the farm at which the school was located.

[96] W. M. Hays, "Our Farmer Youth and the Public Schools," *Review of Reviews*, 28:449-455, October, 1906. See also: "The Agricultural Department of the State University," in *Annual Report, 1895*, of the Minnesota State Agricultural Society. p. 121-127. See: Editorial on the achievements of Hays in the *Experiment Station Record*, 58:706-709, June, 1928.

[97] Op. Cit. *Experiment Station Record*, 58:708-709.

Schools of a similar nature, but not under systematic organization, were established in New York State, in Arkansas, Nebraska, Vermont, Colorado, and Oklahoma. Some of the colleges met the issue by offering non-degree courses of a few months to two years under college supervision.

The Development of Branch Schools

THE founding of the Northwest Experiment Station was largely the work of Willet M. Hays. In 1895, with the assistance of J. J. Hill, who made a donation of land, and Senator A. D. Stephens of Crookston, he persuaded the State Legislature and the Board of Regents to establish an experiment station near Crookston. Hays from the very beginning had in mind a school of agriculture to be operated in connection with the Farm. He realized, however, that the school would have to wait until the School at University Farm and the College of Agriculture reached full development. The growing reputation of the School of Agriculture early made its influence felt in the Red River Valley. Shortly after the turn of the century, the citizens of Crookston made requests to the Regents for the establishment of a branch agricultural school in their community. They argued that the agriculture of the Red River Valley could be taught better at Crookston than at St. Paul, and that the distance from the School, too, prevented many farmers from sending their sons and daughters there. Senator Stephens in 1905 carried the request to the State Legislature and succeeded in establishing a school with an appropriation of $15,000 for a building, but failed to secure funds for maintenance. With the completion of the building, designed to provide facilities for instruction in 1906, the citizens of Crookston raised $25,000 to maintain the School during the first year. Thirty-one students were enrolled in the first year, taxing to the utmost the available boarding facilities.[98]

William Robertson, who had been an instructor at the School of Agriculture for a period of fourteen years, became superintendent of the farm in 1905 and took over supervision of the School. Under

[98] Minnesota Legislature. *Journal of the House, 1895*. p. 268, 305, 461, 567, 726. *General Laws of Minnesota for 1895*. Chap. 162, p. 349. *Journal of the House, 1905*. p. 67, 604, 606, 890, 1161. *General Laws of Minnesota for 1905*. Chap. 132, p. 170. *Red River Valley Farm Journal*. (Crookston, Minn.) November 17, 1904. Minnesota University. *President's Report, 1911-1912*. p. 99-105.

the guidance of this singularly forceful and inspiring teacher, the School made rapid progress.[99]

Considerable additions to the physical plant have been necessary from time to time. The building used originally for administrative purposes now houses home economics and music. Stephens Hall, dormitory for boys, was added in 1908 in which year Owen Hall, devoted to manual training and shop works, was also built. The administration building and library (Kiehle Hall) were put into service in 1910. Growing registration made it imperative to secure better quarters for the women. These were provided in 1910 by the erection of Robertson Hall, named after the first superintendent of the School. Additional classroom space was provided in the Hill Building, erected in 1912, and another dormitory was added in 1914. A dining hall (1921), an excellent building housing the Health Service (1926), and a physical education building (1930) are the more recent additions.

From an enrollment of thirty-one students in 1906-07, the Crookston School has enjoyed a steady growth, and in 1939-40 boasted a roster of 426 men and women students. It is the largest of the branch schools and approaches in size the enrollment of the School at University Farm. The announcement for 1938 listed twenty-three resident instructors.

Upon Robertson's death in 1910, C. G. Selvig became superintendent. He was a graduate of the University of Minnesota, coming to his duties with a good record for work in introducing agricultural subject matter in the Glencoe High School of which he was superintendent. Superintendent Selvig resigned his post in 1927 when he was elected to Congress. During his administration the School reached a high state of development. He had built up and left to his successor a staff high in morale, united in working toward a common goal. A. A. Dowell, a graduate of Iowa State College, became superintendent upon the retirement of Selvig. He was an extension specialist in animal husbandry and experienced in the general field of agricultural education. His tenure of office marked a decade of continued advancement of the School. Upon Dowell's resignation to become Professor of Agricultural Economics at University Farm, T. M. McCall, also a graduate of Iowa State College, took over the duties of superintendent.

Scarcely a session of the Legislature went by in which some representative or senator did not seek to secure for his community a branch agricultural school. Had the legislature bowed to the wishes of

[99] J. A. Vye, "William Robertson, An Appreciation." *Minnesota Farm Review*, 15:25-26, February, 1910.

communities, few counties over the years would have been without such a school. Secondary agricultural education by 1909 was popular with farmers and educators alike, and there was a danger that schools on this order might be founded faster than the State could well support them. At this time, fortunately, there was a way to secure a school with the minimum of expenditure. The Indian School at Morris, operated by the Federal Government through the Department of the Interior, was no longer needed. Few Indians were in attendance, and since there was no concentrated settlement of them in this district, there was no necessity for its maintenance. Willet M. Hays, then Assistant Secretary of Agriculture, was aware of this situation. He brought his influence to bear upon Senator Moses E. Clapp of St. Paul who, on December 9, 1908, introduced a bill in the United States Senate to transfer this school to the State of Minnesota. The Minnesota Legislature memorialized Congress in 1909, commending the Clapp measure[100] which was approved shortly afterward.

The Legislature selected a committee to visit the Indian School and report upon its suitability for use as an agricultural school and experiment station. The committee found the 290 acres of land suitable for experimental purposes and as an adjunct to a school. The buildings, too, were judged as being well adapted to the needs of a school of agriculture. They consisted of one three-story structure used by the government as an administration building, a dormitory, a hospital, and a building made up of classrooms. The Legislature accepted the gift and placed it under the jurisdiction of the Board of Regents to be used as an agricultural school. Since acquiring the School there have been numerous additions in the way of buildings, not including those which are designed to further station work, but which are useful in carrying on the work of the School. They are: a girls' dormitory (1912); Spooner Hall, a men's dormitory (1913); the engineering and forge shop (1915); a dining hall and girls' dormitory (1918); Senior Hall, a boys' dormitory (1920); Agricultural Hall (1921); hospital (1924); physical education building (1930).

The School opened its doors in the fall of 1910 when 103 students enrolled. E. C. Higbie, a graduate of the University of Chicago and Minnesota, with a background of public school experience, became the first superintendent. Superintendent Higbie did much to make the west-central section of the State aware of the services

[100] Minnesota Legislature. *Journal of the House, 1909*. p. 151, 229, 367-368, 672, 686, 772, 806, 1516, 1702. *General Laws of Minnesota for 1909*. Chap. 184, p. 207. Minnesota University. *President's Report, 1911-1912*. p. 105-108.

the School had to offer. He was succeeded by Paul E. Miller in 1917. Superintendent Miller, a graduate of Iowa State College, had begun his services at Morris as agronomist under Higbie. Under his guidance, the enrollment of the school doubled within ten years, and by additions to the curriculum it has approximated the general structure of the School at University Farm. The enrollment in 1939-40 was 367 men and women. Superintendent Miller resigned in 1938 to become director of Agricultural Extension at the University of Minnesota. He was succeeded by T. A. Fenske, the present superintendent of the School and Station.

The sub-station at Grand Rapids, now known as the North Central Experiment Station, like the Station at Crookston, was founded in 1896 under the leadership of Willet M. Hays.[101] Here, too, it was planned ultimately to make the Farm a site for a school as well as for an experiment station. The relatively late development of the northern portion of the State naturally held back any energetic steps to found such a school. The rapid expansion of the agricultural acreage during the World War and the consequent reappraisal of hitherto unused lands did much to stimulate efforts to develop the northern portions of the State. Whatever the immediate cause may have been, it was thought desirable that in time a school be established here to serve a population somewhat removed from easy access to the School at the University Farm. The problems of the cut-over area, too, are different from those in the other parts of the State. Methods of land clearing and land use could be taught here to best advantage, at least better, it was believed, than at a school far removed from the scene. The agitation for additional branch schools was resumed in the legislative sessions of 1919 and 1921. There were proposals for schools to be located at Grand Rapids, Waseca, and Duluth.[102] The Legislature of 1921 selected Grand Rapids as the site for a school, but failed to make the appropriation needed to carry the authorization into action.[103] In 1923, however, $80,000 was appropriated for a school building.

This building, together with a dormitory for men and a dining hall with capacity for eighty, was ready for occupancy by October, 1926. The School opened in that year under the direction

[101] Thomas Shaw, "Experimental Substation at Crookston." *Minnesota Farmers' Institutes Annual,* 11:7-28. 1898. "The Subexperiment Station at Grand Rapids." *Minnesota Farmers Institute Annual,* 12:9-26. 1899.

[102] Minnesota Legislature. *Journal of the House, 1919.* p. 77, 1098-1099, 1126, 1134, 2004. *Journal of the House, 1921.* p. 1070, 1072, 1073, 1074, 1099, 1100, 1101, 1168, 1173, 1176, 1219.

[103] Minnesota Legislature. *General Laws of Minnesota for 1921.* Chap. 225, p. 278.

of Otto I. Bergh, an agronomist and a graduate of the University of Wisconsin who had been superintendent of the farm at Grand Rapids since 1914. He was succeeded in 1930 by R. L. Donovan, an extension specialist in animal husbandry and a graduate of the University of Minnesota. The superintendent of the station is also the superintendent of the school. The registration has grown from eighteen students in 1926-27, with slight fluctuations, to seventy students in 1939-40. The faculty has been increased so that at present it is composed of nine full-time instructors. Owing to the facilities provided by the high school at Grand Rapids, attendance up to the present has been limited to men. This factor, and the sparse population of northern Minnesota coupled with the agricultural depression, has prevented the North Central School from attaining the size of the other branch schools.

The growth of the branch schools on the whole reflects the efforts of earnest and conscientious superintendents. By being physically connected with the branch experiment stations, the schools have profited from the close association of the latter with the farming population. Although these institutions are known as branch schools, they are in no sense mere adjuncts of the University. They have become integral parts of the communities in which they are located, and this augurs well for their continued prosperity in the future.

Changes in Administrative Supervision of the School at University Farm

NO attempt will be made here to elucidate the contributions of the administrators who have supervised the affairs of the School through the half century of its existence. Changes will be noted only as affecting the chief administrative officers in the School organization.

The Board of Regents of the University has placed responsibility for the administration of the School upon the Dean of the Department of Agriculture and the Superintendent of the School. It is the Dean's duty to coordinate the interests of the School with the interests of the College of Agriculture, the Agricultural Extension Service, and the Experiment Station, which are other organically established units of the Department of Agriculture. Under the Dean's supervision, School affairs are administered by a Superintendent who leads the faculty in shaping the curriculum and in conducting the everyday work of the School.

While changes in the Deanship have occurred from time to time, the tenure of office has on the whole been stable and well sustained. Dean Liggett was succeeded in 1907 by E. W. Randall, a member of the Agriculture Committee of the Board of Regents, and long identified with the State Agricultural Society. Randall remained in office only a little over a year, resigning in December, 1908, to enter the insurance field. He, in turn, was succeeded by John W. Olsen, State Superintendent of Public Instruction, and ex officio member of the Board of Regents. Olsen was elected to the position by a bare majority vote of the Regents. Protest arose in the agricultural press over the appointment, and there was lack of support from the faculty.[104] As a consequence, Olsen resigned in August, 1909 and was succeeded as Dean of the Department of Agriculture by Dr. A. F. Woods from the United States Department of Agriculture. Woods served until the end of the academic year 1915-16. He, in turn, was succeeded by R. W. Thatcher who had been serving as chief of the division of biochemistry in the University Department of Agriculture. Thatcher served as Dean until the end of the college year 1920-21 and was succeeded by W. C. Coffey from the College of Agriculture of the University of Illinois, who holds the position at the present time.

While the duties of the Dean of the University Department of Agriculture are varied and heavy, it must be said for those who have served in this position that they have at all times carefully guarded the interests of the School and have recognized its unique position among the educational institutions of the State.

There have likewise been many changes within the ranks of the faculty. Note will be made here only of changes in administrative heads from time to time.

Principal Mayne, who was appointed in 1903, was forced by ill health to retire in December, 1929. His term of service extending over a period of twenty-six years was marked by substantial growth and by improvement in quality of instruction. Especially notable was the enthusiasm inspired by him among the students for the development of leadership in rural institutions and affairs.

[104] The resignation of Dean Olsen marked the end of the Regents' policy of selecting local men for the deanship. While the influence, prestige, and ability of Dean Liggett were a distinct asset to the School, it was generally realized that henceforth the deanship should go to persons qualified by training and experience. The appointment of J. W. Olsen, an experienced pedagogue but not an agriculturist, aroused a furor of protest in the *Farm, Stock and Home* and in the *Northwestern Agriculturist*. The faculty at University Farm openly protested the appointment. As a result, the Regents bowed to public opinion which left no doubt as to where it stood.

Upon Mayne's retirement, Mr. J. O. Christianson, who had been serving as an instructor in the social sciences and as supervisor of home project work in the summer months, was made Acting Principal upon Mayne's retirement. In 1931 he was advanced to the Principalship and to full responsibility for the administration of the School. His title was changed from Principal to Superintendent in 1934.

Mrs. Fannie C. Boutelle, preceptress, was given a year's leave of absence in 1917 to engage in Red Cross work. Upon the expiration of her leave, she resigned her position and retired to private life. Miss Bessie Bemis, a home economics instructor, was placed in charge of the girls' dormitories in 1917 during Mrs. Boutelle's absence, and acted as preceptress until the close of the year 1917-18, since which time the dormitories for girls and for boys as well have been in charge of resident matrons.

Changes in Emphasis

UNDER the administration of J. O. Christianson, there have again been revision and liberalization of the curriculum. Greater emphasis rightfully has been placed upon the social sciences as affecting rural life and institutions. More attention is being given to economic and civil government, to studies of cooperative movements and institutions, to business methods and farm law in recognition of the need for leadership in these lines among farm groups. Music, dramatic art, and debate under his direction have been given a larger place in the schedule of instruction with the view of enabling rural communities to develop their own entertainment and recreational programs. The curriculum of the School of Agriculture is yet, as always, essentially in harmony with the needs that prevail throughout the countryside for practical education adapted to the lives of rural people.[105]

[105] A series of charts and diagrams showing the development of courses in the School of Agriculture from 1888 through 1938 is filed in the historical papers of the Department of Agriculture of the University of Minnesota. These charts show the changes in emphasis in the curriculum that have taken place from time to time.

Present Trends and Objectives

MEASURED by total attendance, by the number of its graduates, by the proportion of those attending returned to farms, or by its contributions in pioneer days to the advancement of agricultural education, the School of Agriculture has yielded good returns to the State and the nation.

From the date of its establishment in 1888 until America's entrance into the World War, attendance at the School was maintained at a point which taxed to the full the available facilities of the institution. The pre-war peak was reached in 1912-13 with an enrollment of 898. Attendance was maintained at approximately that figure until 1915-16 when enlistments in the army and pressure for farm production began to tell on enrollment. With the entry of America into the war in 1917-18, there was a sharp decrease in attendance. Quick recovery followed, however, at the close of the war and attendance was maintained at approximately 700 annually until 1923-24. The effect of the post-war depression, marked by a sharp decline from war-time prices, was reflected in reduced income to farmers. This reduction in income began in 1922-23 to influence downward the enrollment in the School. By 1924-25 attendance again rose until the effect of the depression of the early 1930's reached the farmers. "Hard times" have always had a tendency to reduce educational activities. This is particularly true in relation to attendance at the School of Agriculture. The enrollment was at low ebb in 1932-33, but has increased in the following years to comfortable though not capacity proportions.

Undoubtedly there are factors other than scarcity of income which have accounted for reduced enrollment at the School. Among these factors is the competition from other institutions of secondary grade offering instruction in agriculture. The branch schools at Crookston, Morris, and Grand Rapids have extensively served their districts. They now enroll approximately 850 annually. While attendance at the School of Agriculture never was large from these districts, the sum total diverted by them would be of noticeable proportions. Collectively, the secondary schools of agriculture under the control of the Board of Regents of the University of Minnesota are providing for a continuously growing student body. Over 1,200 students are annually in attendance. In addition, agricultural instruction has been offered in recent years by an increasing number of the high schools of the State. There are now 146 Smith-Hughes schools in the State that offer systematically organized courses in agriculture and home

economics. Undoubtedly, many seeking rudimentary education in agriculture attend these schools that otherwise might enroll at the School of Agriculture. Farm families are reluctant to send their children away from home to school during the adolescent years. Schools offering elementary instruction in agriculture and located within easy reach of the farm home are attractive to such families whose budgets must naturally reckon with the stress of the prevalent financial uncertainties in farm incomes. An encouraging feature is the improvement in quality of the courses offered, and the increasing number of high school students and graduates who are now enrolling for practical instruction in the agricultural branches. Many of these desire to become farmers, and regard it as unwise to spend the time and money required to complete a full course in a college of agriculture. High school graduates can generally complete the School course in agriculture at University Farm in one and one-half to two years, thus becoming well fitted to engage in farm operations. Increased enrollment of students coming with this type of preparation makes it essential to improve the quality of the instruction offered and to raise the standards of instruction to a somewhat higher level than in the original years.

The graduates of the School at University Farm now number 4,289 out of a total of nearly 20,000 who have attended. Close estimates based on partial record and careful inquiry indicate that 80 to 85 per cent of them have returned to their home communities. Many of those so returning are farm owners and operators. Some are tenant farmers working toward farm ownership. Others are working for parents or neighbors, seeking to get a start up the agricultural ladder and eventually to become farm owners. A few have gone into industrial work closely related to agriculture.

Catching the spirit of cooperation and drilled in the fundamentals of cooperative organization while at the School, graduates are found taking an active part in cooperative movements wherever they live. The Farmers' Clubs of Minnesota were built up by and around graduates and students of the School.[106] These clubs later were the nucleus out of which the County Farm Bureaus were formed and later organized into a State Farm Bureau Federation. Students and graduates have been active also in cow testing association work and in organizing cooperative livestock shipping associations, oil companies, cooperative creameries, and other farmers' cooperatives. They will be found on administrative boards of many of the cooperative organ-

[106] Farmers' Club of Minnesota. *Year Book and First Annual Report.* Minneapolis. University Press. 1905. p. 1-4.

izations within the State and often in active leadership of such boards.[107] Nor has their leadership been less commendable in the organization of recreational and social activities in rural communities. Enthusiasm for farming and for farm life are marked characteristics of those who have attended the School. While their influence on country life is intangible and unmeasurable, it is nevertheless real and important.

The 15 or 20 per cent of graduates who do not return to the farms are found in diverse industries and professions. Many of them, having gained a taste for education, go on through college and take their places in the ranks of teachers of agriculture or in some branch of agricultural research or administration.

A primary function of farmers is to produce the materials of food and clothing for all of the people. Since one of America's goals is efficiency, it follows that the School must emphasize, as it always has, efficiency in conducting farm enterprises. In order to do this, instruction must be given in subjects having to do with the biologic and economic problems of farming. How to strike an equitable balance between technical and social subjects in the best interest of students is a matter which continues to receive serious study by the administrators and faculty of the School.[108]

In the earlier years of its existence, major emphasis was placed upon technical agricultural subjects such as soils, crops, and animal production. Fortunately, however, from the beginning those in charge of the School recognized that farming is a way of life as well as an industry. Therefore, they placed emphasis on subjects bearing upon training for rural citizenship and revised their curricula so as to place more emphasis on social and economic problems of rural life. As a result of their training, School graduates have been interested and effective in the maintenance of other types of societies and organizations essential to the welfare of the communities in which they live.

It is difficult to explain the nature and function of the School of Agriculture to people who have had no experience with institutions similar to it. It is not a high school nor is it a college. Essentially, it is a vocational school occupying an unusual and unique position in the educational system of the State. Originally it supplied educa-

[107] J. O. Christianson, *A Study of the Graduates of the School of Agriculture of the University of Minnesota, 1890-1936.* Prepared with assistance of Works Projects Administration, Project No. 465-71-3-350. Typed. Filed in the office of the School of Agriculture.

[108] This statement on functions is based largely upon the report of W. C. Coffey in the *President's Report for the Years 1936-1938.* p. 226-227.

tional needs to young men and young women who had not gone beyond the elementary schools and who had planned to engage in farming. Increasingly it is now serving the needs of high school graduates who do not plan to earn a college degree, but desire to have one or two years of training especially adapted to the needs of men and women who are expecting to operate land and live in the open country.

The main objective of the School of Agriculture still is to train young men and young women for farming and for rural life. In general, the records made by School graduates as farmers and rural home makers reflect credit on the institution in which they have received their training. Throughout the State the attitude toward the School is wholesome. This is believed to be because the graduates have acquitted themselves well as farmers and citizens.

Appendix I: *Note on Vocational Placement*

The question of vocational placement is best answered by stating again the purpose of the School of Agriculture. It provides non-professional instruction in agriculture to students having a varying degree of previous training. To those who have completed the ordinary grammar school and are sufficiently mature, seventeen years of age or over, the School offers a three years' course of six months each. High school graduates may complete the course in two years. The School does not, as is commonly conceived, fit into the usual high school-college scheme. It is beyond high school in that the students are somewhat more mature. It is a high school in the sense that grade school graduates are eligible for enrollment. And it is collegiate in the sense that many high school graduates may and do profit by these additional years of instruction. There is no degree for a goal.

While the School has at no time adopted a narrow conception of the training necessary in the field of agriculture, it has long been a working principle that its students should be trained for the actual business of operating a farm. The ideal to which the School has held fast is to put upon the farms of Minnesota young men and women acquainted with the contributions science can offer to make farming more profitable both in the way of financial income and vocational satisfaction. While a prosperous and efficient farmer is an asset to the community and the State, the student is also trained to realize that his leadership in bettering farm life for his neighbors should follow from the privilege the State has extended in giving him an education beyond that enjoyed by his fellow men. Therefore, the School has made every effort to ascertain whether the prospective student has a farm background and whether he desires to continue the business of farming after leaving the School. Agricultural education is expensive, and the School has rightfully insisted that its instruction be given to those who are most likely to profit from it.

Not all of the students, however, are accepted on the basis of this one criterion. Some, for example, enter the School to better train themselves for leadership in 4-H Club work, others take the course to prepare themselves for responsible positions in the management of creameries and other cooperative businesses. Others come to fit themselves as herdsmen and operators of specialized farm enterprises.

Thus, it can be seen that the problem of vocational placement is one of secondary importance in the School of Agriculture; however, the occasion for such placement does arise from time to time. Some of the graduates of the School who can be spared from the home farm for a few additional years often seek employment as farm managers or foremen. Most of such placement is done through the various divisions offering instruction. The Division of Animal Husbandry will recommend students as herdsmen or for testing work; the Horticultural Division places apt pupils in nursery enterprises; and so on. While this placement is more or less informal, the Superintendent of the School during the past decade has made every effort to keep prospective employers aware of the School's services. No formal bureau is maintained as it is felt that final placement should depend upon the judgment of the instructional division most likely to know the qualifications of the individual student.

The employment of women graduates, naturally, presents a somewhat different problem. As is the case with men, most of the women make their life work upon the farm. Some of the graduates, before marriage, seek employment. Many of them, by reason of business training at the School and farm experience, are admirably qualified for secretarial positions in agricultural enterprises. Others, trained in home economics and hygiene, are well adapted to become household managers on large farms and institutional homes. Others are qualified to take up duties as practical nurses, in cases needing intelligent and trained services but not requiring girls trained in medical institutions. Their farm background, in addition to training gained under competent teachers in the School, should make their work increasingly useful in rural communities.

As the technique of farming is becoming more complex every year, and as the gap between the relatively uneducated farmer and the agricultural scientist widens, it is becoming more evident that students trained in the School of Agriculture will find their sphere of usefulness increased. There is every reason to believe that should the graduate of the School leave the farm for employment in an allied industry, his previous training will stand him in good stead.

Appendix II

A partial list of textbooks and bulletins used as texts developed at the School by members of the School faculty and of the Experiment Station staff.

Boss, Andrew

1903 *Meat on the Farm: Butchering, Curing, and Keeping.* U.S.D.A. Farmers' Bulletin No. 183. (Revised in 1906.)

1914 *Farm Management.* (Revised in 1923.)

Boss, William

1906 *Instructions for Traction and Stationary Engineers.* (Lessons 1-20.)

1906 *Instructions for Traction and Stationary Engineers.* (Bound form, revised.)

Drew, James M.

1901 *Farm Blacksmithing.*

1935 *Blacksmithing.* (Revision of *Farm Blacksmithing.*)

Green, Samuel B.

1893 *Amateur Fruit Growing.*

1898 *Forestry in Minnesota.*

1899 *Vegetable Gardening.* (Second edition.)

1902 *Forestry in Minnesota.* (Second edition.)

1903 *Principles of American Forestry.* (Second edition.)

1906 *Farm Wind-Breaks and Shelter-Belts.*

1906 *Ornamental Trees, Shrubs, and Herbaceous Plants in Minnesota.* (Minn. Ag. Ex. Sta. Bulletin 96.)

1912 *Popular Fruit Growing.* (Fourth edition, revised, also published in 1909 and 1910.)

1914 *Vegetable Gardening.* (Fourteenth edition, second revision. Copyrights in 1901, 1905, 1908, 1909.)

Green, Samuel B. and Mackintosh, R. S.

1901 *Outline of Greenhouse Laboratory Work.* (Minn. Ag. Ex. Sta. Bulletin No. 12—Class Bulletin.)

Haecker, Theophilus L.

1900 *Investigation in Milk Production; Feeding Dairy Cows.* (Minn. Ag. Ex. Sta. Bulletin 67.)

1903 *Investigation in Milk Production.* (Minn. Ag. Ex. Sta. Bulletin 79.)

Haecker, T. L. and Major, E. W.

1901 *Investigation in Milk Production.* (Minn. Ag. Ex. Sta. Bulletin 71.)

Hays, Willet M.

1905 *Breeding Animals and Plants.* (Reprint from 1902-1904 *Breeders' Gazette.*)

1910 *Farm Development.*

Hays, Willet M. and Boss, Andrew

1899 *Wheat: Varieties, Breeding, Cultivation.* (Minn. Ag. Ex. Sta. Bulletin 62.)

Hays, Willet M. and Parker, Edward C.

1906 *The Cost of Producing Farm Products.* (Minn. Ag. Ex. Sta. Bulletin 96.)

Lugger, Otto

1896 *Insects Injurious in 1896.* (Minn. Ag. Ex. Sta. Bulletin 48.)

1897 *Grasshoppers, Locusts, Crickets, Cockroaches, Etc., of Minnesota.* (Minn. Ag. Ex. Sta. Bulletin 55.)

1899 *The Black Rust or Summer Rust; The Hessian Fly; Migratory Locusts or Grasshoppers.* (Minn. Ag. Ex. Sta. Bulletin 64.)

Reynolds, Myron H.

1903 *Veterinary Studies for Agricultural Students.*

1922 *Veterinary Studies for Agricultural Students.* (Eighth edition, published 1910, reprinted 1911.)

Shaw, Thomas

1895 *Grasses and Clovers, Field Roots, Forage and Fodder Plants.*

1897 *The Study of Breeds.* (Lectures.)

1897 *Feeding and Management of Live Stock.* (Lectures.)

1899 *Forage Crops other than Grasses.*

1900 *Sheep Husbandry in Minnesota.*

1900 *The Study of Breeds.*

1900 *Soiling Crops and The Silo.*

1901 *Animal Breeding.*

1902 *The Feeding and Management of Live Stock.* (Lectures.) (Second edition.)

1907 *Feeding Farm Animals.*

Shepperd, Juniata L.

1902 *Handbook of Household Science.*

1908 *Handbook of Household Science.* (Revised edition.)

1909 *Laundry Work.*

Snyder, Harry

1897 *The Chemistry of Dairying.*

1899 *The Chemistry of Soils and Fertilizers.*

1903 *The Chemistry of Plant and Animal Life.*

1906 *Dairy Chemistry.*

1908 *Human Foods and Their Nutritive Value.*

1913 *The Chemistry of Plant and Animal Life.* (Third revised edition.)

1913 *Soils and Fertilizers.* (Editions and reprints: 1899, 1903, 1908, 1909, 1911, 1912, 1913. This is the third edition.)

Vye, J. A.

1899 *Creamery Accounting.*

1906 *Farm Accounts.*

Wilson, Archie D.

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