THE
NORTHWEST MONTHLY

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PRESIDENT MARION L. BURTON

PRESIDENT BURTON SPEAKS TO THE UNIVERSITY ALUMNI.

"We must recognize that we enter upon a new academic year in the midst of war. No generation of students in this University has ever faced the conditions which confront us. Our nation is engaged in the most gigantic struggle the world has ever known. The clearness, the seriousness and the finality of the issue cannot be exaggerated. Democracy and autocracy are engaged in a death struggle. Only one will survive. I firmly believe that it will be a purified democracy. The University of Minnesota stands ready to throw all its strength into the support of the government. We are a state institution, and we are supported by state funds. We cannot and will not tolerate any individuals or organizations that aim to make their interests or rights paramount to the interests and rights of the United States government. We are at war! Without in any sense sacrficing the principles of academic freedom or toleration, we cannot endure or permit many things which go unchallenged in times of peace. As an institution we stand unqualifiedly loyal to the American government.

The college student, who is not liable to the selective draft, or who has not been called, is rendering full patriotic service by seeking the advantages of a higher education. In the period of reconstruction trained men and women will be needed in every field of human endeavor. The University at work is a splendid illustration of constructive patriotism."

ELEVENTH SCHOOL YEAR OPENS.

The fall term of the Northwest School of Agriculture opened on Tuesday, October 23, with the largest first day enrollment in the history of the school. All the counties of Northwestern Minnesota were represented in the various classes that registered. There is a large number of former students in attendance which means that the Junior and Senior classes will be up to their usual quota. In addition there is the largest group of freshmen that has ever enrolled.

In addition to the students who enrolled on the first day, there were twenty-five to thirty-five who had made reservations in the different dormitories and who enrolled during the following week.

The first assembly exercises were held on Wednesday, October 24th. The usual spirited singing was enjoyed under the direction of Miss Holliday. Superintendent Selvig, in welcoming the new students, spoke of the large attendance, and urged that all the young men and women do all in their power to uphold the state and nation in this great crisis.

NEW INSTRUCTOR AT UNIVERSITY FARM.

Mr. David C. Berg is the new instructor in dairy manufactures. He was born and reared on a farm in Polk county, Minnesota, and is a graduate of the Crookston school, 1913. He has had three and one-half years' experience in a co-operative creamery in addition to one year in the Albert Lea State Creamery. Mr. Berg will assist in the courses in dairy manufactures.—Minnesota Farm Review.

LAYING RECORD BROKEN.

The Northwest Experiment Station flock of hens has always been noted for its superior winter laying hens, and from time to time many high records have been made. However, this past year all records for egg production for this station were smashed by Leghorn pullet No. 117 who completed her first year's laying with 235 eggs to her credit. Besides being a station record, this is well in advance of the state records. So states Prof. C. E. Brown, poultryman, at the Northwest Experiment Station, Crookston. He cites figures also regarding the average cost of grain food per hen for the year. In the flock that hen No. 117 belonged to it was $1.10. The value of her 235 eggs at Crookston market prices for the year was $6.45, making a profit of $5.35 for the year. This is truly an interesting record, as it proves the great possibilities that lie in the improvement of the flocks of the country.

This hen referred to, lays a beautifully shaped egg, weighing 2¼ ounces A Plymouth Rock pullet made a close run for honors finishing the year with 195 eggs. Both these hens have been bred specially for high class egg production, their pedigree showing the blood of many notable ancestors.

THE
Northwest Monthly

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THE UNIVERSITY OF MINNESOTA
NORTHWEST SCHOOL OF
AGRICULTURE

C. G. SELVIG, Superintendent

OFFICE

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Crookston, Minnesota

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MINNESOTA.

"MY FRIENDS, MINNESOTA IS THE WONDERLAND OF THE TOURIST. HER STREAMS OF CRYSTAL WATER ARE LIKE ROPES OF PEARL. HER TEN THOUSAND LAKES SPARKLING IN THE NOONDAY SUN ARE LIKE DIAMONDS NESTLING IN THE BOSOM OF MOTHER NATURE. HER TREES AND HER FIELDS ARE THE PLUMES THAT ADORN HER LIKE THE DRESS OF A BEAUTIFUL WOMAN. O, MY FRIENDS, YOU WILL ALL WANT TO GO TO MINNESOTA!"

From an address by Hon. Paul Nesbitt, of Oklahoma, at King of Trails Convention, Kansas City, July 11th, 1917.

DEAN THATCHER'S MESSAGE.

To bring to the attention of the young people of the state the need of considering their opportunities very seriously, Dean R. W. Thatcher of the department of agriculture of the university, has prepared a brief statement of the plans for the coming year, showing that the department is alive to the needs of the hour. Dean Thatcher's statement follows:

"We hope to present to the very large group of young men and women who have completed their rural school education, and are now engaged in actual farming or home-making, and who recognize their need of special technical training for their chosen life work, the special advantage of the training afforded by our schools of agriculture at University Farm, Crookston, and Morris. The work of these schools, which are commonly and rightly called "farm schools," is especially fitted to the needs of serious-minded, earnest, and mature young people who recognize the value of the practical school training which they can secure during the six months of the winter season, when farm operations are at least active in this state. Opportunity is also provided at these schools for younger pupils who have completed their eighth grade work, and wish to go on with agricultural high school work, but do not have such a school in their own home communities."

DEAN R. W. THATCHER

DORMITORY LIFE AT NORTHWEST SCHOOL OF AGRICULTURE.

In the organization of dormitory life at the Northwest School of Agriculture, the aim is to make conditions home-like and most conducive to the physical, intellectual and moral welfare of the boys and girls. Discipline is firm, yet administered by appeal to manliness and womanliness, and the spirit of loyalty rather than by arbitrary enforcement. The rules of order are only such as would obtain in any well regulated home, modified to suit the conditions of a large number of students living together in one building.

A faculty person is in charge of each building living with the students in the spirit of a "big brother" or an "older sister." Each dormitory is organized as a self governing body with officers and popular assembly as in a well ordered democracy. By this arrangement, the forces for law and order among the students which are always in the majority, are enlisted on the side of the school administration. The students are placed on their own responsibility and honor, and valuable lessons of good citizenship are learned under the sympathetic and efficient direction of an older person who understands young people.

Habits of order and industry are inculcated by required punctuality in a daily schedule of work and recreation. Regular study hours are maintained. Regular room inspection encourages good habits of housekeeping and physical training and instruction in personal hygiene together with medical examination and advice, promotes correct habits of living and good health.

Personal Contact.

This school affords the best possible opportunity for what is really the basis of all education—personal contact with the instructor. The fact that the teachers of the school live on the campus, makes possible faculty participation in many activities of the students. A good teacher can exert an even greater influence outside of the class-room than he can in it. The dormitory life, quite

t from that of the class-room, af-
s abundant opportunity for the
and social influences which are
portant in developing our young
le. In the dormitory house-meet-
such matters as pleasing manners,
, and correct social deportment
be discussed. The application of
discussion is afforded in the
rous school parties in which stud-
and faculty, on the same footing,
le for a good time.
the dormitories also are organized
classes and Y. W. and Y. M. C. A.
ps. These organizations are all
rvised by faculty members, but
conducted by the students them-
s who thereby obtain benefit not
from the religious influence of the
ings, but also from the practice
ded in organizing and carrying on
tivity of their own.
e members of the school form, as
re, a family group who work and
and mingle together in the various
onship which campus life affords.
advantage of this social contact
een student and teacher cannot be
estimated. It puts their relation-
n a basis of friendship. It enables
eacher to become acquainted with
ndividuality of each student and
rve the particular needs of each
nt in a way that would be im-
ble in any school but one with
tory facilties.

ERESTING RESULTS OF STATION AGRONOMY WORK.

th the closing of 1917 season and
mmarizing of results, the agrono-
ojects have brought to light some
interesting and valuable infor-
n.
drought of the summer did not
ially affect crops and yields.
8.51 inches of rain fell from
ry 1st to October 1st. This is
imately one-third the normal.
which received good tillage, re-
ss of fertilizer or manure, gave
as high or higher than in an
ge season, while those which re-
only the usual amount returned
yields. The contrast between
g and fall plowing is very srtik-
spring plowing yielding 11.0
ls of wheat and fall plowing 26.3
ls. In the case of corn, the spring
l land was practically a failure.
testing of first and second cut-
alfalfa for seed proved interest-
ct of course not conclusive. The
rop produced an average of four
of seed while the second cut-
as just setting pods at the time
st. It is estimated that this
not have yielded more than one-
ushel per acre even had it ma-
The crop was grown in rows
ultivated.
l peas are proving a valuable
Yields of 12 bushels per acre
returned from the best varieties.
rop should be more generally
as it makes a home grown sub-
for bran, oil cake and tankage.
Durum or Macaroni wheats
proved their drought resisting
by producing yields averaging
els above the hard red spring
es.
of the high yielding varieties
the grain crops is availabile in
amounts.

RESULTS OBTAINED DURING 1917 IN HORTICULTURAL WORK.

The growing season of 1917 was not favorable for the best growth and development of horticultural crops at the Northwest Experiment Station, Crookston. In spite of the late spring and early fall frosts and the dry season, however, many good yields were obtained which demonstrated the value of good culture in the conservation of soil moisture.

Fruit Growing.

The early maturing small fruits such as strawberries, gooseberries, and currants yielded good crops, but the dry weather of midsummer together with some winter killing made the raspberry crop a total failure. The blossoms of the crab apples and plums on the younger trees in the orchard plots were killed by the late spring frosts; however, the older plum trees in the shelter of the windbreak escaped injury and produced a crop of nice fruit. Most of the hardier varieties of apples and crabs are making fair to good growth each year, but practically all varieties show heart killing even though the bark is sound and good twig growth is made. The Virginia crab shows some heart killing, but is making the best tree growth of all varieties planted to date.

Vegetables.

The early seeded crops such as onions and garden peas made the most perfect stands. The crops seeded later germinated unevenly, and in fact all seeds did not germinate until after the light showers which came in June. The frost tender crops such as cucumbers, beans, and tomatoes were held back too much by the dry weather to yield well; however, the cucumbers yielded from six to twenty-six bushels per acre in a test of nine varieties. The five varieties of string beans yielded from six to fifty bushels. The navy beans, however, were a total failure this year, the first time in six years of trial. The late root crops averaged about a three-fourths crops while the other garden crops including sweet corn, averaged about fifty per cent of a normal crop.

Root Crops.

The root crops such as mangels, sugar beets, rutabagas, and carrots that were grown for stock feed were benefited greatly by the September showers and made good yields at harvest time. The rutabagas in a trial of seven varieties averaged 259.8 bushels per acre; the mangels in a trial of eight varieties averaged thirteen and four tenths tons per acre; sugar beets averaged nine tons per acre; and stock carrots averaged 142.5 bushels per acre. These yields, while they are not as big as usual, demonstrate the fact that root crops can be relied upon to produce valuable crops of feed even in adverse seasons.

Potato investigations.

The potatoes on the various experiment plots varied quite widely in their yields this year. The late varieties did not mature before frost, and yielded on the average about fifty bushels per acre. The vines of the early varieties were also killed by frost, but the crop was practically mature and the tubers were of good quality. The benefits of cultivation showed up in the yield of the rotation plots. The check plots in the three year rotation of the fertilizer series which were late summer fallowed during 1916 averaged 144 bushels per acre, while in the three rotation in the agronomy series that was fall plowed and given only spring preparation, the yield was 72.6 bushels per acre. The four year rotation plots averaged 107.4 bushels, the five year 81 bushels, and the seven year, 98.6 bushels.

Fertilizer Plots.

For the first time in four years of trials one commercial fertilizer treatment gave an appreciable increase over the untreated plots in the three year rotation. The plots treated with potash and phosphorus averaged 165.3 bushels per acre as compared with 144 bushels on the check plots, while two of the other fertilizer treatments gave yields less than the untreated plots. When the average crops from the fertilizer plots for the past four years is considered, it is found that the commercial fertilizers have not increased the yield sufficiently to warrant their general use on soils such as were used in the trials.

Other Experiments.

In testing different amounts of seed per acre, it was found this year that the plot in which sixteen bushels of seed was planted to the acre yielded 203.5 bushels or 12.7 bushels for every bushel of seed planted. This corroborates the results of former years. In testing the different sizes of seed pieces, it was found that the seed potatoes that were quartered gave the best yield considering the amount of seed used per acre, the field planted with quarters yielding 92.1 bushels; with halves, 92.5. Whole small potatoes yielded 94 bushels, the whole medium sized potatoes, 138. bushels, and the whole large potatoes 136.5 bushels per acre.

Spraying Tests.

In the spraying test for leaf diseases, potatoes sprayed three times with Bordeaux mixture yielded 117.1 bushels per acre, while potatoes in the in the same plot unsprayed except with Paris green yielded 100.3 bushels.

Many different lots of selections from the Early Ohio variety are being tested each year. These all came from high yielding hills, and gave returns this year from 77.9 to 142. bushels per acre. In testing in this manner, many pure strains of the Early Ohio variety are being separated out for further testing.

SWEET CLOVER YIELDS WELL.

Mr. P. B. Gaass, of Red Lake Falls, obtained a very good yield of sweet clover seed on one of his farms. He has written a very interesting account of his experience in a personal letter from which we quote: "In the spring of 1916 I purchased 100 lbs. of seed which cost me $20.00. My tenant prepared ten acres of ground in practically the same way as he prepared the balance of the farm for small grain. I do not think there was any difference in the plowing from the balance of the farm, but he did a little more harrowing in order to pack the ground. We used oats as a nurse crop, and sowed about two-thirds the usual quantity of oats. Then we took a wheelbarrow grass seeder and sowed the sweet clov-

er seed—ten pounds to the acre—and again harrowed the ground once. We secured a fair stand of clover, but not what one would call a good stand, as there were some thin patches.

The oats were harvested in due course, and the sweet clover was allowed to grow from that time until harvested during the week of Sept. 10-15, 1917. The clover was not clipped in the spring as some advocate for the reason that in my judgment it was about as even a stand as could reasonably be expected. We threshed the clover Sept. 22-24, with an ordinary separator and ran it through once. As the straw was not thoroughly dry, it was rather tough threshing, and while I am convinced that at least twenty bushels went into the straw pile, we could not persuade the threshing crew to run it through again. On account of the tenant leaving the place this fall, he was in a hurry to get the clover threshed, although I am convinced that had it been dryer, we would have gotten more seed the first run. Had we been able to get a clover huller, we surely would have had a yield of at least 12 bushels per acre of very fine quality seed (as you will notice by the sample I am enclosing which is just as it came from the machine.) Next year I intend to seed to sweet clover every acre under cultivation on at least three of my farms.

While my experience with sweet clover is limited, I believe that it is a crop that is easy to handle and very profitable to grow both for feed and for seed as well as to fertilize and clean up the land."

NORTHWEST SCHOOL AND STATION.

The following article written by Prof. J. P. Bengtson of the Northwest School of Agriculture, appeared in the Minnesota Alumni Weekly on February 26, 1917, as one of the Campigraphs, a series of feature articles that appeared in that paper. This article gives interestingly an account of the organization and activities of this school and will be of the greatest interest to our readers.

THE NORTHWEST SCHOOL AND STATION.

"The University of Minnesota campus is as large as the state. This sketch deals with its unit at Crookston, the Northwest school and station. The Northwest school and station has just completed its twenty-first year as an experiment station and is entering upon its eleventh year as a school. The growth has been so extensive and rapid that few know or realize the magnitude of its equipment or the variety and efficiency of its work. It is an institution of special problems, and therein is the answer to the question, 'Why such an establishment out there when there is a central school and experiment station at St. Anthony Park?'

"The agricultural problems of one part of the state differ from those of another. The Red River valley, a region as large as some states, has problems peculiar to it which can not be worked out in other parts of our state, for the physical factors of a farm are not portable. The object of a technical agricultural school is to train young men and women so that they may go back to the land and farm it with success. Obviously, then, the thing to do is to train them on the kind of farm to which they return. The experiment station, then, was established to work out problems peculiar to the Red River Valley, and the school came as a means of training young men and women for Red River Valley farms and homes.

"The Northwest experiment station was established in 1896. At the time it was taken over by the state the land was not much more than a huge duck pond. It was itself a big drainage problem, the kind of problem that many a farm in the neighborhood faced. To solve it was to answer the most important question of thousands of people in northwestern Minnesota. So with the aid of federal engineers, a system of drainage was decided upon, and after years of work, finally completed in 1909. As a result of this work, the Crookston station is today the authoritative source of information as to drainage in the Red River Valley.

History of School and Station.

"Before the drainage system had been completed, work had been begun on experiments to determine the proper rotations for the Red River Valley, to devise plans to combat its weeds and injurious insects, to gather data on tree and orchard growing on this prairie land, and to solve other problems of this region. The farm was so low, however, that consistent results were impossible until after the completion of the drainage system. Valuable work was done in conducting farmers' meetings and giving advice as to methods of farming. Much credit is due the first superintendents, T. A. Hoverstad, who served until 1904, and his successor, William Robertson, who served until his death in 1910. Their task was pioneer work against obstacles demanding untiring effort and great enthusiasm to make things go. The school and station stands together as a realization of their visions and a monument to commemorate their faith in a proposition, the importance of which few understood at the time.

"By legislative enactment in 1905, a school was established in connection with the experiment station. One building, the present home economics building, constructed and furnished at the cost of $15,000, accommodated everything—administrative offices, library, class rooms, kitchen, dining room, and dormitory apartments. The legislature having made no provision, funds for school maintenance were raised through private subscriptions by citizens of Crookston and other places in nothern Minnesota. But for this patriotic support, school could not have opened at that time. In 1907, the legislature appropriated $2,500 to refund these private contributions and to maintain the school for another two years. The rapid growth of the institution as shown by the accompanying panoramic view of the campus taken in 1915, indicates an appreciation of the need of such a school in the Northwest.

In 1910 the management of the institution came into the hands of its present superintendent, C. G. Selvig. Through his genius as an administrator, his breadth of view as a practical educator, his sympathetic spirit as a social organizer, and as a result of his boundless capacity for hard work, the influence of the school and station has been spread to every corner of the Red River Valley, and in return there has come from the whole people such a response of appreciation and enthusiastic support that the school and station is regarded not as a local or county institution, but as a valley institution understanding valley problems and rendering efficient service in solving them.

Its Work as a Station.

The work of the institution may be said to be carried on along four distinct lines. As a station it is carrying on extensive investigations to solve soil, crop and live stock problems peculiar to the valley. A summary of its projects published as a supplement to the Northwest Monthly shows 65 clearly-defined and well-organized experiments in operation. A 102-page station report just off the press is a revelation as to the extent of the station work. It is filled with tables showing interesting and valuable results in such a variety of investigations as variety tests of grains, cultural methods with farm crops, crop rotations, fertilizer tests, weed eradication, potato culture, garden crop variety and cultural tests, tree shrub and fruit investigations, and live stock and poultry problems. The station has built up a fine herd of cattle, horses, sheep, hogs and poultry. Angus are the main breeds of cattle, Holsteins, Guernseys, Shorthorns and but specimens of others, enough for class work, are kept. Considerable breeding stock is sold. During the past year the receipts from the animal husbandry department were $6,862.07, and from the poultry department, $808.. more. The agronomy department in its work is using more than five hundred plots, embracing four hundred acres, and the horticultural department an additional twenty acres with over two hundred plots. The agronomy department sells pure seed, and is thus spreading its successful varieties. It also assists farmers in getting good seed from other sources. In 1914, for example, it introduced 40,000 pounds of alfalfa seed. To extend its work and check its results from different conditions, extensive tests are carried on with co-operators in different parts of the valley, numbering 629 in alfalfa work, 60 in pure seed work, and 425 co-operators in farm management and other lines. Co-operative work with farmers is planned to include every township in northwestern Minnesota and careful surveys are made to enable the station to keep authentic records of farm progress."

(To be continued.)