THE
NORTHWEST MONTHLY

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Junior Short Course June 9-12

Plans are well under way for the Junior Short Course to be held at the Northwest School of Agriculture, Crookston, June 9-12. Each day will include carefully planned instruction, demonstrations, contests, outdoor games, movies, and other entertainment.

This short course is open to all boys and girls in Northwestern Minnesota between the ages of twelve and twenty-one. The program of instruction has been especially planned to help and inspire 4-H club members with their work, including, food preparation, clothing, canning, leadership, corn, and potato growing, dairy calf, baby beef, sheep, pig, poultry, judging and gardening.

A leadership class will be conducted each day for leaders and older club members.

Boys and girls should plan to come Monday afternoon June 9, or Tuesday morning, June 10. The school bus will meet all trains Monday afternoon and Tuesday. Upon arrival, at the Northwest School, all students should report at the Registrar's office for room and class assignments. Supper will be served at six o'clock after which Superintendent A. A. Dowell will give the address of welcome, followed by community singing, announcements, and movies.

Students should bring bedding, such as sheets, blankets, pillows, also soap, towels, tennis shoes and bathing suits if available, musical instruments and necessary change of clothing for the week.

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Livestock Feeders' Program Complete

Visitors attending the Northwest Experiment Station Annual Livestock Feeders' Day, June 16, will be privileged to hear timely lectures by leading livestock authorities, in addition to inspecting four lots of baby beef calves that have been on feed since last November.

The calves used in this feeding trial are of Hereford breeding and were purchased on the South St. Paul market. Their average initial weight at the beginning of the feeding period, November 12, was 424 pounds. During the 210 day trial, the calves in each of the four lots have made an average daily gain of considerably over two pounds per head.

THE 1930 AGGIE BOARD

The primary objects of the trial were to determine the importance of corn silage and linseed oilmeal in a ration of ground barley, and alfalfa hay. The various lots were fed as follows:

Lot 1—Ground barley, 1½ pounds linseed oilmeal, alfalfa hay, corn silage.

Lot 2—Ground barley, 1½ pounds linseed oilmeal, alfalfa hay.

Lot 3—Ground barley, 2½ linseed

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Attractive Women's Camp Program

The Fifth Annual Women's Camp will be held at the Northwest School of Agriculture, June 16, 17, 18, and 19. An attractive program of education, entertainment and recreation is being arranged by Miss Fanny B. Lippitt, and Miss Retta Bede of the Home Economics Department, assisted by a committee appointed at the close of the 1929 Camp.

The purpose of the annual Women's Camp is to give the mothers of Northwestern Minnesota a vacation among the most ideal surroundings, as well as to give them the opportunity of hearing timely discussions dealing with the home and the home community. The lectures and demonstrations will be most practical and interesting.

The increasing numbers who attend the Women's Camp each year indicate the popularity of this week among the women of Northwestern Minnesota.

The camp opens Monday afternoon, June 16, and continues through Thursday, June 19. The total expense for board, room, and entertainment, beginning with the dinner Monday evening and continuing through Thursday afternoon will be $3.75.

Lecturers and demonstrators who will assist with the program are as follows: Dean W. C. Coffey, University Farm, St. Paul; Mrs. Belle Osborn Fish, Child Specialist, Agricultural Extension Division, University Farm; Miss Joan M. Rock, Standard Brands, Inc. New York City; Mrs. Ida H. Cornforth, Kellogg Company,

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NORTHWEST SCHOOL OF
AGRICULTURE
A. A. DOWELL, Superintendent

OFFICE
Northwest Experiment Station,
Crookston, Minnesota.

A monthly publication in the interest of agricultural education and home training for Northwestern Minnesota.

COMING EVENTS

June 9-12	Junior Short Course.
June 16	Livestock Feeders' Day.
June 16-19	Women's Camp.
June 28	Alumni Reunion.
July 21	Crops and Soils Day.

PURE SEED DISTRIBUTION

E. R. Clark, Pure Seed Specialist, states that two thousand bushels of pure seed grain were furnished to growers and pure seed cooperators from the Northwest Station for seeding in 1930. Eighty-one growers in Minnesota and North Dakota obtained 1144 bushels of Anthony oats, a high yielding, rust resistant hybrid first sent out by the Minnesota stations last year. Thirty-eight cooperators received 295 bushels of Marquillo wheat, and eleven obtained various quantities of Gopher oats, the popular stiff-strawed, early variety.

The first distribution of Redwing flax, a new wilt-resistant variety, was made from several Minnesota stations this year under the Approved Grower Plan adopted in 1929. The Northwest Station supplied seed of this variety for allotment in eighteen counties, furnishing 95 bushels in all. Redwing flax has a characteristic light blue flower by which it can be distinguished from other varieties in bloom, a very desirable character in any pedigreed variety.

Anthony oats was developed by the Minnesota stations by crossing White Russian with Victory. Anthony is a midseason variety with large, plump white kernels. It has outyielded all commercial varieties in a five years' trial at the Northwest Station. It is quite resistant to the destructive black stem rust, but susceptible to oat smut, which can be controlled by the ordinary formaldehyde or dust seed treatment.

Large increase fields have been seeded at the station farm this spring, with Anthony and Gopher oats, Redwing and Buda flax, Velvet and Glabron barley, a new selection of Mindrum durum, and Marquillo wheat. All seed of Velvet and Glabron barley has been treated with hot water to control loose smut. This is accomplished by soaking the seed, first in cold water for four hours, followed by immersion in hot water for thirteen minutes at a temperature of 125 to 127 degrees Fahrenheit. Copper carbonate dust treatment was used for all seed wheat and Ceresan dust for oats.

FEEDING GROWING PULLETS

Upon the care and management of the growing pullets, from the time they leave the brooder house until they are put in laying quarters for the winter, will depend very largely their capacity for early winter egg production, and the consequent profit which can be realized from them.

According to A. M. Pilkey, Station Poultryman, the three essentials to proper care of pullets at this stage are **good range and shade, a well balanced ration, and comfortable housing.**

Alfalfa, clover or oats make an ideal range providing an abundance of natural shade is near at hand. Failing this, artificial shade may be provided by the planting of shrubs, sunflowers or other quick growing plants. The corn field provides an ideal location for developing pullets.

From the age of two months until they go into winter quarters, dry mash in a self feeding hopper should be before them at all times. This mash should consist of equal parts of cornmeal or barley, bran and middlings, 15% meat meal, 5% bone meal, 2% fine grit, and 2% charcoal. If the pullets are rather late, maturity can be hastened by feeding, in addition to the dry mash, a moist mash once daily. A hopper of good mixed grain or low grade wheat, and a plentiful supply of sour milk or fresh water should be kept constantly before them.

Do not allow the pullets to run with the old hens. A portable colony house can be made very inexpensively and moved out to the windbreak or corn field, and later to the wheat fields.

Remember that the size of next winter's egg basket will depend largely on the feed and care that the pullets receive during the summer.

If interested in plans for a practical colony brooder house, write the Northwest Experiment Station, Crookston.

IS YOUR FLAX WILT RESISTANT?

The Northwest Experiment Station is prepared to test a limited number of flax seed lots this summer to determine whether they are wilt resistant. If readers of the Northwest Monthly have a supply of seed that has not been recently certified and that may have become mixed with non-resistant strains, one pound samples may be sent to the station for testing during the summer.

A plot of land has been thoroughly inoculated with wilt. Seed samples will be planted on this wilt-sick soil; notes on the amount of wilt developing will be taken, and a report made at the close of the season. Samples should be addressed to the Agronomy Department, Northwest School, Crookston. No charge will be made for this service.

Mr. and Mrs. Paul Engelstad (Olive Larness '16) and five children are farming near Thief River Falls, Minnesota. Paul is also a graduate of the class of '16.

ERADICATING PERENNIAL WEEDS WITH CHLORATES

A. C. Arny, R. O. Bridgford, and R. S. Dunham

Work with a number of chemicals started in the autumn of 1927 and continued to date indicates that the chlorates may become effective weapons in the hands of farmers in fighting perennial weeds, such as quack grass and sow thistle.

Comparatively heavy applications of chlorates that often make the ground sterile for some time appear to be necessary to bring about complete eradication of perennial weeds in Minnesota. Some exceptions have been found that are mentioned later. The prices of chlorates have ranged from 8 to 12 cents per pound according to season, amounts purchased and location. This high cost of materials together with the loss of the land for one or two years in some case limits the use of chlorates. Their use appears practical only (1) on small areas either in cultivated fields or pastures that always precede complete infestation, (2) in fence rows where the weeds in the fields are being eradicated by well planned tillage operations, and (3) on roadsides and rough land where tillage methods cannot well be carried out.

Properties of Chlorates

Sodium chlorate is a crystalline substance resembling common salt in appearance. It passes into solution readily in water at summer temperatures, but less rapidly in cold water. Care must always be exercised to stir it in the water until it is completely dissolved.

It has a salty taste and animals that do not have ready access to common salt eat greedily any vegetation sprayed with it, or lick the ground to which it has been applied. This may be attended with some danger to the health of the livestock.

When pure it is not explosive. However, when it is mixed with small amounts of dust or other finely divided organic matter or with sulphur, it forms a dangerous explosive.

Cloth of any kind, wood or other organic material wet with a sodium chlorate solution upon drying becomes a dangerous fire hazard. Such material is easily ignited. A spark is all that is necessary to start fire.

Applying Chlorates

One pound of sodium chlorate per gallon of water has been the strength of solution used in the experimental work. There appears to be no advantage in making the solution stronger than this.

When the tops of the weeds are living, applying the chlorate in solution with a pressure pump has been found to be the most efficient method. A hand pump that develops a pressure of from 125 to 150 pounds per square inch has been used. Always apply the chemical spray three to four feet beyond the edges of infested spots.

During the time of the year when the tops of the weeds are largely dead,

application of the dry chlorate has given as good results as applications in the form of sprays.

Time of day, and air temperatures at the time applications are made are immaterial. The chemicals may be applied as successfully during cloudy, showery weather as when the sun is shining.

Generally the most efficient use of the chlorates have resulted from applications made during July and August when the plants were in bloom or in later stages of development. Complete kills from one application, even though heavy, have been infrequent. However, kills have been obtained when the first applications were made in the spring after a growth of from six to ten inches had been made, and at other times during the growing season, but more applications and larger amounts of chemicals were usually required than when chlorates were applied during July and August.

Applications of chlorates made not earlier than the first week in November and up to the time the ground froze have given either complete kills or nearly so. Applying the dry material evenly at this time has given as satisfactory results as applying it in the form of a spray.

The amount of chlorate needed per square rod of area to bring about complete kills depends on the kind of weed, condition of the weed at the time the application is made and the time of year the applications are made. So far, leafy spurge has proven the most difficult to kill with Field bindweed, Canada thistle and quack grass next, and Austrian field cress and sow thistle last. During the season of active growth, quack grass is difficult to kill. However, one application of two pounds per square rod of area applied shortly before the time the ground freezes in the fall has resulted in a high percentage of complete kills.

One application as heavy as four to five gallons per square rod of area cannot be expected to bring about complete kills during the active growing season. It is always necessary to go back frequently to see if additional applications are necessary.

Usually 1.5 to 2 gallons of solution per square rod of area is the lowest amount that is practical to apply at one time. This is about the amount necessary to wet the tops thoroughly. During the active growing season from two to three or more such applications are necessary to bring about complete kills. The second and subsequent treatments need not be made sooner than one month or six weeks or even longer after the last, unless the weeds are making a vigorous new growth of tops.

Effect on Soil

When the total amount of chemical applied has been three or four pounds or more per square rod of area, the soil in a considerable number of instances has remained sterile for a full year after the last application was made. This is not objectionable when only small spots are treated but on larger areas would increase materially the cost of eradication by chemical methods through loss of crop. The effects of chlorate treatments made in November have with few exceptions disappeared from the soil by the following May or June.

Necessary Precautions in Handling Chlorates

The main danger to human life and to property from chlorates is that of fire. There is danger from explosion under certain circumstances. Chlorates, if consumed by livestock in moderate amounts, 6 to 16 ounces for cattle, are poisonous.

For additional information, write for Minn. Agric. Extension Circular No. 32.

LIVESTOCK FEEDERS' DAY

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oilmeal, alfalfa hay, corn silage.

Lot 4—Ground barley, 2½ pounds linseed oilmeal, alfalfa hay.

Besides reviewing the results of the baby beef trial, the program will include practical discussions dealing with livestock problems of importance to the Red River Valley. Specialists from University Farm, who will appear on the program include W. C. Coffey, Dean of the Department of Agriculture; W. H. Peters, Chief of the Division of Animal Husbandry, will discuss the subject "What Shall We Do About the Low Price of Lambs and Wool?" "Dairy Feeding Problems of the Red River Valley" will be the topic discussed by Dr. W. A. Petersen of the Division of Dairy Husbandry. Dr. W. L. Boyd of the Veterinary Division will have the subject, "Common Diseases of Farm Animals." O. M. Kiser and R. J. Christgau will represent the Animal Husbandry Department of the local station.

One of the popular features of the day's program will be the annual weight guessing contest, which always creates a great deal of interest and general comment.

THIRTY YEARS OF WEATHER IN THE RED RIVER VALLEY

Is the climate changing? Are the winters warmer or the summers colder? Does a dry year follow a wet one? These and many other such questions are answered in a bulletin recently published by the Northwest School and Station, entitled "Thirty Years of Weather in the Red River Valley." The author of this bulletin, R. S. Dunham, Station Agronomist, has summarized local weather conditions in an attractive readable form. The bulletin will be mailed free upon request.

Mr. and Mrs. Herman F. Skyberg (Herman '16) and son are farming near Fisher, Minnesota. Herman is specializing in pure seed production.

Mr. and Mrs. Claude B. Starr (Claude '16) and four daughters are farming near Colman, South Dakota.

JUNIOR SHORT COURSE

(Continued From Page 1)

Classes will begin at eight o'clock Tuesday morning with the Northwest School faculty in charge. Miss Mildred Schenck of the club department and Miss Laura Gerber of the National Dairy Council, together with several county agents, will assist with the program. An effort is being made to get one boys' and one girls' demonstration team to put on a livestock and clothing demonstration respectively.

The recreational program will include movies on Monday, Tuesday, and Thursday evenings, with stunt night on Wednesday. Considerable time each day will be devoted to outdoor games, such as kittenball, volley ball, group games, relay races, field meet, etc. Each county should come prepared to enter teams in each competitive athletic contest as a score card of points will be kept to determine the winner and a suitable award offered. Be sure to have a stunt ready.

H. A. Pflughoeft, District Club leader, will supervise the activities of the week. The total cost for room, board, and entertainment will be $3.00. Write the Northwest School for further information.

WOMEN'S CAMP

(Continued From Page 1)

Battle Creek, Michigan; and Miss Agnes A. Alexander of the Minnesota Department of Health, Minneapolis, together with members of the Northwest School faculty.

At the close of the 1929 Camp the following committee was appointed to assist with arrangements for this year: Mrs. E. E. Green, Chairman, Crookston, Polk county; Mrs. J. W. Mapps, Secretary, Warren, Marshall county; Mrs. Edward Singer, Erie, Pennington county; Mrs. N. P. Stenborg, Clearbrook, Clearwater county; Mrs. J. E. Roadfeldt, Salol, Roseau county; Mrs. Reuben R. Anderson, Frazee, Becker county; Mrs. Albert Lindstrom, Waubun, Mahnomen county; Mrs. H. J. Enderle, Plummer, Red Lake county; Mrs. Oscar Lee, Hendrum, Norman county, and Mrs. John Brendal, Hallock, Kittson county.

Write the Northwest School of Agriculture, Crookston, for room reservation and additional information. In reserving rooms indicate whether you prefer the "quiet" or the "noisy" dormitory.

Lester KenKnight '26, who has been attending Carlton College since graduating from the Northwest School of Agriculture, was recently elected to membership in Phi Beta Kappa, national honorary scholastic society. The Northwest School Family extends heartiest congratulations and best wishes for even greater achievement in the years to follow.

COUNTY AGENTS HOLD CONFERENCE

Getting on Top of the Job was the keynote struck by F. W. Peck, Director of Agricultural Extension, University of Minnesota, at the two-day conference of county agents at the Northwest Experiment Station, May 1 and 2. The "job" was surveyed from many angles. "One of the best conferences of the state," said F. E. Balmer, state supervisor of county agents and C. L. McNelly, district supervisor.

In spite of delayed April rains and muddy roads, J. A. Salisbury, Kittson county; O. R. Grover, Wilkin county; C. M. Kelehan and R. C. Shaw, Ottertail county; R. M. Douglass, Pennington county, and Clement Chase, assistant county agent and club leader for western Polk county, all arrived on time. A. H. Olesberg, Smith-Hughes instructor at Barnesville, explained his tardy arrival by saying he had a one-man conference for several hours in a mud puddle.

Many Phases of Work Discussed

The duties and policies of the Federal Farm Board were outlined by D. C. Dvoracek, Extension specialist in Marketing, University Farm. Need for widespread explanation of the Agricultural Marketing Act was urged by Mr. Dvoracek. The organization plans of the Board for the marketing of wheat and livestock were graphically illustrated by Director Peck. Mr. Peck also explained the plans for mail order milk testing to be started some time this summer by the University Agricultural Extension division.

Results of the three year cost accounting route conducted among twenty-five farmers near Crookston were presented by W. L. Cavert, Farm Management demonstrator of the University Agricultural Extension division. Mr. Cavert brought out that cost of production per bushel varies almost inversely with yield in most farm crops. Outlook material was also discussed with the explanation that while future trends in price are always a guess, the range of the guess may be limited by having full information as to crop and livestock conditions.

A very interesting explanation of good publicity writing was presented by H. L. Harris, Publicity specialist of the Extension division. "In our arithmetic books we have problems and on back pages the answers," said Mr. Harris. "I shall try to give you some answers to publicity problems." Mr. Harris then distributed twelve answers to the question, How to Write Extension News Stories. A feature of this phase of the work was a contest for the best newspaper article written by a county agent in this district.

"A county agent in all sincerity may think the women should choose a clothing project," said Miss Julia Newton, state home demonstration leader, "but why not let the women choose what they want?" The relation of home demonstration agents to the county agent was Miss Newton's subject.

R. A. Stephen, Agricultural Credit corporation, Dan Willard, Great Northern Agricultural development division, and H. A. Dexter, agricultural development agent of the Northern Pacific, explained and discussed policies of their companies in assisting the general agricultural program.

4-H Club Work

An important phase of a county agent's activities is that of boys and girls clubs. A. J. Kittleson, assistant state club leader, and H. A. Pflughoeft, district club leader, announced the various trips as awards for county fair winnings, the Junior Short Course to be held at the Northwest School June 9 to 12, and the summer camps. Mr. Kittleson told the story of the boy who brought just one duck to an Achievement Day although three were required for entry. He had lost all of his other ducks but he finished his project with the sole survivor of the flock. "That boy learned more than how to raise ducks," said Mr. Kittleson.

Swapping Experiences

The agents didn't do all the listening. Each had four minutes to tell of some one project successfully accomplished in his county. Mr. Aamodt of western Polk told of potato treatment work; Mr. Morgan of eastern Polk, of Purebred Sire Day at McIntosh. Mr. Salisbury, Kittson county, snowed in all winter, enrolled club members by mail. One of Mr. Kelehan's pet projects is to send boys to the Northwest School on scholarships donated by west Ottertail men. The success of this project is attested by the school faculty for the boys have been of especially high calibre.

In Eastern Ottertail, Mr. Shaw has a thriving mail order milk testing organization with a local field man. Mr. Douglass in Pennington county is largely responsible for the Pennington County Turkey Breeders' association. Mr. Grover, Wilkin county, held a land owners' conference in which problems of leases and tenants were threshed out. In Clearwater county, a log cabin to house mementoes of historical value is being constructed under a unique scheme of financing, according to Mr. Engene.

PERSONALS

Miss Vera Walters '30 and Mr. Clifford Urness were married early in April at Fargo, North Dakota. They will make their home at Melvin where Mr. Urness is employed by the Spring Gravel company. A shower was given in their honor on April 12 by Mr. and Mrs. Harold Walters (Harold '26) of Beltrami.

Miss Lois Rich and Mr. LaVern F. Peterson '23 were married at noon March 30. Mr. and Mrs. Peterson are making their home at North Loup, Nebraska where LaVern is a teller in the North Loup State Bank.

Miss Anne Simley is teaching courses in English at the State Teachers College, Cape Girardeau, Missouri. She is also coaching the senior class play "The Rivals."

Mrs. Lucille Holliday Swain was recently appointed state chairman of music by Mrs. Sam Rask of the Minnesota Federation of Women's Clubs. She will direct a chorus of one hundred voices to sing at the annual state meeting at Albert Lea in September. Mr. and Mrs. Swain and family live at 5215 Clinton Avenue, Minneapolis.

Mr. and Mrs. Ernest Zeh (Ernest 1918-19) are the parents of a baby girl born Tuesday, April 22. They are making their home at San Jose, California.

Mrs. William Austin (Olga Nettum) and son William, Jr. have returned to their farm home at Malung after spending some time with Mrs. Austin's parents at Crookston. William (1916-18) who has been at the Fort Snelling Veterans' Hospital during the winter, expects to be able to return to Malung in the near future.

The infant son of Mr. and Mrs. Erick O. Berg (Alma Lindgren '21) died April 13. Mr. and Mrs. Berg live at Clearbrook where Mr. Berg operates the Eddy Cooperative creamery.

John A. Gronner '22 has been appointed county club leader of Norman county for the summer, with headquarters at Ada, Minnesota.

Arthur Grove (1929-30) was recently appointed club leader of Pope county with headquarters at Glenwood, while Evelyn Bierbaum '29 is filling a similar position in East Ottertail county.

Lydia Miller '24 expects to graduate from a three year nurses' training course at the University of Minnesota in June. Lydia's present address is General Hospital, Minneapolis.

Henry Nabben '19 who was recently employed by the Northwest School, is now connected with the DeLaval Separator company and lives at Thief River Falls, Minnesota.

Mr. and Mrs. Chas. W. Brown (Charles '13) live at Crookston, Minnesota. Charles is an auctioneer and also a salesman for livestock minerals.

Mr. and Mrs. Fred Frederickson (Fred '13) and daughter live at 214 So. Carnuta, Bellflower, California. Fred is teaching at Anaheim, California.

Orville Harrington '13 is an engineer on the Chicago Division of the Cleveland, Cincinnati, Chicago and St. Louis Railway, and lives at 3930 Edwards Road, Hyde Park, Cincinnati, Ohio.

John Rud '13 is farming near Radium, Minnesota.

Mr. and Mrs. M. L. Skibness (Lionell '13) and two sons are farming near Battle Lake, Minnesota.

Martin Stenseth '13 is an officer in the U. S. Army Air Corps. His address is Office, Chief of Air Corps, Washington, D. C.

Mr. and Mrs. William Thorkelson (William '13) and four children are living at Trail, Minnesota.

John L. Vog '14 is an engineer and lives at Warroad, Minnesota.