North Dakota State University * Dickinson Research Extension Center

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1965 Annual Report Dickinson Experiment Station Raymond J. Douglas, Superintendent

Perhaps in no period of the past has the Agriculture of North Dakota faced a greater transition than the years ahead will undoubtedly bring to our state.

The program of grain shipments to foreign nations to feed the hungry, in place of relief in the form of direct payments will place a load on our farmers and ranchers that may result in removal of such restrictions as acreage allotments on small grain crops. We must be prepared for such a situation with the most up to date knowledge of small grain varieties, crop rotations, tillage practices, fertilizer and weed control recommendations.

The feeding out of calves in place of selling them at weaning is a fast developing enterprise and one that can be greatly expanded in the West River Area.

In swine production, breeding, feeding and management along with an expanded program is a must in North Dakota.

The value of this station to the people is vested in pointing the way for these changes in truly balanced programs of expansion. The result will be a greater income for agriculture with the net result being a better way of life for the farmers and ranchers in North Dakota.

The seasons of short rainfall are greatest single hazards to crop production in the West River Area. This fact requires a agricultural improvement program built upon a foundation of sound dry land farming and ranching operations. There is the occasional season of too scanty rainfall for even dry land farming methods pay out.

The prevention of water and wind erosion is an ever present problem which must be met for maintenance of

maximum soil fertility and production. This demands constant effort in the conservation of all our natural resources. Extensive and proper use of land and water are a must in a sound program geared to the agriculture of the West River Area.

The demand for the non-agricultural uses of our land by the public makes our work all the more important. These non-agricultural uses include highways, parks, reservoirs, game reserves etc., this in many cases results in our best land being taken out of production. With the prospect of an expanding demand for agricultural products, basic adjustments are required in our over all farm and ranch operations. These changes must come in both practices and techniques to meet the need for additional incoming producing enterprises.

Resource development, is a new phase of agriculture in which we can help point the way.

The great need for a balanced agricultural program has pointed our program and activities directly at the following phases of work.

- 1. New assessments of our over all conservation and resource development programs.
- 2. Increased income from our beef and swine enterprises by expansion, management, and feeding methods.
- 3. Development and testing of new crop varieties, along with new crops for the area.
- 4. Improvements in methods and practices for increased small grain yields, and increased volume of forage production for roughage and grazing.

REQUIREMENTS OF THE DICKINSON EXPERIMENT STATION

Our Station requires constant repairs, replacements and renovation, along with new construction, landscaping, etc. Our appearance must be the best, our methods using modern equipment up to date, pointing the way for the West River Area, in this we cannot follow the procession, it is imperative that we lead. Considering these facts the needs for our program are many, and far reaching.

I. LAND

1. We sold 38.9 acres of land to the Dickinson Public School District No. 1 described as: A tract of

land located in the NW 1/4 NW 1/4 of Section Four (4), Township One Hundred Thirty-nine (139), Range Ninety-six (96), Stark County, North Dakota. This sale was provided for by Chapter 368 of the 1965 North Dakota Session of Laws which act further provides that the sale proceeds of \$38,900.00 shall be held for the benefit and use of the Dickinson Experiment Station of the North Dakota State University of Agriculture and Applied Science.

- 2. We also have \$30,826.00 from the North Dakota Highway Department for 89.9 acres of land for the development of highways across the Station in 1964.
- 3. The land area of the Dickinson Experiment Station is made up of the following tracts of land:
 - a. 160 acres SW 1/4 Section 29-140-96.
 - b. 420 acres W 学 and SE 1/4 Section 32-140-96 (Less 60 acres in Interstate 94 and Interchange.)
 - c. 531.1 acres Section 5-139-96 (Less 20 acres for the access road into Dickinson from Interstate 94, 20 acres for old highway no. 10 and 68.9 acres for the land sold to the refinery.)
 - d. 51.1 acres N 3/4 W 学 W 学 Section 4-139-96 (100 acres less 38.9 acres sold to the Dickinson Public School District)
 - e. 600 acres Section 12-138-101 (Of approximately 600 acres more or less. This is the description of Pyramid Park Summer Range)
 - f. Total 1762.2 acres.
 - 4. The total amount of money available to purchase additional land for the Dickinson Experiment Station is \$69,726.00, which we hope to use for this purpose in 1966.
 - 5. We are anxious to increase our range land in the Badlands from 400 to 640 acres. This is being worked on with the Forest Service and the Bureau of Land Management. It is hoped that arrangements can be made to secure an acreage adjacent to the grazing land we already have known as Pyramid Park. If some land could be obtained from the Federal government as indicated, one or more small tracts are probably available from private owners. This land is necessary in order to give our cow herd an acreage of sufficient size to provide grazing for the whole herd in the Badlands from about June 20

to October 15 without over-grazing our range. We are in need of three separate pastures for this purpose, with the present acreage providing only two grazing areas.

- II. IMPROVEMENTS MADE IN 1965. During 1965 we completed or made good progress with following projects.
 - 1. All of the buildings were painted on the Agronomy Farm except the large white house. Arrangements have been made to have a contractor paint this house next spring. This was deemed feasible because of the danger of accident if our men were to paint a building of this size without the proper equipment. The contractor was engaged to do the job in the fall of 1965 but couldn't get the job done before the spring of 1966.
 - 2. The new lots and fences on the livestock farm, not previously painted, were painted in 1965.
 - 3. Evergreens and broadleaf trees where needed were replaced in the shelterbelts on both farms.
 - 4. The corral was repaired and enlarged at Pyramid Park.
 - 5. The fences were changed at Pyramid Park to provide both herds of cattle with well water at all times. This is in addition to the water provided by the two reservoirs.
 - 6. Renovation of the shelterbelts at the Station was continued in 1965. A band in the tree rows was sprayed with simazine in the spring of 1965, which proved very effective for weed control.
 - 7. Trees on both farms were pruned, with dead trees and branches being removed.
 - 8. The acreage of crested wheatgrass on the SW 1/4 of SW 1/4 of Section 5, which was tilled out in the fall of 1964 and seeded to oats in 1965, was re-seeded to a mixture of native grasses mostly western wheat grass, green stipa and slender wheat grass in the fall of 1965.
 - 9. It was decided to repair the residence for the herdsman at the Livestock Farm to get by until we receive an appropriation from the North Dakota Legislature adequate to build a new home. It had been felt that if we didn't receive an appropriation from the 1965 Legislature this house would be completely rebuilt in 1965; however, this idea was given up during the year.
 - 10. A potato variety trial, started in 1965 with the cooperation of the Extension Horticulturist, proved to be popular and worth while.
 - 11. A corral was constructed on our land north of Highway 94. This corral is 75' x 150' with an 8' board fence on the west and north for storm protection. The corral is also equipped with loading facilities for moving cattle to and from that area. The corral provides adequate protection and a holding area

- for our herd while grazing north of Highway 94 late in October, November and December.
- 12. The diversion ditch north and west of the plots on the Agronomy Farm, was cleaned and deepened to provide adequate drainage in case of flash floods.
- 13. The approaches to our land, off the section line, along the south side of section 32, were taken out so, to make it impossible for careless travelers to drive into our fields.
- 14. A short diversion ditch was constructed north of the elevator to prevent flooding in the area adjacent to the elevator in case of a flash flood.
- 15. The lots and parking areas on both farms received a good fill of scoria late in 1965.
- 16. Three boar lots, with automatic waterers, were built in 1965, each lot being 75' by 600'. These fences were built of a heavy 2" wire mesh, with a barbed hog wire on both the top and bottom of the fence.

III. IMPROVEMENTS TO BE MADE IN 1966

- 1. Paint the building, lots and fences on the Livestock Farm.
- 2. Replace trees where needed on both farms.
- 3. Continue with our renovation of the shelter belts on both farms.
- 4. Construct another machine shed on the Agronomy Farm.
- 5. Build a new entrance to the root cellar.
- 6. Replace the north half of the west line fence at Pyramid Park, with steel posts and three wire, barbed wire fence.
- 7. Build a new silage wagon that will weigh and unload silage into our trial lots with a minimum of labor.
- 8. Build 3 additional farrowing pens with modern equipment in our hog house.
- 9. Construct 4 or 5 new 8' by 10' hog houses in order to adequately handle our hog herd. Our present supply of hog house is not adequate.
- 10. Fence area for our orchard and garden experiments.
- 11. Add additional fence and gates at Agronomy farm to control night traffic.
- 12. Make beginning plans looking into the future to move livestock farm to new location.
- 13. Remove upright silos.

14. Install mercury vapor yard light near gasoline storage tanks on Agronomy Farm.

W. OTHER PROJECTS.

- 1. The poultry project will be continued in 1966 using methods approved as adequate for handling a farm flock for maximum production.
- 2. The garden project will be improved in 1966, with adequate water for irrigation.

V. INFORMATION

- 1. Our program includes giving out information whenever available for improving farming or ranching operations. Such information is released through the Crops Day, tours, Livestock Research Roundup, publications, news releases, meetings, radio and television programs, along with both office and farm calls.
- 2. This year 2,000 copies of the Livestock Research Roundup bulletin were released to farmers and ranchers in North Dakota.

PRECIPITATION

| Month | 1965 | Accum. | 1892-1965 | | Accumulative | Last 10 Years | | | |
|-------|------|--------|-----------|---------|--------------|---------------|------------|--------|--|
| | | | Summary* | Average | Average | Year | April-July | Annual | |
| Jan. | .41 | .41 | 32.14 | .43 | .43 | 1956 | 7.30 | 12.70 | |
| Feb. | .24 | .65 | 31.95 | .43 | .86 | 1957 | 14.76 | 22.15 | |
| March | .21 | .86 | 55.40 | .75 | 1.61 | 1958 | 8.14 | 12.18 | |
| April | 3.41 | 4.27 | 97.23 | 1.31 | 2.92 | 1959 | 6.15 | 13.45 | |
| May | 6.07 | 10.34 | 171.23 | 2.31 | 5.23 | 1960 | 6.22 | 10.23 | |
| June | 4.25 | 14.59 | 260.51 | 3.52 | 8.75 | 1961 | 7.81 | 13.90 | |

| July | 3.08 | 17.67 | 163.80 | 2.21 | 10.96 | 1962 | 12.59 | 18.34 |
|-------|------|-------|--------|------|-------|---------|-------|-------|
| Aug. | 1.64 | 19.31 | 132.54 | 1.79 | 12.75 | 1963 | 13.58 | 18.94 |
| Sept. | 1.63 | 20.94 | 89.64 | 1.21 | 13.96 | 1964 | 13.78 | 18.68 |
| Oct. | .00 | 20.94 | 60.07 | .81 | 14.77 | 1965 | 16.81 | 21.63 |
| Nov. | .41 | 21.35 | 39.12 | .53 | 15.30 | 1944** | 21.20 | 31.16 |
| Dec. | .28 | 21.63 | 28.95 | .39 | 15.69 | 1936*** | 2.03 | 6.72 |

74 - Year Average Precipitation = 15.69, 74 - Year Average Precipitation April-July = 9.36, *Total Precipitation in inches per month for 74 years, ** Greatest of Record, *** Least of Record: 1965 - Greatest 24 - hour precipitation, May 24, 2.95 inches. Over normal for 1965 - 5.94 inches.

GENERAL INFORMATION

| Late | st Killing Frost In S | pring | Earliest Killing Frost In Fall | | | | | | |
|-----------|-----------------------|--------------------|--------------------------------|--------------------------|--------------------|--|--|--|--|
| 1915 | 1915 June 16 | | 1917 | Aug. 9 | 30°F | | | | |
| 1965 | 1965 May 28 | | 1965 | Sept. 5 | 27 ⁰ F | | | | |
| | | | | | | | | | |
| Frost-Fre | e Season | Shortest (| Of Record | f Record Longest Of Reco | | | | | |
| 1965 | 1965 99 days | | 69 days | 1962 | 175 days | | | | |
| | | | | | | | | | |
| | Lowest Of Record | | | Highest Of Record | | | | | |
| 1936 | Feb. 16 | -47 ^o F | 1936 | July 6 | 114 ^o F | | | | |

| 1965 | Jan. 28 | -27 ⁰ F | 1965 | Aug. 13 | 99 ⁰ F |
|------|---------|--------------------|------|------------|-------------------|
| | | -21 1 | | 7 10.9. =0 | 33 F |

In our weather station report we record the following information daily which is sent to the National Weather Records Center, Arcade Building, Asheville, North Carolina for processing:

- 1. Maximum, minimum and 7:00 a.m. reading.
- 2. Wind velocity over each 24 hour period.
- 3. Free surface evaporation, April 1 to Oct. 1.
- 4. Daily precipitation.
- 5. Snow fall and depth of snow on the ground each day.

The number of deaths and destruction caused by storms in North Dakota are small when compared to storm damages reported in most other sections of the country. Sometimes one flood, hurricane or tornado in the more densely populated areas of the country causes more loss of life and destruction of property than has resulted from all storms recorded in North Dakota during the past 50 years. The chances of getting killed by weather vagaries such as blizzards, tornadoes, high winds, floods, hail, lightning, etc. in North Dakota are only about one in 100,000. The best record of longevity in our country as reported by the Metropolitan Life Insurance Company is found in the westnorth-central states. From a comfort and health standpoint, many people prefer North Dakota to any other place and the per person crop and livestock production are exceeded by only a few states.

- VI. BEEF CATTLE PROGRAM. Improving the Beef Breeding Herd.
 - 1. The following bulls are being used at the Dickinson Experiment Station:
 - a. TTT Lodge Heir 8, Number 11,643,726; Calved, April 3, 1961; Bred by Thor Tagestad, Towner, North Dakota
 - b. TTT Anxiety, Number 11,643,725; Calved, April 3, 1961; Bred by Thor Tagestad, Towner, North Dakota
 - c. Husky Pioneer 263, Number 12,332,508; Calved, April 3, 1962; Bred by Tony Stroh,

- Killdeer, North Dakota
- d. Husky Pioneer 314, Number 12,874,443; Calved, April 15, 1963; Bred by Tony Stroh, Killdeer. North Dakota
- e. Husky Pioneer 402, Number 13,351,427; Calved, April 5, 1964; Bred by Tony Stroh, Killdeer, North Dakota
- f. TTT Silver Beau, Number 13,799,402; Calved April 13,1965; Bred by Thor Tagestad, Towner, North Dakota
- g. TTT Lad, Number 13,799,391; Calved April 13, 1965; Bred by Thor Tagestad, Towner, North Dakota

These bulls are being used in a program to improve the size of our cows. The bulls TTT Lodge Heir 8 and TTT Anxiety are good growthy bulls with plenty size. TTT Lodge Heir 8 has excellent size and his calves are from 10 -20 pounds heavier at weaning than calves sired by any other bulls we have had to date. We believe the bull calves TTT Lad and TTT Silver Beau to be growthy bulls and will develop into large bulls.

The three bulls Husky Pioneer 263, Husky Pioneer 314 and Husky Pioneer 402 are half brothers and were added to our herd to improve the thickness, fleshing especially in the quarters, and type of our cows. We are using the Husky bulls in an effort to get a set of well guartered heifers of the right type, with size and gaining ability of the TTT bulls.

- 2. Culling of the cow herd is a job that must be kept up each month of the year. We keep removing undesirable animals and make replacements to maintain herd numbers, by production tested heifers.
 - a. As we weigh each month the entire herd is carefully looked over and culled as follows:
 - 1. Animals lacking in condition with a shell like appearance.
 - 2. Those with diseases such as; lump jaw, cancer eye, etc.
 - b. As we go into the winter period we remove animals as follows:
 - 1. Cows with broken mouths.

- 2. Poor producers.
- 3. Off type and color individuals.
- 4. Defects not of disease origin.
- 5. Animals hard to handle such as fence crawlers, nervous or mean animals.
- 6. Culling is continued in the manner indicated until our breeding herd plus heifers added is of the size we want to maintain.

3. Trials with beef cows.

- a. This trial with the cow herd is for the purpose of determining the value of straw in a ration for wintering beef cows.
 - 1. The herd was divided into two groups, the even numbered cows in one lot, the uneven numbered cows in another lot for winter feeding. In one lot each cow is fed 20 pounds each of good tame hay, in the other lot each cow receives 7 pounds tame hay, 13 pounds of wheat straw and 1 pound soybean oilmeal. After February 1 each cow in both lots receives 2 pounds of rolled barley along with 10,000 units of vitamin A per day.
 - 2. Injecting 50% of breeding cows already receiving 10,000 I units of vitamin A per day for two months before calving, with 2 cc of vitamin A, each cc containing 500,000 Lunits vitamin A, 75,000 Lunits of vitamin D and 50,000 I units of vitamin E to determine the following:
 - a. Strength of calves at calving.
 - b. Loss of calves at calving.
 - c. Weight of calves at birth.
 - d. Weight of calves at weaning.
 - e. Condition of cows at calving time.
 - f. Condition of cows at time calves are weaned.

- 3. Each year at least one bull calf is added to the herd, if he gains in a satisfactory manner under a testing program he is used to breed the replacement heifers the following spring. If the calf crop he sires is satisfactory he is added to the breeding herd. This year we added two bull calves to the herd;
 - a. TTT Lad, Number 13,799,391
 - b. TTT Silver Beau, Number 13,799,402
- 4. Feeding Trials. Our beef feeding trials have for their purpose the development of rations made up of home-grown feeds properly supplemented to make the production of and feeding out of beef cattle a profitable enterprise. We believe each producer should feed out of at least the calves he raises rather than sell them at weaning. The length of the feeding period will vary with the conditions existing on each individual farm or ranch. Our experimental program is built around seeking reliable information to the following problems:
 - a. The value of early maturing corn compared to the higher yielding later maturing varieties when both are used for silage.
 - b. Starting calves in dry lot on high level roughage to grain rations, then reversing the ratio of roughage to grain about half way through the feeding period, compared to a ration where the animals are fed from weaning to finish on a 50:50 ratio of roughage to grain.
 - c. Alfalfa hay as compared to crested wheat grass and brome hay when used at the two pound level to supplement fattening rations.
 - d. Effects of systemic grub control on rate of gain, feed efficiency, dressing percent and value.
 - e. Using injectable vitamin combinations every other month when 10,000 units of vitamin A are fed daily, and when no vitamin except the injectable vitamins are used for fattening steers.
 - f. Creep feeding calves to determine:

- 1. Weight of calves at weaning.
- 2. Weight of cows during the summer months when calves are creep fed.
- 3. Starting creep fed calves at weaning compared to starting non-creep fed calves at weaning, both on a fattening ration.
- 4. Gains of creep fed calves in a feed lot compared to gains of non-creep fed calves.
- g. Calves fed from weaning to market, with sheds for protection compared to an 8' windbreak on the west and north of the feed lot.
- h. Calves wintered on tame hay, 2 pounds barley and minerals compared to calves fed 1 pound barley, 1 pound soybean oilmeal, 2 pounds alfalfa hay and all the straw they will eat.
- i. Calves receiving long hay as compared to those receiving chopped hay along with 3 pounds silage, and limited grain.
- j. Calves and yearlings fed 1 pound alfalfa hay, [3] pound soybean oilmeal, silage free choice and a grain ration of:
 - 1. 100% barley.
 - 2. 50% barley and 50% wheat.
 - 3. 100% wheat.
 - 4. 50% oats and 50% barley.
 - 5. 100% oats.
- k. Yearling steers with the following rations; silage free choice for all lots, along with minerals and salt.
 - 1. 6 pounds of barley and 1 pound alfalfa hay.
 - 2. 6 pounds barley.
 - 3. 6 pounds barley, one pound of a special protein supplement and 1 pound alfalfa hay.

4. 6 pounds barley, 1 pound soybean oilmeal, and 1 pound alfalfa hay.

VII. SWINE PROGRAM

- 1. Improving the gaining ability, bone, meat qualities and type of Yorkshires by using good boars and gilts through a rigid process of selection.
- 2. Testing crosses for increased gain and improved feed efficiency, using Hampshire and Spot boars on Yorkshire sows, to determine the gain of crossbred market hogs compared to purebred market hogs.
- 3. The following boars are being used:
 - a. OAMC4 Model 297-404802; Farrowed July 26, 1954; Sire: OAMCO Model 65 -283296 PR; Dam: OAMC1 Miss Capre 18 324583; Bred by Oklahoma State University
 - b. KWT2 Sunny Crest Model Master 27-0 372874; Farrowed: March 16, 1963; Sire: O Gak 2 Model Master 2 - 1 332325; Dam: KWT2 Sunny Crest Beautiful 72 333550; Bred by Keith Thurston, Madelia, Minnesota
 - c. ONY4 Mr. Handsome 4-2 389307; Farrowed: February 8, 1964; Sire: KWT3 Sunny Crest Model 16-1 363172; Dam: OYN 2 Hyview Girl 3-8 362421; Bred by Roger Manke, West Salem, Wisconsin
 - d. Hampshire Boar; Farrowed: April, 1963; Bred by Gietzen Brothers, Glen Ullin, North Dakota
 - e. Spotted Boar; Farrowed: August 23, 1964; Bred by A. H. Ellenson and Sons, Oaks, North Dakota

4. Feeding Trials.

- a. Winter wheat seeded in the spring as pasture crop. Other pasture crops will be used when they appear to have possibilities.
- b. Dry lot pigs using concrete floors compared to grazing pigs on pasture.

- c. Balanced rations fed in dry lot with concrete floors compared to grazing pigs on pasture.
- d. No supplement except mineral on pasture as compared to a balanced ration in dry lot.
- e. Winter rations using a barley and oats ration as a check compared to the same ration except 25%, 50%, and 75% rye added with the barley and oats being reduced proportionately.
- f. New rations and supplements.
- g. Using new types of disinfectants in preparation of farrowing guarters and in cleaning houses.
- h. Rotation of lots for young pigs until weaning.
- i. Disease, care and treatment, using different systems of disease control with pigs, feeding pigs for market, and with sows and gilts.
- i. Use of injectable iron in young pigs.
- k. All phases of economy of operation being considered, and used when feasible.
- I. Rations for pregnant sows, sanitation, management, disease control, all studied to increase the number of pigs weaned per litter and rate of gain in the feed lots.
- VIII. GRASS AND LEGUME INVESTIGATIONS. This work is designed to get new species of grass and legumes that are at least as good or better than the grasses and legumes of the native prairie.
 - 1. This requires trials with grasses alone and in grass-mixtures, along with legumes alone and legumes with grasses.
 - a. Trials with grasses for early spring and for later summer grazing.
 - 2. Grasses fertilized with commercial fertilizer and with legumes, as follows:
 - a. Application of fertilizer every year.
 - b. Application of fertilizer every other year on good stands of grass.
 - c. Grasses fertilized with legumes.

- d. Fertilizer to renovate old stands of grasses.
- e. Determination of protein content of grass with different rates of the fertilizer and with legumes.
- 3. Production of grasses and legumes is measured when used for both hay and pasture.
- 4. Grazing trials to study beef produced per acre from crested wheatgrass when handled as follows:
 - a. No fertilizer.
 - b. With alfalfa.
 - c. With 25 pounds of nitrogen each year.
 - d. With 50 pounds of nitrogen every other year.
- 5. A grazing trial will be in progress during the summer of 1966 comparing Russian wildrye when seeded alone and when seeded with alfalfa for late summer grazing.

IX. AGRONOMY

- 1. Our agronomy program has for its purpose investigations in the following fields:
 - a. Small grain variety trials to determine those varieties adapted to our conditions which also have the best potential for high yields and disease resistance. This is a continuous process with a few new varieties being released each year.
 - b. Nursery trials are carried on each year with the Cooperative Regional Nursery, the North Dakota Experiment Station along with several new wheats bred at our own Station.
 - c. Work is also carried on with the Great Plains Barley Nursery, Uniform Oat Nursery, Regional Safflower Nursery, Uniform Regional Flax Nursery and Hard Red Winter Wheat Performance Nursery. These are all important in selecting our varieties adapted to the West River Area.
 - d. Our winter wheat survival trial has for its purpose to determine whether winter wheat will

- survive under our conditions, using different types of seed bed preparation and seeding methods.
- e. Fertilizer is being applied at recommended rates with small grain on cornland, stubble, and on fallow, using different types of tillage, with these yields being compared to unfertilized fields handled in an identical manner.
- f. Continuous cropping trials are being continued with fall plowing and spring plowing of stubble and with summerfallow; these trials were set up with the establishment of the Station.
- g. Trials with spring wheat are carried on with several types of drills, in rotations with different tillage practices.
- h. Corn production for silage is very important to the West River Area. Trials comparing corn of early, medium, and late relative maturity dates are conducted to determine:
 - 1. Silage yield.
 - 2. Protein content.
 - 3. Value in the feed lot.
- i. Corn production using different methods of planting.
- j. Wheat yields are determined when grown in rotations following several different forage crops, that are being grown in the area for roughage production.
- k. Chemical weed control is being studied in corn production using both band and broadcast applications.
- I. Seeding rates are being investigated for both wheat and oats.

X. GENERAL FARMING OPERATIONS

- 1. Feed on hand December 31, 1965.
 - a. 250 ton of hay @ \$18.00 \$4,500.00
 - b. 75 ton of straw @ \$10.00 \$750.00

- c. 1600 ton corn silage @ \$7.24 \$11,584.00
- d. 9000 bushels of barley @ \$1.00 \$9,000.00
- e. 1500 bushels of oats @ \$.55 \$825.00

XI. EQUIPMENT AND LIVESTOCK PURCHASED IN 1965

- a. 2 AS Ritchie Livestock Waterers
- b. Arps 3 point snow plow
- c. 57 red white faced steer calves
- d. Aster "Butch" Clippers
- e. Branding iron
- f. Pure-bred Yorkshire boar Oklahoma
- g. Pure-bred Spot boar Ellenson
- h. 500 white Plymouth Rock chicks
- i. Vicking Scales
- i. Electric dehorner
- k. 3 4'x8' framed sign
- I. 10 red white faced steers
- m. I. H. loader (used)
- n. 31 red white faced steers
- Chicken fountain
- p. 2x7 steel tank for cattle pasture
- q. Sprinkler can
- r. Spray gun
- s. 1 sewer auger
- t. 50 Spruce trees
- u. Start stop station W.P. nema 4D water tight
- v. 4 hog pens
- w. 10 ft. wood water tank
- x. 200 trees for field planting

- y. 10 mixed fruit trees for orchard
- z. 2 submersible pumps
- aa. Overhead projector
- ab. 4-WL-2 Electric hog waterers
- ac. Portable screen
- ad. 4 #2 Smidley feeders
- ae. 4 #3 Smidley feeders
- af. 2 signs for Pyramid Park 3'x5' and 16"x36"
- ag. 35 red white faced steers
- ah. 13 red white faced steers
- ai. 4 plastic cans
- aj. 2 AC Calf Waterers
- ak. 2 pure-bred Hereford bull calves
- al. 2 cattle guards
- am. AC wagon
- an. 2 garbage cans
- ao. Signature 9900 Heavy Duty Electric Adding Machine
- ap. 1 storage cabinet
- aq. drawer chest
- ar. File cabinet
- as. 1 Emerson Dockage tester #32-A with set of 2 riddles and 2 sieves and pans.

| Date | Meetings and Tours | Attendance |
|---------|---|------------|
| Jan. 11 | Bottineau County Agriculture Association, "Beef Production" | 75 |
| Jan. 12 | McHenry County Agriculture Association, "Management of Beef Cattle" | 50 |
| Jan. 15 | Harry Graves, "Horticulture Work" | 0 |
| Jan. 25 | New England, "Beef Production and Management" | 25 |

| P.V.O. Safflower Meeting, Attended | 20 | | | | |
|---|---|--|--|--|--|
| Greggs County Agriculture Improvement Association, "Handling the Beef Herd" | 150 | | | | |
| Economic Opportunity Act Meeting, Attended | | | | | |
| Burleigh County Agriculture Association, "Care and Management of Beef Herd" | 50 | | | | |
| Burleigh County Agriculture Improvement Association, "Improvement of Our Agriculture" | | | | | |
| Annual Meeting Society of Range Management, Attended | 800 | | | | |
| Sheep Days at Hettinger, Attended | 200 | | | | |
| Dave Noetzel, "Making Grub Count on Steers" | 0 | | | | |
| Pierce County Farm Institute, "Improving Our Livestock" | 50 | | | | |
| Glen Ullin Knights of Columbus, "Trials at Dickinson Experiment Station" | 75 | | | | |
| Valley City Winter Show, "Exhibiting Hogs" | | | | | |
| Dave Noetzel, "Grub Count on Steers" | | | | | |
| Richardton, "Open Forum" | | | | | |
| Walsh County Livestock Breeders, "The Cow Herd at Dickinson Experiment Station" | 250 | | | | |
| McIntosh Livestock, "Our Trials at Dickinson Experiment Station" | 80 | | | | |
| Beach F.F.A. Class, "The Future of Our Youth" | 110 | | | | |
| Shipley Grade School, "Tour of the Station" | 25 | | | | |
| Swine Meeting, "North Dakota State University" | 75 | | | | |
| | Greggs County Agriculture Improvement Association, "Handling the Beef Herd" Economic Opportunity Act Meeting, Attended Burleigh County Agriculture Association, "Care and Management of Beef Herd" Burleigh County Agriculture Improvement Association, "Improvement of Our Agriculture" Annual Meeting Society of Range Management, Attended Sheep Days at Hettinger, Attended Dave Noetzel, "Making Grub Count on Steers" Pierce County Farm Institute, "Improving Our Livestock" Glen Ullin Knights of Columbus, "Trials at Dickinson Experiment Station" Valley City Winter Show, "Exhibiting Hogs" Dave Noetzel, "Grub Count on Steers" Richardton, "Open Forum" Walsh County Livestock Breeders, "The Cow Herd at Dickinson Experiment Station" McIntosh Livestock, "Our Trials at Dickinson Experiment Station" Beach F.F.A. Class, "The Future of Our Youth" Shipley Grade School, "Tour of the Station" | | | | |

| June 10 | Orvil Godman, "SCS Group Tour of Station" | 5 |
|-------------|---|----------|
| June 11 | 4-H Judging Contest, "Area Group" | 50 |
| June 23 | Crops Day, "Dickinson Experiment Station" | 125 |
| June 26 | Stutsman County Farmers, "Tour of Dickinson Experiment Station" | 40 |
| July 1 | SCS Tour, "Judging Farms" | 10 Farms |
| July 19 | 4-H District Judging Contest, "Judging" | 65 |
| Sept. 13-16 | National Barrow Show, Austin, Minnesota | |
| Sept. 23 | Potato Day, "Dickinson Experiment Station" | 16 |
| Sept. 24 | Bottineau Achievement Fair, "Judge" | |
| Sept. 29 | Beef Feeders Meeting, Attended | |
| October 6 | Rotary Farmer's Day Program | 100 |
| Dec. 6-10 | Experiment Station Conference, Annual Meeting | |
| Dec. 15 | Livestock Research Roundup | 1250 |

RADIO

| Programs | | |
|---|--|--|
| T.V. Telecast - Weather in North Dakota | | |
| Summary of North Dakota Weather | | |
| Fertilization of Grass | | |
| | | |

| February 19, 1965 | Handling Young Pigs |
|-------------------|--|
| March 5, 1965 | The Cow Herd |
| March 19, 1965 | Planning 1965 Feed Crops |
| April 9, 1965 | Corn Work at Dickinson Experiment Station |
| April 30, 1965 | Grazing Beef Cattle |
| May , 1965 | New Trials at the Dickinson Experiment Station |
| June 11, 1965 | Visit Dickinson Experiment Station Crops Day |
| July 2, 1965 | New Grazing Trials |
| July 23, 1965 | The 1965 Wheat Crop |
| July 30, 1965 | New Trials with Feed Supplement |
| August 6, 1965 | Crop Conditions |
| September 3, 1965 | Fall Seeding of Grass |
| October 1, 1965 | Starting Yearlings and Calves on Feed in Dry Lot |
| November 5, 1965 | New Cattle Trials in Progress |
| November 26, 1965 | Livestock Research Roundup |
| December 3, 1965 | Annual Livestock Research Roundup |
| December 6, 1965 | Annual Livestock Research Roundup - Special Features |

GENERAL SUMMARY

| | | 1 | | | | | | 1 |
|--|------|----------|------------|---------|-------|------|----------|---|
| | Farm | No Toure | Attendance | Station | Radio | News | Meetings | |

| | Visits | INU. IUUIS | At Meetings | Calls | Talks | Articles | Attended |
|-----------|--------|------------|-------------|-------|-------|----------|----------|
| January | 0 | 0 | 386 | 9 | 3 | 0 | 8 |
| February | 0 | 0 | 1050 | 17 | 1 | 0 | 4 |
| March | 0 | 0 | 455 | 18 | 2 | 0 | 7 |
| April | 1 | 1 | 135 | 8 | 2 | 0 | 2 |
| May | 1 | 0 | 0 | 10 | 1 | 0 | 0 |
| June | 0 | 2 | 295 | 12 | 1 | 1 | 5 |
| July | 0 | 1 | 65 | 10 | 3 | 0 | 2 |
| August | 3 | 0 | 0 | 10 | 1 | 0 | 0 |
| September | 0 | 0 | 16 | 11 | 1 | 0 | 4 |
| October | 2 | 0 | 100 | 9 | 1 | 0 | 1 |
| November | 0 | 0 | 0 | 9 | 2 | 0 | 0 |
| December | 0 | 0 | 1250 | 12 | 2 | 2 | 2 |
| Total | 7 | 4 | 3752 | 135 | 20 | 3 | 35 |

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