

# Northwest School News

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## NORTHWEST SCHOOL FALL TERM OPENS OCTOBER 3

The Northwest School of Agriculture, Crookston, will open for its 59th school year on Monday, October 3.

Registration for the fall term will begin at 9 a.m. in the Hill building. There will be a general assembly in the Kiehle auditorium at 3 p.m., and football practice is scheduled for 4 p.m. Only Juniors and Seniors will be enrolled this school year.

The last issue of the Northwest School News announced September 26 as the opening date of school. This was changed to October 3.

Homecoming will be held at the Northwest School on Friday, October, 28. A feature of the day's program will be the football game beginning at 3 p.m. - NW School vs Glyndon High School. The annual Parents' day is scheduled for November 23.

## CATTLEMEN'S INSTITUTE SET FOR OCTOBER 6

Beef cattlemen and other persons interested in feeding beef cattle are invited to attend this year's Cattlemen's Institute which is set for Thursday, October 6. The Institute will begin at 3 p.m. and will be held at the Red River Valley Winter Shows Arena, Crookston.

This year's institute emphasizes the theme of "Housing and Feed Lot Layouts for Beef Cattle Feeding," including not only conventional housing but also confinement housing and feeding.

The program will get underway, immediately after coffee, with a tour of a confinement - feeding operation. The group will return to the Winter Shows Arena for the program which will

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## TECHNICAL INSTITUTE OPENS DOORS TO FIRST CLASS

The new University of Minnesota Technical Institute, Crookston, was the scene of much activity recently as members of the first class of the new college became oriented to college life. The Technical Institute is located on the Northwest School campus.

Welcome Week activities began on Tuesday afternoon, September 20, with students and parents arriving on campus. A special Convocation and reception was held for parents on Tuesday afternoon. Student orientation week activities began with a general assembly at 9 a.m. on Wednesday, September 21. Meetings with faculty advisers, campus tours, registration procedures, group information meetings and recreational events were some of

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50TH ANNIVERSARY CELEBRATED BY CLASS OF 1916

Sixteen members of the Northwest School of Agriculture's graduating class of 1916 attended the special reunion for the 50th anniversary of their class. This was held at the Alumni Reunion of the Northwest School on Saturday, June 25.

In 1916, there were 43 graduates of the three-year course and 13 graduates for the four-year course. The four-year course was offered for the first time in the 1913-14 school year.

In the picture above are sixteen members of the 1916 class who attended the reunion; also, a member of the 1915 graduating class. Attending the reunion were some of the wives/ or husbands of the class members and they are in the picture also.

Reading from left to right (standing): Oscar Lund, '16, Twin Valley; Carl Olson, '16, 119 10th St. So., Moorhead; Earl Mills, '15; Mrs. Raymond Green (nee Sophie Monson), '16, Warroad; Mrs. Albert Boman (nee Cora Peterson), '16, 730 Coleman St., Chippewa Falls, Wis.; William S. Ash, '16, St. Vincent; David Berland, '16, Fisher; Herman F. Skyberg, '16, Fisher; Claude Starr, '16; Andrew Landby, '16, Warroad; Ole Flat, '16, Belmont Road, Grand Forks, N. D.; Lorin J. Laughlin, '16, Rt. 1, B. 273, Corvallis, Oregon; Victor Younggren, '16, Northcote; and Thorval Tunheim, Rt. 2, B. 244, Chelalis, Washington.

Left to right (seated): Mrs. Thorval Tunheim; Mrs. Oscar Lund; Mrs. Earl Mills (nee Jennie Boisner), '16; 5824 E. Superior St., Duluth; Miss Hildur Lindfors, '16, Fosston; Mrs. Carl Olson; Mrs. Claude Starr, Walker; Mrs. Andrew Landby; Mrs. Paul Engelstad (nee Olive Larness), '16, Thief River Falls; Mrs. W. S. Ash; and Mrs. Lorin Laughlin.

## Northwest School News

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THE UNIVERSITY OF MINNESOTA  
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### CATTLEMEN'S INSTITUTE SET FOR OCTOBER 6

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commence about 4:45 p.m.

Don Bates, Agricultural Extension engineer, will be on hand with a rather complete presentation on beef facilities including confinement feeding. Ken Egertson, Extension economist, will speak on "The Future of Northwestern Minnesota in Beef Production." Richard D. Goodrich, of the Department of Animal Science, will report on the research being conducted at Rosemount. All three men are from the University of Minnesota, St. Paul Campus.

Central Livestock Association, Inc., of Fargo is providing several lots of live feeder cattle for demonstration and discussion purposes. Harvey F. Windels, animal husbandman at the Northwest Experiment Station, Crookston, will present a brief report on the 1965-66 beef feeding trials at the Northwest Station.

A beef barbecue dinner will be served at 6 p.m. by the Dining Hall staff of the Northwest School of Agriculture.

All cattlemen, and others interested in feeding, are reminded to mark their calendar and set aside the afternoon and evening of October 6. This is one meeting where one can probe all aspects of the cattle feeding business.

### TECHNICAL INSTITUTE OPENS DOORS TO FIRST CLASS

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the highlights of the three-day session. A wide geographical area of the state is represented by students attending the college.

Classroom activities began on Monday, September 26. A faculty of twenty-four persons comprise the instructional and administrative staff of the new Technical Institute.

Remodeling projects in many of the buildings on campus will soon be completed so that full use of all facilities will be realized.

(By C. H. Kvamme)

### NW EXPERIMENT STATION PLAYS MAJOR ROLE IN POTATO BREEDING PROGRAM

An eight-acre potato field may be considered small by most commercial growers in the Red River Valley, but to a group of researchers at the University of Minnesota's Institute of Agriculture, the eight-acre plot of potato seedlings at the Northwest School and Experiment Station at Crookston looked mighty big.

Visitors at the Northwest Station's annual crops and soils field day on July 12, who looked over the field of some 11,700 seedlings, probably found it to appear pretty much like any other potato field in the Valley. And while it may, Dr. Florian Lauer, associate professor of horticulture at the University's St. Paul Campus, explained that these eight acres play a major role in the University's potato breeding program.

Started back in the 1920's, this continuing research effort is aimed at developing new and better potato varieties that are more suitable to the North Central area.

The first step in developing a new variety, which takes about twelve years from crossing and initial selection to variety evaluation and final testing, is the actual crossing of two parent plants. This work is done at St. Paul and at the North Central Experiment Station at Grand Rapids. These plants grown from true seed are transplanted into field plots at Grand Rapids.

The largest tuber from each seedling is saved at harvest and brought to the Northwest Experiment Station, Crookston, the following spring for planting. It is at the end of this growing season that the initial selections are made on the basis of tuber type, yield and color.

"While the work at Crookston may sound like only a small part of our overall program," Lauer stated, "the fact is that the growing of seedlings and initial selection here is actually a key part of our breeding program." He pointed out that only about five percent of the plants grown at Crookston are selected for testing during the following year, which is some indication of how important work done at the Northwest Experiment Station is to the total research effort.

Plants selected from the Crookston Station plots are sent on to the Red River Valley Potato Research Farm near Grand Forks, N. Dak., or maintained at Grand Rapids where they are evaluated for horticultural characteristics, screened and re-evaluated in succeeding years.

The University also cooperates with the U. S. Department of Agriculture's potato processing laboratory in East Grand Forks on chipping tests and determination of the interior quality of the potatoes. Potatoes that do well in these tests are tested for disease resistance under the direction of Carl Eide, professor of plant pathology. They are tested for field resistance to late blight at the Rosemount Experiment Station near the Twin Cities and for scab resistance at the Grand Rapids Station.

Clones that prove adaptable after six years of growing are then grown under complete isolation at Embarrass in northeastern Minnesota by O. C. Turnquist, extension horticulturist.

Replicated yield trials are subsequently made to obtain further information on chipping quality, disease resistance, and horticultural characteristics. The plants then go into growers' demonstration plots throughout the state. Varieties that do well are named and released by the University of Minnesota.

While the development of new potato varieties is considered the main objective of the program, researchers are also interested in investigating more efficient means for carrying out their breeding program, in obtaining genetic information, and in developing improved parent plants. For example, until last year, the transplant seedlings were grown in greenhouses, rather than under normal field conditions at Grand Rapids. The average size of tubers produced under greenhouse conditions was 0.6 of an ounce, and only a single hill could be planted from the greenhouse seedlings. However, by planting the transplant seedlings directly in the field, it was found that the average weight of tubers increased eight times, and that several hills could easily be grown from a single tuber.

According to Lauer, this change from greenhouse to field grown seedlings means greater precision in selection, and may reduce the time involved in developing a new variety from 15 to about 12 years.

The following varieties of potatoes were in the cooperative potato demonstration plot at the Northwest Experiment Station on Crops Day: Bounty, Irish Cobbler, Red Pontiac, Kennebec, Norland, Anoka, Norgold, Pennchip, Viking, Superior, I 57-410, Katahdin, 53.54-7, 26.57-11; 53.54-19; 77.57-13; 69.57-13; 25.58-16; Platte; and Hi Plains.

## HARVESTING THE GRAIN CROP AS LOW MOISTURE FORAGE — G. D. MARX

A new and satisfactory method for handling small grains for use as forage is being used by some farmers. Research trials on one of the small grains (oats) was conducted by the University of Minnesota, Northwest School and Experiment Station at Crookston. Oats or other small grains can be harvested and stored as low moisture "oatlage" at 40 - 50 percent moisture.

Many farmers in the past have harvested their oats as oat silage after slight wilting or even direct cut. The new method saves handling all that extra water which a cow can get more easily from a drinking cup. Also, low moisture small grain forage is more easily removed than silage (high moisture) from the silo especially during

the months when frozen silage is a problem. Additionally, cows will consume more pounds of dry matter when fed the oatlage compared to oat silage.

Another important aspect to consider when harvesting oats as forage is the stage of maturity. The best quality materials with the most protein is obtained when harvesting the oat crop while the grain is still in the sheath, referred to as the boot stage. This is earlier than the usual milk and dough stages which has been and still is the stage most grain is cut when used for forage. Also, cutting the grain during the boot stage insures at least two or three crops off the same seeding.

Regrowth of oats or small grain will readily occur if the crop is cut above

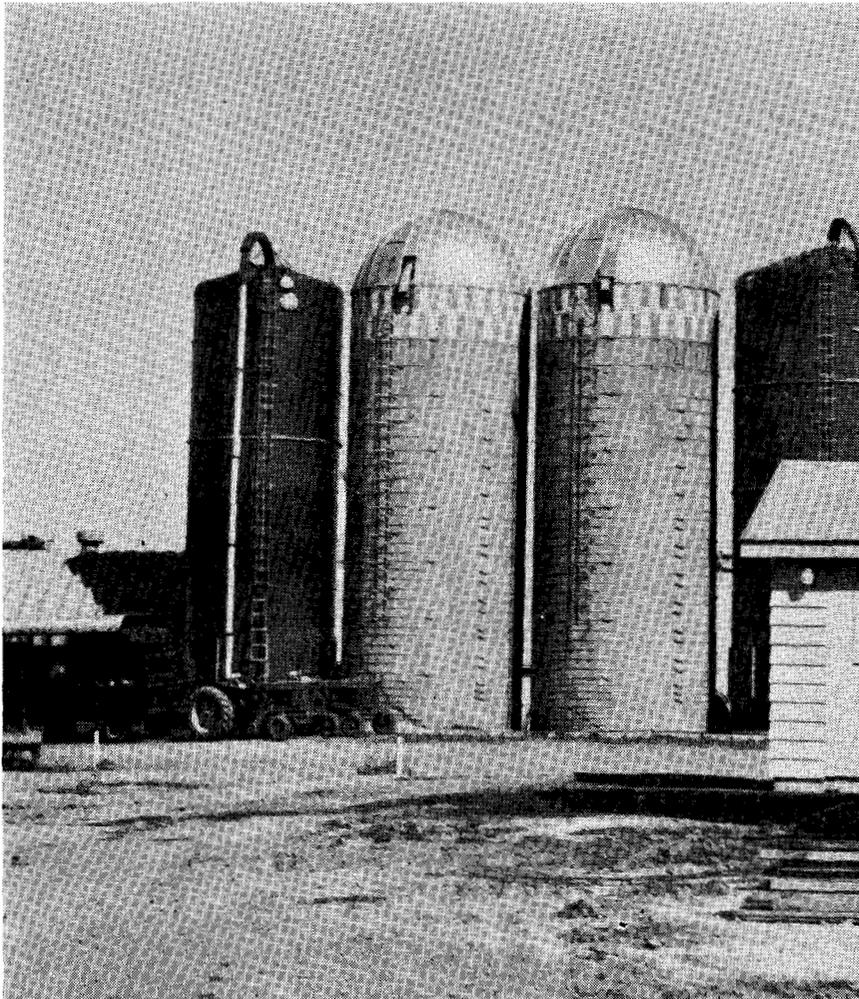
the first node or joint. When oats is used as a nurse crop, the second crop of oatlage will contain about half oats and half new seeding forage. The second cutting should also be cut during the boot stage and cut at a minimum of five inches above the ground to maintain good growth of the new seedling. With favorable moisture, a third cutting can be obtained.

In general, the new alfalfa seeding will do better when the oat crop is harvested early for oatlage. The new plant has the advantages of getting more of the sunlight and moisture it needs to become firmly established. Also when oats is left to mature, lodging sometimes is a problem and smothering of the underseeding occurs. Weeds are also easier to control with earlier cutting. The oats crop cut as oatlage will yield a greater feed value than when harvested for grain.

Protein content of oatlage averaged 16.5 percent with one sample as high as 19.1 percent. A later maturing variety of oats gives greater yields and should be seeded at the normal rate when used as a nurse crop to prevent choking of the legume or grass seedlings. The Northwest Experiment Station seeded at the rate of two bushels oats per acre with excellent results. One can expect a yield of three to five tons per acre of 40 percent moisture material. A report from Iowa indicated a yield of six to seven tons of oatlage per acre. Remember that the new seedling plant needs a period for regrowth and for building up root reserves before going into the winter and the same precautions need to be observed as with cutting hay in the fall.

Oatlage and haylage were compared in an experiment at the University of Minnesota Northwest Experiment Station, Crookston, using their Holstein dairy herd. Cows were paired according to milk producing ability, stage of lactation, age and weight. Animals of each pair were randomly assigned to one of two groups. One group received alfalfa haylage cut during the bud stage and the other group oatlage cut during the boot stage as their only source of forage. The group on oatlage consumed 1.1 pounds more dry matter than those on alfalfa haylage. An interesting observation on the consumption time of forage noted that the oatlage group consumed their ration 15 percent faster than the haylage group indicating the excellent palatability of oatlage. No significant difference in the amount of milk produced was noticed between the two groups. Weight gains were about equal in the two groups. Oatlage compares very

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ENSILING OATLAGE AT 40 - 50 PERCENT MOISTURE THAT WAS CUT DURING THE BOOT STAGE OF DEVELOPMENT

## PRECIPITATION AND AVAILABLE SOIL MOISTURE — OLAF C. SOINE

The precipitation pattern for 1966, January through August, has varied some from the 65-year average according to the official weather records at the Northwest School and Experiment Station, Crookston. However, the accumulated total precipitation for this period in 1966 and the 65-year average are the same. As indicated in the following table, four months were below and four months were above the average in precipitation. The largest amount of rain recorded for a single storm was 1.61 inches on June 11. Very little runoff occurred this season, and the moisture moved into the soil.

The following table gives the precipitation for 1966, 1965, and the 65-year average (January - August) at the Northwest Experiment Station.

### PRECIPITATION IN INCHES

Month	1966	1965	65-yr. Average
Jan.	0.16	0.22	0.56
Feb.	0.23	0.19	0.61
March	0.95	0.28	0.79
April	1.25	3.34	1.51
May	1.31	4.00	2.62
June	4.49	4.24	3.36
July	3.17	2.27	2.98
Aug.	3.72	1.40	2.89
TOTAL	15.28 in.	15.94 in.	15.32 in.

### AVAILABLE SOIL MOISTURE

The extra rainfall that we have received during the last three months has increased the available moisture supply in the top five-feet of soil. The available moisture has been above average this spring and summer and higher than the comparable period for 1965.

For good growing conditions, 9 to 10 inches of available moisture in the top five-feet of soil are considered very favorable.

Last fall on November 1, the available moisture in the five-foot depth was 8.38 inches and when the first moisture determination was taken this spring on May 5, it was 13.51 inches - an over-winter increase of 5.13 inches.

The following table gives the available soil moisture on one field for 1965 and 1966 in the top five-feet of soil.

Date of Sample	Available Soil Moisture 1965	1966
May 5	9.07 in.	13.51 in.
June 1	9.68 in.	11.55 in.
July 1	12.67 in.	10.82 in.
Aug. 1	10.63 in.	9.14 in.
Sept. 1	6.76 in.	10.53 in.

(By Dr. Olaf C. Soine, Soil Scientist, Northwest Experiment Station).

## Around and About With Northwest School Alumni

\*\*\*Lyll A. Bjornson, '59, formerly of Arvilla, N. Dak., received the Doctor of Medicine degree on June 6 from the Bowman Gray School of Medicine at Winston-Salem, North Carolina. Dr. Bjornson is a graduate of the University of North Dakota and also received his first two years of medical education at this University. He is taking his internship training at the Latter-Day Saints Hospital, Salt Lake City, Utah.

\*\*\*Gordon Syverson, '54, formerly of McIntosh, was ordained into the ministry at an ordination service held on June 26 at Varnes Lutheran Church, Fertile, Minnesota. The Reverend Syverson has accepted a call to serve East Zion and West Lutheran churches of Starbuck and Hancock, Minnesota.

\*\*\*Teresa Helmstetter, '66, of Roosevelt, will be enrolled at the University of Minnesota, Minneapolis, this fall.

\*\*\*Ernest M. Dufault, '61, is employed as an engineering draftsman at

Douglas Missile and Space Systems Division at Huntington Beach, California. His address: 301 So. Jackson, No. C; Santa Ana, California 92704.

### Marriages

\*\*\*Miss Betty Jean Hedstrand of East Grand Forks to Kenneth F. Reigel of Seneca Falls, N. Y., on July 23, at East Grand Forks.

\*\*\*Miss Ione Ann Sczensny of Oslo, Minnesota, to LeRoy Duray, of Oslo, in the Warner Kasern Catholic Chapel at Munich, Germany. PFC and Mrs. Duray will make their home in Munich until he completes his tour of duty in the U. S. armed forces.

\*\*\*Miss Darlyne Kovar, of East Grand Forks, to Michael Edgar, of Warren, in July 1966.

\*\*\*Miss Lynn Chapman, Crookston (formerly of Casselberry, Fla.), to Ken Audette, of Crookston, in June 1966.

\*\*\*Miss Katherine Confer of Angus, to Charles Steer, of Euclid, on September 1966.

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## DOWELLS OBSERVE 50TH WEDDING ANNIVERSARY

An item of interest to Northwest School alumni, former students, and faculty appeared in the Nevada Journal, Nevada, Iowa, on August 29.

The four daughters of Dr. and Mrs. Austin A. Dowell held a reception on August 26 in honor of their parents' 50th wedding anniversary. Hostesses were Miss Hannah Dowell, Washington, D. C.; Mrs. Arthur Gravatt (Margaret Dowell), State College, Pennsylvania; Mrs. Ruth Dowell Myers, Miami, Florida; and Miss Annette Dowell, Oakland, California. About 150 friends called at the Dowell home during the evening.

The honored couple was married on September 6, 1916, in the home in which they now reside and in which Mrs. Dowell's parents, Judge and Mrs. George W. Dyer, lived at the time.

On August 28, fifty-two attended the Dowell-Dyer family reunion which was held at the home of Dr. and Mrs. Dowell.

Dr. and Mrs. Dowell are now making their home at 922 Fifth Street, Nevada, Iowa. Dr. Dowell served as superintendent of the Northwest School and Experiment Station from 1926 to April 1937. He was director of resident instruction and dean of the College of Agriculture, Forestry and Home Economics at the University of Minnesota, St. Paul, at the time of his retirement in June 1960.

## HARVESTING THE GRAIN CROP

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favorably with alfalfa haylage as an efficient and useful forage for milk production.

The forages in this experiment were stored in oxygen-free tower silos (in this case Harvestore silos) with excellent quality forages being fed. Good quality oatlage can also be preserved in concrete or cement stave silos if the moisture content does not fall below the 40 percent level. Bunker and trench type silo storage has also been used with success but quality is much more difficult to control where oxygen or air exclusion is more of a problem.

(Dr. George D. Marx, Dairy Scientist, Northwest Experiment Station).

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ber 4, at Warren, Minnesota. Their home address: Euclid, Minnesota.

\*\*\*Miss Georgia Marie Ovsak of Euclid, to Melvin L. Rud, of Middle River, on June 20. Home address: East Grand Forks, Minnesota.