

THE NORTHWEST MONTHLY



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NO. 10

SULPHUR FOR RUST CONTROL

Valuable Data Secured at N. W. Station

Dusting wheat with sulphur will control black stem rust if sufficient applications are made, according to R. S. Dunham, Agronomist. Whether this method of attack upon the rust problem can be made practical can only be answered in the light of further investigation. The main factors that still present problems are: (1) the intervals between dustings, and (2) the mechanical means of dusting.

Early Trials

The idea of using sulphur for rust control on cereals was first conceived at Cornell University about four years ago. Investigations there showed considerable promise in such a method when applied to oats.

In 1926 plots were laid out at University Farm and the Northwest Experiment Station to make preliminary trials on wheat. Dustings were made with a hand dust-gun on small plots. As a result

of the work that year it was evident that ordinary flowers of sulphur was not effective, but a colloidal sulphur called Kolo Dust gave very remarkable control when applied frequently. It was also evident that the rate of application and the number of dustings would have to be reduced considerably if the method were to become practical.

Results This Year

In 1927 a very comprehensive set of plots was laid out at University Farm, St. Paul; the West Central Station, Morris; and the Northwest Station, Crookston.

Complete results of the work are not yet available but certain facts have become apparent. In a large number of trials devoted to determining the

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MANY STUDENTS ARE EXPECTED OCTOBER 3

The Northwest School will begin its twenty-second year on Monday, October 3, with an enrollment that is expected to exceed that of any previous year. On September 12 the number of room reservations was 254. At that time also the enrollment of freshmen students had passed the 100 mark. Many others will reserve rooms before the opening of school and as usual many will come who decide to come a few days before the opening of school. Provisions have been made to care for an unusually large enrollment.

Few Changes in Faculty

As usual there will only be a few changes in the faculty. All of last

INFORMATION TO NEW STUDENTS

Brief Outline of Opening School Activities

The Northwest School opens Monday, October 3, for registration. Classes will begin at 8:15 Tuesday morning, October 4. The registration will take place in the library, which is in the Kiehle building.

The Registrar's office will be open late in the evening. Therefore, **No one should reach the School before Monday, October 3.** The dormitories will not be open before Monday, and the first meal served in the dining hall will be at noon October 3.

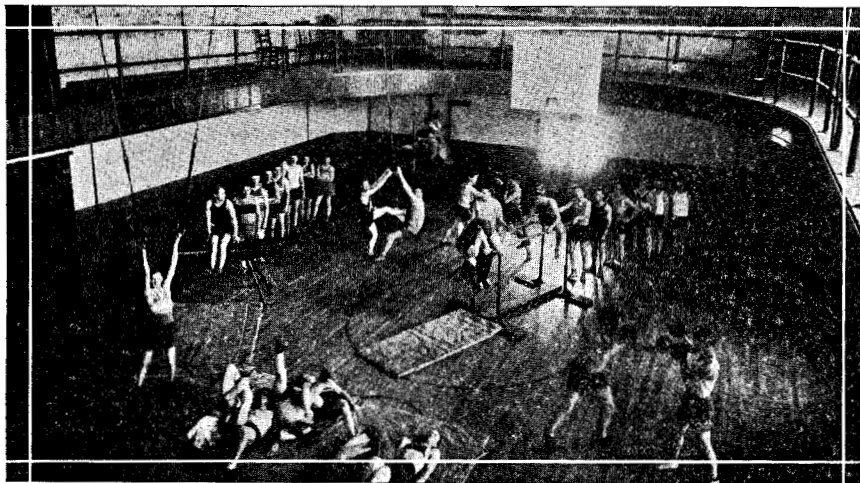
All students may save a great deal of time by mailing the registrar a list of subjects they plan to take for the fall term.

It would also be well for new students to read the first few pages of the catalog again to check what supplies should be brought to school.

The first week has a number of events scheduled to help new students in becoming acquainted with the

school and the other students. Two mixers will be held. Meetings will also be held for the new students, at which time matters of school life and school activities will be explained. Three excellent assembly exercises are also scheduled for the first week. On Sunday evening, October 9, a sacred concert will be given by members of the music and English departments.

Entertainment numbers have been secured. On November 19 the program will be by the Cordova Concertiers. On December 10 Glenn Morris, the electrical wizard, will give the entertainment. The Roberts Concert Company will come on January 14, and the concluding number will be a fun program by the Apollo Duo.



Physical Training Keeps Students in Good Health

year's faculty members will return excepting three. Miss Ruth Gurley was married at the close of the school year. Miss Ruth Sheldon, school nurse for two years, resigned to accept an important position in one of the city hospitals. Mr. D. A. Milligan resigned in July to continue his work with the United States Department of Agriculture in connection with the corn borer control work in eastern states.

ATTRACTIVE LECTURE COURSE IS ARRANGED

Due to the large enrollment it has been found possible to schedule a strong lecture course program for 1927-28. In addition to a number of speakers and musicians, four enter-



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Northwestern Minnesota.

NEW FACULTY MEMBERS

Miss Helen M. Brown has been appointed instructor in music at the Northwest School, taking charge of the work formerly under the direction of Miss Ruth Gurley. Miss Brown is a graduate of the University of Minnesota, taking her major in music, and more recently pursuing graduate work in that department. She has specialized in voice, glee club, chorus and theory. Miss Brown comes to the Northwest School with the training, ability, and determination to maintain the high standards set by the music department during recent years.

Howard C. Rutt, of the University of Illinois will succeed D. A. Milligan in the Agricultural Engineering department, the latter having resigned to accept an excellent position with the United States Government in the Corn Borer Control work. In addition to his class room and laboratory duties, Mr. Rutt will assist with the school orchestra and the work of the Y. M. C. A.

The new Health Service building will be in direct charge of Miss Eleasa Simonson, who succeeds Miss Ruth Sheldon as school nurse. After graduating from high school, Miss Simonson taught for three years in rural schools. She later took her nurses training work at the University of Minnesota. Miss Simonson has had practical experience in the Health Service at University Farm, St. Paul, and more recently as head nurse at Glen Lake Sanatorium. She is admirably fitted by training and experience to take charge of this important department.

LOCAL STRAINS OF CORN BEST

Local strains of corn, thoroughly acclimated by many years of production in this section, are superior to more southern strains. Seed of Northwestern Dent and Minn. 13 obtained at various distances from Crookston show in their dates of silking that local strains are earlier than those from central and southern Minnesota.

The Crookston strain of Northwestern Dent produced at the Northwest Station silked five days earlier than the same variety produced in Meeker county. The Haney strain of Minn. 13 produced at the International Harvester Co. farm at Grand Forks, silked 13 days earlier than Minn. 13 from Albert Lea, Freeborn County.

SULPHUR FOR RUST CONTROL

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proper intervals between dustings, applications made upon certain dates appear particularly effective. In fact, the time of dusting seems to be of more importance than the rate or number of applications. The intervals proved best at Crookston, however, do not coincide with optimum intervals at Morris and St. Paul. Nor is there any justification for concluding that such intervals would be best next year.

If it were practical to make many dustings, these critical dates would be covered but, aside from the labor involved, and the damage to the grain by a mechanical sprayer, the cost of dust becomes prohibitive. The interval or the critical dates, then, still presents a problem. Methods of solving this problem are already apparent, but further investigation is necessary before a proved solution can be offered.

At present, three dustings have proved generally most effective, and probably this number will be required for practical field work. Although increased rates of application have shown slightly better control, it seems probable that 30 pounds per acre or possibly 15 pounds for each dusting may prove practical.

Fear has been expressed that dusting wheat with sulphur at blossoming time would interfere with pollination and cause sterility, but this has proved to be groundless this year.

Field Trials

Kolo Dust is manufactured by the Niagara Sprayer Co. They also manufacture sprayers. For these reasons, this company conducted field trials on various farms in Minnesota and North Dakota this year. Five acres was the general size of field, and horse-drawn sprayers were used.

Results of these trials have been variable; some fields have shown very effective control, while others have shown none. The reason for lack of control has apparently been due to the time of dusting.

The sprayers used this year will probably be obsolete by next year. Many improvements have suggested themselves and will be incorporated in new machines for further trials.

In Canada, air-plane dusting has been tried. Control of rust has been effected, but there are many problems connected with this method that remain to be solved.

At the Red River Valley Winter Shows, complete exhibits will be displayed and the results of investigations will be fully discussed.

SOIL VITA

Trials of wheat, oats, and barley treated with Soil Vita before planting showed no hastening of germination or maturity nor increase in stand or growth, as compared to seed treated with an equal amount of water at the Northwest Station.

Yields are not yet available for these crops.

BREEDING FOR

RUST RESISTANCE

R. S. Dunham

Twenty-four varieties of wheat were planted side by side on April 27 at the Northwest Station. Since each variety was within a few feet of all other varieties and since all varieties grew under the same soil and weather conditions, a comparison of the amount and development of black stem rust on these varieties should show their relative susceptibility to this disease.

Several of these wheats are the products of plant-breeders at both University Farm and North Dakota. They represent progress along the lines of producing a variety resistant to black stem rust. They do not represent the ultimate variety nor even the most promising strains of the present. Progress is made each year in this work and some strains now in teaspoonful quantities appear better than the ones reported below. However, the varieties listed are ones within two or three years of seed distribution and are important for that reason.

The wheats fall into three classes, based upon their reaction to rust infection. One class is susceptible. Rust pustules develop to their maximum without incurring any appreciable resistance from the wheat plant. Another class is distinctly resistant. Rust may infect the plant, but it has great difficulty in developing. The pustules are small and do little damage. The third class is intermediate in resistance and is designated as semi-resistant.

The rust percentages given below represent the average figures of four rust experts who examined the varieties independently.

Susceptible Group

Garnet, 38%; Ruby, 24%; Reward, 37%; Burbank Quality, 35%; Axminster, 53%; Marquis, 62%; Red Sask., 47%; No. 2218, 50%; Reliance, 60%; Mindum, 22%; Black Chaff Durum, 32%.

Semi-Resistant Group

Ceres, 20%; No. 2235, 25%; No. 2237, 10%; No. 2239, 18%; Akrona, 22%.

Resistant Group

Marquillo, 5%; No. 2242, 2%; No. 2244, 18%; No. 2245, 8%; No. 2238, 5%; No. 2236, 12%; No. 2240, 8%; Kota, 8%.

The amount of rust and the resistance or susceptibility of the plant is not the only important characteristic in a variety. Yield, milling quality, susceptibility to other diseases, strength of straw, and earliness are other factors of almost equal importance. Therefore, the variety with the least rust may not be the most desirable when all things are considered.

Nevertheless, plant breeders fully realize these agronomic necessities, and the rust-resistant varieties reported above have been selected so far after all points were considered. The final weeding-out and selection is most rigid when the variety is recommended and distributed.

PURE SEED WORK**POPULAR IN KITTSON**

Kittson County pure seed growers, under the leadership of County Agent M. A. Thorfinnson, in cooperation with the Northwest Station, have established thirty-six pure seed fields on twenty-nine farms this year. These farms will be used as pure seed centers for distribution of improved varieties among the farmers of these communities for next season.

Ceres, a cross between Marquis and Kota, which shows considerable resistance to rust, was sown on seven farms in this county. The new pure strain of Mindum durum was furnished also to seven farmers. Pure Marquis, grown from Canadian registered seed; Velvet, a smooth awned barley; Gopher oats; and Crookston strain Northwestern Dent corn were the other varieties featured. These seed fields were inspected before harvest by E. R. Clark, pure seed specialist of the Northwest Station, and many will be certified by the Minnesota Crop Improvement Association.

SELVIGS LEAVE**FOR WASHINGTON**

Congressman and Mrs. C. G. Selvig and family left September 2 by car for Washington, D. C. They expected to reach Washington by September 15 in order that Margaret and George might be in time for the beginning of school at George Washington University. Congressman C. G. Selvig has spent the summer studying the needs of his district and will continue the work in his Washington office for realizing action on a number of important measures. Due to the importance of the next session, a large number of Senators and Congressmen are opening their Washington offices early in order to be better prepared to meet the problems that will confront them in December.

Farm problems are being given Mr. Selvig's study and it is expected that he will take a prominent part in their discussion before the committees and in the house. Several other important proposals for Congressional action will be introduced at the opening session, it is expected.

GREATER INTEREST IN**SEED CERTIFICATION**

Inspections of 155 seed fields in eight counties have been completed by E. R. Clark, pure seed specialist, for certification by the Minnesota Crop Improvement Association. Velvet barley, the smooth awned variety first distributed by the Minnesota stations in 1926, is the most popular variety of seed grain, judging by the number of fields inspected. Twenty-eight growers, whose fields totaled 490 acres, had Velvet barley which passed the field inspection. Nineteen fields of Mindum, including many grown from pure seed distributed from the Northwest Station last spring, and twelve fields of Ceres, rust resistant bread wheat, were passed for certifica-

tion. Other varieties inspected were Gopher and White Russian oats, Marquis and Garnet wheat, Trebi and Minnesota No. 184 barley, Chippewa, Linota, and North Dakota No. 114 flax, Grimm alfalfa, and Northwestern Dent and Pearl Flint corn. Sixty-three growers in the northwestern section applied for certification this season.

SUMMER PROJECT**WORK SUCCESSFUL**

In spite of early frosts, rust damage, and hot weather, students carrying on farm crops projects this summer have made the best record of any year since this phase of work was undertaken. Thirty-nine boys have grown pure seed plots out of a total of forty-one enrolled for this project. Twenty-seven have been working on the potato project and it is expected that practically all will finish the final reports and make exhibits at the annual home project show. Although in many cases both yields and quality of seed grain have been greatly reduced by unfavorable weather, projects grades and credits will be based upon care and accuracy with which the home work has been done, and every student who completes all the required work will receive full credit, regardless of the crop.

In the bee-keeping project several students have done splendid work and are developing profitable apiaries, using up-to-date methods in maintaining the size of swarms. The ton litter, pork production, and poultry projects also are especially noteworthy. The dairy calf, farm accounts, and tree planting projects have been conducted very successfully by a number of students.

Several students in the upper classes who enrolled for community service are making excellent records in leadership of boys' and girls' clubs. A scholarship of seventy-five dollars will be awarded to the student attaining the greatest achievement in this work during the season. Students who have been active in club leadership this summer are Arthur Johnson, Callaway; Manley Larson, Twin Valley; Loren Parkin, Euclid; John Letnes, Thief River Falls; Harold Roadfeldt, Salol; Albert Sandal, Syre; Lawrence Spears, Shooks; and Daniel Warnes, Stephen.

A large percentage of the girls enrolled in home economics have completed their work, according to the reports of the project supervisors. All girls in cooking, sewing, baking, and canning projects and all boys who complete farm crops projects will make exhibits at the Seventh Annual Home Project Show to be held at the Northwest school some time in October, in connection with the annual Parents' Day program.

Walter Luchau, '24, and Leona Hurney were married at Ada, July 14. They are living at Rindahl, where Walter is employed as a cow tester for the Rindahl Association.

FACULTY MEMBERS**ATTEND STATE FAIR**

Each year a large number of the Northwest School faculty plan the vacation periods so as to visit the State Fair and study the progress that is being made in the various departments. This year O. M. Kiser assisted in the cattle department, while D. H. LaVoi was connected with the horse division. T. M. McCall, A. M. Foker and A. H. Larson were leaders in charge of the educational work of the Farm Boys' Camp. R. S. Dunham judged grains and forage crops. H. A. Pflughoeft had duties in the 4-H club department, as did Miss Laura Gerber. Superintendent A. A. Dowell spent a few days inspecting exhibits and Miss Retta Bede came from Pine City to spend a day at the fair, being especially interested in the exhibits in the Women's Department.

PHOSPHATE FOR ALFALFA

The response of alfalfa to applications of acid phosphate are quite general throughout the Valley except on some of the lighter soils. Experiments at the Northwest Station have been laid out to determine how long an application of phosphate will continue to increase the yields of alfalfa.

In 1922 two series of plots were seeded down to alfalfa, one of which had received phosphate in 1919 and the other in 1921. No fertilizer has been applied since. The crop this year showed an increase of 1440 lbs. of hay per acre on the series fertilized in 1919—8 years after phosphating—and 180 lbs. on the series fertilized in 1921—6 years after.

A third series, fertilized in 1920, was seeded down in 1923 and showed an increase of 860 lbs. in the 1927 crop.

HOME COMING OCTOBER 29

Home Coming at the Northwest School has become an annual affair to which former students and graduates look forward with considerable anticipation. This year the event is scheduled for October 29, and the football game with the Bemidji State Teachers College will be the feature of the day. Committees will be appointed at the opening of school to prepare for the reception of former students. As in other years, the program will begin at assembly and continue through the afternoon and evening.

FOOTBALL SCHEDULE ARRANGED

The football season at the Northwest School will begin October 8, with a game with the Red Lake Falls High School. Other games scheduled are with Morris Aggies on October 22, Bemidji State Teachers College October 29, and Thief River Falls High School on November 12. The Red Lake Falls and Bemidji games are scheduled at the Northwest School. Other games are tentatively scheduled for October 15 and November 5, giving the team a schedule of six games for the season.

CLUB WORK AT STATE FAIR

A large delegation of 4-H club members from the Red River Valley and Northwestern Minnesota received trips to the State Fair this year. They made an excellent showing in the various departments, according to H. A. Pflughocft, district Club leader.

Kittson county made an unusual record by winning five state championships. Two of these were won by Hallock girls, Ruth Griffin winning in the individual bread and Cora Hemmingson in the individual cake contest. The State Champion cake team consisted of Esther and Harriet Peterson of Lancaster. The bee team of Humboldt, consisting of Brita and Swan Anderson, and the sheep team, also of Humboldt, composed of Robert Ash and Lawrence Ward, won first with their demonstrations. This is an outstanding record for one county.

Clay and Hubbard counties completed the winnings in the demonstration team work in this district. Beulah and Twylah Plummer of Hawley won first in the Class A bread and Alta Cassidy and Louise Hoefs of Park Rapids also won first in Class B bread. Bertha Strande and Bertha Christopherson of Fergus Falls were second in the Advanced bread baking work.

Irvin Sundseth, of Halstad, placed first with his grade Guernsey heifer. Harold Letness of Thief River Falls took first in his class with his pure-bred Ayrshire, while John Letness won second place with his Ayrshire heifer. Johnny Meyer of Ada won third with his Holstein in an exceptionally strong class.

Irvin Gilbertson, of Pelican Rapids, had the sweepstakes sample of corn at the State Fair. His corn was the outstanding sample of the show.

John Cheney, of Warren, took third place with his Duroc Jersey pig. Orville Anderson, of Roseau county, because of his outstanding record in dairy calf club work, was awarded a trip to the International Livestock Show at Chicago this November.

Y. M. AND Y. W. C. A.

MAKE PLANS FOR YEAR

The Y. M. and Y. W. C. A. of the Northwest School have been at work arranging their program for 1927-28. The work of these two associations is to welcome new students and arrange for various meetings during the year. Among the social times planned for the first week are the Boys' Pow-Wow and Girls' Frolic, scheduled for October 5. On Saturday evening, October 10, he reception to new students will be held.

The first meeting of the Bible classes will be held October 11. The same evening the associations have arranged for a sacred concert to be given by members of the music and English departments. The faculty members who will participate will be Miss Helen Brown, Miss Rose Polski, Miss Ann Simley, Mrs. DeEtte Cenefield Genung and Miss Grace Warne. On October 16 the Sunday evening

meeting will be addressed by the Rev. P. E. Moen, of Crookston.

The other Sunday evenings will be addressed by ministers and other speakers interested in the religious life of young people. One meeting each month will be conducted by the two associations themselves.

PROMINENT SPEAKERS

WILL ADDRESS STUDENTS

Thru the courtesy of the Federated Women's clubs who will hold a convention in Crookston, October 5-7, a number of prominent speakers will address the Northwest school students during the assembly periods. Mrs. T. G. Winters, past national and state president, will be the speaker on October 5. On October 6, W. L. Harding, former governor of Iowa, will speak to the students.

The first assembly period will be on Tuesday, October 4, when Superintendent A. A. Dowell will welcome the students. On October 25 the Regional Advisory Board will meet in Crookston and one of the principal speakers will speak at the Northwest School.

During the year other prominent men and women will be invited to address the students, and it is felt that the assembly periods are among the most valuable sessions the Northwest School has to offer its students.

ALFALFA VARIETIES

AND TIME TO PLANT

In a comparison of Grimm and Cossack alfalfa carried on for four years, the average yield of the Grimm was 3.18 tons per acre, and of the Cossack, 2.92 tons. No difference in quality hay or winter-hardiness has been apparent.

In trials to determine the best date of seeding alfalfa, best stands were obtained from seeding alone on June 15, July 15, and August 1 last year. Ordinarily July 1 has been as successful as these three dates, but last year a drouth at that time delayed germination. Seeding with wheat on April 15 last year was unsuccessful, owing to the dry spring.

Results of other years have shown successful stands with wheat, but more successful plantings from June 15 to July 15.

PERSONALS

Caroline Hruska, '26, who finished the four year course last year, has enrolled at the Bemidji State Teachers' College.

Mr. and Mrs. Harold Grandy (Blanche Morrison), graduates of the class of 1915, visited the school on August 4. They were enroute from Portland to Chicago, where Harold has a fine position with an advertising company. Harold will be a member of a group of 7 artists to do commercial advertising work. Their address will be in care of the Henri Hurst & McDonald Advertising company, 58 East Washington St., Chicago.

The Roseau Region Times for August 12 had the following notice: "Mr.

and Mrs. Archie Lee announce a new partner in the implement business. It is a daughter, born Tuesday morning. She weighed eight pounds when she arrived, but she promises to be the boss of the firm, although Archie says she will only be the stenographer."

Klaire Edgar, '23, will teach at Bradley, Wisconsin, this year.

Amy Malakowski, '18, was married August 6 to Dr. Carman R. Salesbury at Colorado Springs. They will live at Pueblo, Colorado.

Evelyn Bain, of Baudette, was a member of a camping party that toured Northern Minnesota and which included the Northwest School in the itinerary during the week of August 15. A number of others from Lake of the Woods county will be in school this fall with Evelyn.

Newell Lee, '18, was elected treasurer of the Badger community club recently. This club is a member of the Roseau County Communities club, which aims to boost the entire county in addition to furnishing a means of caring for the social needs of the local community.

Mrs. S. B. Eastvold, of Ada, visited at the Northwest School August 26. She was formerly Florence Skaurud of Twin Valley, who attended in 1923-24. Florence mentioned that her brother, James, '25, had made a trip to Seattle and other western points as a delegate to the Luther League convention.

Vivian Olson, '26, who finished the four years' course last year, is planning to attend the Southwestern University at Memphis, Tennessee. Her address will be 1166 North Parkway, Memphis.

Myrtle Hetland, '26, will enter training as a nurse in the Deaconess Hospital, Grand Forks.

Maurice Lillo, who finished the four year course in 1927, is planning on entering the Bemidji State Teachers College this fall.

Miss Ann Simley has completed her summer's course at the University of Wisconsin, and spent a short vacation at Chicago. She was a guest at a house party in Michigan the latter part of August. Miss Simley will return to Crookston early in September and will fill a number of lyceum engagements in this part of the state.

John Letnes attended the State Fair and exhibited in the dairy show.

Paul Dobias, John Heldblad, '26, Stanton Gandrud and Alvin Schell were members of the Farm Boys' Camp at the State Fair as a result of winning in various club activities. John Heldblad stated that he and Joe Parochka will come from Saum for the reunion on October 29.

James Homme, '22, will teach near Erie this year. James plans on returning to college next fall.

Miss Anna S. Olsen, who taught sewing at the Northwest School, in 1915-16, is now demonstration agent for Hennepin county. Miss Olsen's exhibit won first place among the county club booths at the State Fair.