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1955 ANNUAL REPORT DICKINSON EXPERIMENT STATION
DICKINSON, NORTH DAKOTA
RAYMOND J. DOUGLAS, SUPERINTENDENT

Each year the program of work at the Dickinson Experiment Station is being expanded. This is necessary because of ever changing agricultural problems which keep increasing with each passing year. We of the North Dakota Agricultural Experiment Stations must contribute to the basic information necessary for our farmers and ranchers to carry out a balanced farming or ranching operation. New sources of revenue must be explored to keep the income of the average farmer or rancher in line with what he needs for a good way of life.

The following outline covers our total program of work at the Dickinson Experiment Station.

I. LAND

A. We will be able to pay $3000.00 out of our earnings in 1955, on the $7,300 we still owe on NW1/4 of Section 32-140-96. This will leave a balance of $4,300 which must be paid by the end of 1957. Our plan calls for another payment of $3000.00 in 1956 with the remaining $1300.00 to be paid in 1957. These payments are being made by income derived from the sale of livestock and grain of no further use in our experimental work. This land was purchased in 1953, with an option to buy which must be satisfied in 5 years.

B. A deed was obtained from the Forest Service for our range land in Billings County. This area described as Section 12-138-101, and is usually referred to as Pyramid Park. Our plan calls for an increase in the acreage of range land, so that even in a dry season we can maintain our cow herd on the summer range for at least three months each summer. One of the most desirable pieces of range land for us, which is a good tract, joins ours on the South and is described as the N½ and the SE1/4 of Section 13, township 138 North, Range 101 West. This is 480 acres which is one-

quarter less than a full section; however, the fourth quarter in the section is privately owned and, probably not possible to get at this time, and we believe the 480 acres will meet our needs. There has been some shifting around in the use of this grazing land, and this particular tract has only been moderately grazed in recent year; hence, the transfer of this acreage to us will meet with little resistance from the local grazing association.

II. BUILDINGS AND NEW STRUCTURES.

A. We painted the new shed and lots constructed on the livestock farm during the current year. It is our plan to paint the buildings on each farm every two years.
B. The chimneys on the house at the Livestock Farm, and on the two houses at the Agronomy Farm, were rebuilt this year from below the roof beginning where they were firm and in good shape. The chimney on the cabin at Pyramid Park was rebuilt. In all cases this was necessary to eliminate a fire hazard and keep the buildings in good repair.
C. A new cattle shed was constructed in one of the lots adjacent to the barn, this provides shelter for one additional lot and gives us fifteen lots for cattle on trials.
D. We completed most of the repair on our cabin at Pyramid Park. This includes besides rebuilding the chimney, re-shingling of the roof, repairing several holes in the siding, hanging a second outside door and painting. R.E.A. built an electric power line across our land, and took a power line down to our building lot, to furnish power for the cabin, corrals, and well. This fall we wired the cabin and scale house and installed a yard light.
E. The garage and storage shed were cut down two feet because the sills needed replacing and moved to a new location, for use as a storage and scale house. A new sill was built into the building, which was put on a cement foundation at the new location. This is an adequate storage and scale house and makes a real improvement in our cattle handling facilities on the range.
F. We constructed a new corral at Pyramid Park adequate for 200 head of cattle, equipped with a chute into the scale house, a chute for loading, two holding pens and a squeeze. The corral is made out of 2 x 6 rough lumber and will be satisfactory for handling our herd under any circumstances. We also have electric outlets in the scale house so we can use the electric branding iron and clippers.

G. A wing constructed of bull fence was built for turning the herd into the corral. This was extended around the cabin by the addition of a barbed wire fence on three sides to serve as a protection for the trees planted around the cabin in our landscaping program.

III. IMPROVEMENTS

Buildings:

Plans are being drafted for remodeling the kitchen in the Superintendent's residence. This project including labor, material and cabinets will probably cost $1200.00. This is a project which has been delayed for years and should be taken care at an early date.

General:

A. About one and one-half miles of fencing was completed in 1955. This consists of four eight acre lots for grazing trials and one two acre lot for use as an additional hog pasture.
B. Additional fence needs to be built at the Station and also on our summer range in the Badlands. It is our plan to do some of this fencing in 1956, if funds will permit. These fences will have 4 barbed wires, posts one rod apart and line braces every twenty rods.
C. Another electric water fountain was installed to furnish water for two lots at the barn. At present all cattle lots are equipped with electrically heated water fountains or electric tank heaters.
D. Fifty acres in the SW1/4 SW1/4 of Section 5 which had been seeded to crested wheatgrass for early spring pasture was re-seeded again in the fall of 1955 in an effort to improve the stand. The eight acres seed to alfalfa in the spring of 1955 on the SE1/4 SE1/4 of Section 5 was seeded to crested wheatgrass in the fall of 1955 to improve spring grazing. It was felt that re-seeding these pastures would probably adequately improve the acreage and provide satisfactory grazing, without further tillage.
E. In the spring of 1955 a series of ditches will be put in on the NW1/4NW1/4 of Section 5 to irrigate about 6 acres for alfalfa. Plans are also under way to build a dam on Section 5 to hold back a reservoir of water, and flood part of the acreage in our pasture for better grass production. This

flooding will take place as the water goes over the spillway, which will flood about 5 - 7 acres. This acreage will flood each spring and after flash floods which are quite common in this section of North Dakota.

F. A well was drilled in the lots where our grazing trials were carried on in 1955. The well has a five inch casing, is about 80 ft. deep and will supply from 12 to 15 gallons of water a minute without lowering the water level in the well. This well supplies water to all four lots of cattle on grazing trials. The well is equipped with a pump jack and motor regulated by a float in the water tank. Two lots are supplied with water at the well and the water is taken to the other pastures through plastic pipes laid on the ground.

G. One of our trench silos was cut out about ten feet along the side so that at present this silo is 29 feet wide at the top, 20 feet wide at the bottom, eleven feet below the surface of the ground, and about 150 feet long. All of the corn raised on 300 acres was put into this silo - the average yield of silage at the station was about 3 $\frac{2y}{ft}$ tons per acre in 1955.

H. The tops of the posts in the fence lines in all of our cattle and hog lots adjacent to the county road, in the line fence along Highway 10, and in the fence South and East of the farmstead on the Agronomy Farm were painted white.

IV. MODEL PROJECTS

A. Another year the model garden at the Dickinson Experiment Station should be reduced in size to facilitate better handling. Too much labor is involved in handling such a large garden, and a smaller garden will serve the purpose.

B. Some work was done in improving the orchard in 1955 - with more to be done in 1956. This will include renovating the area, by removing some of the trees that have passed their usefulness, trimming, spraying, and planting some new recommended varieties of both plums and apples. Many of the old good varieties especially of apples cannot be purchased at the present time; hence, they should be replaced by varieties available.

C. The model poultry flock was maintained in 1954 and will be continued in 1956.

D. The shelter belt at the Livestock Farm and the one north of the farmstead on the Agronomy Farm must be renovated in 1956. This will consist of removing every other row of trees so that the space

between the rows can be cultivated, with replanting done where necessary, to improve the appearance and value of both shelter belts.

E. All plantings of spruce trees will have the necessary replacements made in 1956.
F. The work will be continued towards completing the landscaping of the yard on the Livestock Farm. This year the walk and steps were improved, one new walk to the front of the house was added and the lawn adjacent to the house was filled in and replanted.

V. INFORMATION

A. Improvements were made in the programs offered at the Crops Field Day and the Livestock Research Roundup. Tours were provided for all day groups visiting the station.
B. Six articles were prepared for the Bimonthly Bulletin; three on Agronomy and three on Livestock projects.
C. Aid was given when requested, to help promote the agriculture of North Dakota above and beyond the line of duty at the Dickinson Experiment Station.
D. Records were kept of the United States Weather Bureau which includes:

1. Maximum and minimum daily temperature with readings taken at 7 a.m.
2. A graph of soil temperature and changes in daily temperature are continuously recorded on a chart.
3. Total wind velocity for a 24 hr. period.
4. Daily free surface evaporation between April 1 and October 1.
5. Daily precipitation.
6. Prepared the following chart of the weather for 1954 as compared to other years.

In this semiarid climate, there is no doubt that precipitation in any form is important and the total precipitation figure is a fairly good index as to whether the season was favorable or unfavorable for crops. For this reason the amount of precipitation falling during the growing season is also very important figure to consider.

PRECIPITATION - Inches	Year	Annual	Seasonal	Monthly Av.	1954

PRECIPITATION - Inches	Year	Annual	Apr. - July	1892-1954	1954
	1949	10.77	5.52	Jan. - .46	.46
	1950	15.13	7.05	Feb. - .44	.86
	1951	16.70	7.28	Mar. - .79	1.31
	1952	11.97	6.07	Apr. - 1.27	.49
	1953	19.39	13.44	May - 2.22	1.67
	1954	16.33	5.59	June - 3.48	2.84
				July - 2.17	.59
Greatest precipitation	1941	31.16		Aug. 1.82	6.82
Least precipitation	1936	6.72		Sept. - 1.16	.66
				Oct. .88	.39
63 year average		15.64		Nov. .53	.11
63 year average			9.20	Dec. - .43	.13

AUGUST PRECIPITATION	Greatest of Record	Lowest of Record
	1954 - 6.82 in.	1929 - .09 in.

GENERAL INFORMATION	
LATEST KILLING FROST IN SPRING	EARLIEST KILLING FROST IN FALL

1951	June 16	30° F	1917	Aug. 9	30° F
1954	May 10	28° F	1954	Sept. 21	23° F
48 yr. av.	May 18		48 yr. av.	Sept. 15	
FROST FREE SEASON		Shortest of Record		Longest of Record	
1954 - 132 days		69 days - in 1915 & 1917		164 days - 1922	
		48 yr. av. - 118 days			
TEMPERATURES		Lowest of Record		Highest of Record	
		1936 - Feb. 16 - 47° F		1936 - July 6 - 114° F	
		1954 - Jan. 20 - 36° F		1954 - July 19 - 102° F	

VI. LIVESTOCK PROGRAM

A. Beef Cow Wintering Trials

1. On November 1, we started our wintering trials with 91 head of Hereford beef cows in dry lot on two different levels of feeding. All lots have 15 cows except one, in which we have 16, the one to replace a loss that might occur in any one of the lots during the winter feeding period. Three lots are fed a normal ration consisting of 10 lb. of hay and 30 lb. of corn silage, except in one of the three lots one pound of hay is replaced with .8 pound soybean oilmeal. The remaining 3 lots are similar, except each receive 3/4 as much of the same feed as one of the lots on "normal rations". These trials are to study the effect of the different levels of feeding

on the cow herd and on calf production. It will also indicate the maximum reduction that can be made in a normal ration in feeding the cow herd, in case of a feed shortage, without seriously affecting the animals.

B. Beef Calf Wintering Trials

1. Hereford calves weaned about November 1 are wintered in dry lots on two levels of feeding and pastured the next spring and summer. The normal ration consists of 25 lb. corn silage, 4 lb. hay, and 2 lb. whole oats, the low level ration is made up of 20 lb. corn silage and 4 lb. hay. The heifers go into their respective high and low level lots as replacements in the breeding herd. The steers are fed out in dry lot for market.

C. Feeding Out Beef Cattle for Market

1. Yearling steers are fed for approximately five months, to determine the right amount of supplements, and the best grain mixtures for the most rapid and economical gains using a high roughage ration of corn silage. Steers previously wintered on normal rations are compared to those wintered on low level rations. These trials begin about October 1 since we believe that beef cattle older than calves should go to feed October 1 or earlier to make use of the nice fall weather for good gains. Fattening beef cattle on high roughage ration properly supplemented is opening a new enterprise in our state which will have a very definite impact on our agriculture by accomplishing the following:

    1. Provide the farmer and rancher with additional income.
    2. Keep large runs of feeder cattle off the market in the fall, resulting in a more stabilized market.
    3. Stabilize our labor by providing those good farm hands with work during the winter months - when otherwise they might leave and get another job and not be available for work the next spring and summer.

2. Feeding out Hereford calves by using a good growing ration during the winter months, followed by our best fattening ration during the spring and summer months. The following classes of calves are fed out to determine the class making the most economical and rapid gains.

    1. Steers
    2. Open heifers
    3. Heifers spayed at 3 months of age
    4. Heifers spayed at 1 year of age

D. Sterilizing heifers by use of Hormones.

    1. Later on we plan to try sterilizing heifers by use of hormones such as testosterone for the following reasons:

        a. To determine if heifers can be rendered sterile by the use of hormones, without spaying, testosterone to be the first hormone used.
        b. To compare growth and development of hormone treated heifers with those not treated.
        c. To compare general appearance, sex characteristics, rate of gain, dressing percentage and carcass grade with heifers not sterilized and steers fed under identical conditions.
        d. To make an analysis at the time of slaughter to determine hormone level in meat from animals so treated.

E. Continue our work on fly control, using rubbing chain and spraying. Different insecticides will be used at recommended rates.
F. Keep our herd of breeding cows up to full strength, between 90 & 100 head.
G. Swine Breeding Prog

1. Select Yorkshire gilts for our herd that have made rapid and economical growth. A Yorkshire to get into our breeding herd must be a good gainer and have recognized Yorkshire type. We are making a real effort to get a line of Yorkshires that will gain as rapid and economical as any of the lard breeds. Using only the best Yorkshire boars available.
2. Select good gilts in an effort to improve our Duroc Jerseys.
3. Compare the gains of our Best Yorkshire and Duroc Jerseys with crosses of the two breeds.

H. Swine Pasture Trials

1. Pasture trials have been conducted for several years which indicate that alfalfa is our best pasture crop. Our best temporary pasture is winter wheat seeded in the spring. Winter wheat is palatable, produces a good growth and when seeded in the spring will remain green until late fall. We will continue to use winter wheat as a temporary pasture crop and make a more detailed study of its value. Other crops used and discontinued are sudan grass, spring rye, winter oats, winter barley, winter rye (these winter crops seeded in the spring) and oats and rape.

I. Drylot as compared to Pasture

1. Trials have been carried out for one year comparing the relative efficiency of producing pork in dry lot and on pasture. This trial will need to be carried on for several more years.

J. Raising Fall Pigs in western North Dakota

1. To determine the rate and cost of gains in producing fall pigs in western North Dakota. Fall pigs can bring a good income to our farmers in western North Dakota; hence, more information is needed so that farmers interested will know whether this project will

fit into their operation.

2. Additional projects being studied

    1. Low cost housing.
    2. Methods of handling feed and preparing rations.
    3. Various types of pens for farrowing.
    4. Use of sawdust as litter for sows at farrowing and with real young pigs.

VII. GRASS AND LEGUME INVESTIGATIONS.

The grass and legume work at the station is very important to the stock men in the West River Area. This work has a different bearing on the future of balance farming and ranching in the West River Area.

A. Hay Yields

1. These are made on grass plots and grass-alfalfa mixture plots. One of our main trials was on a seeding made in 1951. The best yielder over the four period was Standard Crested wheatgrass with Norden crested wheatgrass a close second.

B. Preliminary nurseries being studied.

1. Alfalfa and birdsfoot trefoil nursery
2. Alfalfa and native legume nursery.
3. Dryland alfalfa nursery.
4. Uniform birdsfoot trefoil nursery.
5. Uniform Bromegrass nursery
6. Uniform intermediate wheatgrass nursery.
7. North Central sweetclover nursery. Our aim is to select out strains which are adapted to western North Dakota and as good or better than the native grasses and legumes.

C. Field Plot Tests. These are the larger plots of grasses, legumes or a combination of the two which

are studies more intensively than the small nursery plots. Some of these plots are clipped as pasture, as delayed pasture and as hay.

D. Field Plot Trials. The following field plot tests are being carried out at the present time.

   a. Grasses and legume mixture trials.
   b. Straight plots and grass mixtures.
   c. Sweet clover yields plots.
   d. Grass seed production trials.
   e. Nitrogen - fertilization of old stands of crested wheatgrass.
   f. Renovation of crested wheatgrass, by cultivation, fertilization and cultivation.

E. Native Grass Studies are also under way, including:

   a. Forage production in relation to botanical composition.
   b. Forage increment production by species at different times of the year.
   c. Growth and development of range plants.
   d. Influence of grazing and climate on range vegetation.
   e. Range forage production in relation to precipitation and soil moisture.
   f. Influence of dates of beginning clipping on forage production of native grasses. This is carried out by deferring the grazing of the beef herd at the station from the native grass range until between June 20 and July 1. Crested wheatgrass is used for the early spring supplemental pasture.

F. Native grass which shows the most promise are being increased.

G. Grazing trials on early season pastures. The steers on the crested wheatgrass pastures gained about 1.4 lb. per day and on the alfalfa-crested wheatgrass mixture over two pounds per day. This shows the great promise of crested wheatgrass and alfalfa as a mixture for early spring grazing. This type of pasture has real value as the mixture for use on our ranches for early spring grazing, because the substantial increase in gains over gains on straight grass.

VIII. AGRONOMIC INVESTIGATIONS

A. Small grain varieties with wheat, oats, barley and flax.

1. All varieties of small grains which show great promise for western North Dakota are included in these trials. The results in finding adapted, high yielding varieties for the area.

B. Nursery Work

1. The Uniform Regional Nursery sent out by the United States Dept. of Agric. is grown at the Dickinson Experiment Station. Wheat, oats, barley and flax are raised in this nursery. Varieties which show promise here are tested further, even when dropped from the Regional nursery. Several good varieties have been found in this manner

C. Hard red spring wheat breeding and selection nursery.

1. Selections are continually being made from this work in hopes of finding a new variety of wheat for the area.

D. Rotation and Tillage Trials.

1. These have been carried on since 1908, when the trials at the Dickinson Experiment Station started. The results in many of these trials have been outstanding. Some of the trials are still being continued as they were started, with the prospect of still more information coming to light. Those that no longer seemed to serve a useful purpose to agriculture of the area have been changed.

E. Roughage Trial

1. To compare the relative value of any roughage crops which show promise in production

of both quantity and quality feed. This shows that corn is the outstanding roughage crop for western North Dakota. Corn also fits in the rotation in place of fallow, and if the corn can be utilized for feed as silage the change will bring a greater farm income. Our information indicates that the corn planted should be a variety recommended for the area.

F. Corn Trials

1. The corn nursery consists of about 20 varieties, furnished by the North Dakota Agriculture College Experimental Station. This nursery is handled under regular field conditions, which will give the results the farmer and rancher needs.
2. A corn spacing trial has been carried on for several years which shows that for the production of both silage and grain a spacing from 12" to 18" appears to be desirable. More information is needed on this work.

G. Fertilizer Trials.

1. Two series of fertilizer trials fertilizing wheat on corn land and corn on spring plowing have been set up. The increased yield of wheat was very worth while being over 6 bu. per acre this year. The difference in corn yields were not significant. Two trials set up by the Soils Dept. of the Agriculture College on moisture available following fertilization are being carried on as cooperative project.

IX. GENERAL FARMING. The agronomist has direct supervision over all farming operations. All tillage practices, crop rotations and varieties used are those which our trials have proven to be best in western North Dakota.

We have the following feed supply at the Dickinson Experiment Station:

1050 tons of silage @ 10.00	$10,500.00
300 ton of hay @ 20.00	6,000.00

7000 bu. oats @ 60	4,200.00
4000 bu. barley @ 80	3,200.00
300 bu. corn @ 1.00	300.00
Total value	$24,200.00

NEW EQUIPMENT AND MACHINERY PURCHASED IN 1955

PERMANENT IMPROVEMENTS

- Enlarged trench silo 10 feet along one side.
- Hog fence for one two acre lot.
- 1 drilled well
- New corral at Pyramid Park.
- Concrete walk at Livestock Farm house.

MACHINERY

- Jet pump for water system at Agronomy Farm.
- John Deere farm truck.
- International 200 tractor (leased)
- International power mower (leased)
- John Deere diesel tractor (leased)
- Massey-Harris hay rake (leased)

OTHER EQUIPMENT

- 1 model 40 sprinkler.
- 12 petri dishes.
- 1 Hudson floating tank heater and 1 cattle waterer at barn.
- 1 Hudson hog feeder.
- 2 small elevators - one for the seed house and one for unloading grain.

MISCELLANEOUS

- 100 - 2 bu. burlap bags.
- 1 Public address system.
- 24 apple and plum trees.
- 150 new 40 x 60 jute bags.
- 1 Statistical Methods by Snedecor.
- 50 Spruce trees 24" - 36" high.

LIVESTOCK

- 1 Duroc Jersey boar.
- 2 500 baby chicks.

GENERAL SUMMARY

The following is a summary of my official contacts and activities at the Dickinson Experiment Station from November 1, 1954 to October 31, 1955.

Tours are handled by all of the members of our staff.

Number of News Articles	8
Number of Radio Talks	15

Number of Station Calls	107
Number of Farm Visits	25
Number of Meetings Attended	32
Number of People Attending Meeting	5109
Number of Tours	13
Number of People Attending Tours	1012
Number of TV Programs	2

MEETINGS AND TOURS

In all of our contacts an effort is made to acquaint people with the Dickinson Experiment Station as a part of the North Dakota Agricultural College. The following is a list of meetings attended and tours conducted between November 1, 1954 and October 31, 1955.

Date	Meeting	Attendance
November 1	Farmers' Meeting	40
December 8	Annual Livestock Research Roundup	950
December 13	Oliver Co. Livestock Breeders Assn.	43
December 15	Hazen - Adult night school	45
December 30	Hettinger Co. Crop Improvement Assn.	200
January 9-12	Branch Station Conference	---
January 19	McLean Co. Farmers meeting & Livestock tour	200

January 20	Conservation meeting - Parshall	600
January 21	Stark County Livestock Tour	35
February 15	LaMoure County Farmers	300
February 16	Carrington Farmers meeting	325
February 17	Tuttle Farmers Meeting	210
February 23	Farm Managers - Fargo	225
February 26	Renvill-Ward Crop Imp. - Glenburn	325
March 8	Valley City Winter Show	---
March 16	Wing Farm Institute	200
March 17	Mountrail County Tour	53
March 22	Ward County Farm Institute	350
March 24	Swine Breeders Gilt Show	---
March 25	Chamber of Commerce	10
March 31	New England Grade School	20
April 4	Parshall	100
April 7	Fargo	7
April 20	Dickinson Scouts	35
May 12	Taylor School	25
May 3	Dickinson State Teachers College	10

June 1	Federal Inspectors	3
June 6-8	North Dakota Stockmen Assn.	300
June 9	Dickinson State Teachers College	40
June 21	Dickinson Lions	61
June 22	Dickinson Rotary	45
June 29	50th Anniversary & Crops Field Day	450
July 14	Hettinger Station Field Day	75
July 18	Kiwanis Club Station Tour	20
July 21	DSTC Biology Class	75
August 7	Dunn Co. Homemakers Clubs	25
August 9	Robert Tredler and J. Mc Williams	2
August 18	County Extension Agents Conference	80
September 12	Northern Great Plains Section of American Society of Range Management	25
September 16	Golden Valley County Fair	---
September 21	Rotary Meeting	---
September 27	Lions Meeting	---
September 29	County Agents Meeting	---
October 5	Dickinson State Teachers College	35
October 14	Carson	75
October 18	Dickinson Chamber of Commerce	8

October 24	Jamestown	35
October 25	Valley City	35
October 26	Mandan	30
October 27	Watford City	21

RADIO PROGRAMS

We have a regular weekly broadcast in cooperation with the Stark County Extension Agent. The following is a list of the radio programs from November 1, 1954 to October 31, 1955.

Date	Title	Author
November 11	Livestock Research Roundup	Raymond J. Douglas
November 17	Corn for SW North Dakota	Thomas J. Conlon
November 18	Feed livestock for market	Raymond J. Douglas
November 25	Hogging-off corn	Larkin H. Langford
December 2	Corn for the Northwest	Thomas J. Conlon
December 9	Protein content of grass hay	Warren C. Whitman
December 16	Livestock Research Roundup	Raymond J. Douglas
December 23	Feeding steers and calves	Larkin H. Langford
December 30	Range management	Warren C. Whitman

January 20	Grain varieties for SW North Dakota	Thomas J. Conlon
January 13	Summary of weather for 1954	Raymond J. Douglas
January 27	Cattle feeding work	Larkin H. Langford
February 3	Oats variety trials	Thomas J. Conlon
February 10	Rotation and Tillage practices	Raymond J. Douglas
February 17	Give pigs a start	Larkin H. Langford
February 24	Durum wheat performance	Thomas J. Conlon
March 3	Corn in western North Dakota	Raymond J. Douglas
March 10	Feeding yearlings and calves	Larkin H. Langford
March 17	Oats variety trials	Thomas J. Conlon
March 24	Feeding results	Larkin H. Langford
April 14	Pastures for pigs	Larkin H. Langford
April 21	Spring growth of grasses	Warren C. Whitman
April 21	Winter wheat	Thomas J. Conlon
May 5	Hay quality	Warren C. Whitman
May 12	Cattle feeding	Larkin H. Langford
May 19	Chemical weed control	Thomas J. Conlon
May 26	Crops Field Day	Raymond J. Douglas

June 2	Crops Field Day	Warren C. Whitman
June 16	Anniversary program	Raymond J. Douglas
June 16	Crops Field Day	Thomas J. Conlon
June 23	Ladies program	Raymond J. Douglas
June 30	Pasture trial	Warren C. Whitman
July 7	Summer pig care	Larkin H. Langford
July 14	General crop conditions	Thomas J. Conlon
July 27	1955 hay yields	Warren C. Whitman
August 4	Cattle feeding	Larkin H. Langford
August 11	Results of variety trials	Thomas J. Conlon
August 18	Rotation yields	Raymond J. Douglas
September 1	Housing pullets	Larkin H. Langford
September 15	Dryland alfalfa yields	Warren C. Whitman
September 15	Start cattle feeding early	Raymond J. Douglas
September 29	Calf feeding experiment	Larkin H. Langford
October 6	Rotation and tillage work	Thomas J. Conlon
October 13	Livestock Research Roundup	Raymond J. Douglas
October 20	Hog raising tips	Larkin H. Langford

October 27	Sweetclover	Warren C. Whitman

PUBLICATIONS:

- Conlon, Thomas J. & Douglas, R. J. Spring plowing is better than disking. Bimonthly Bulletin Vol. XVII No. 2 November-December 1954.
- Conlon, Thomas J. & Douglas, R. J. Best time for first tillage of fallow in Southwestern North Dakota Bimonthly Bulletin Vol. XVII No. 3 Jan.-Feb. 1955.
- Conlon, Thomas J. & Douglas R. J. No winter wheat now available can succeed in the Dickinson area. Bimonthly Bulletin Vol. XVIII No. 1 Sept. - Oct. 1955.
- Langford, Larkin H. & Douglas R. J. Fattening Rations Fed to Steers. Bimonthly Bulletin Vol. XVII No. 6 July-August 1955.

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