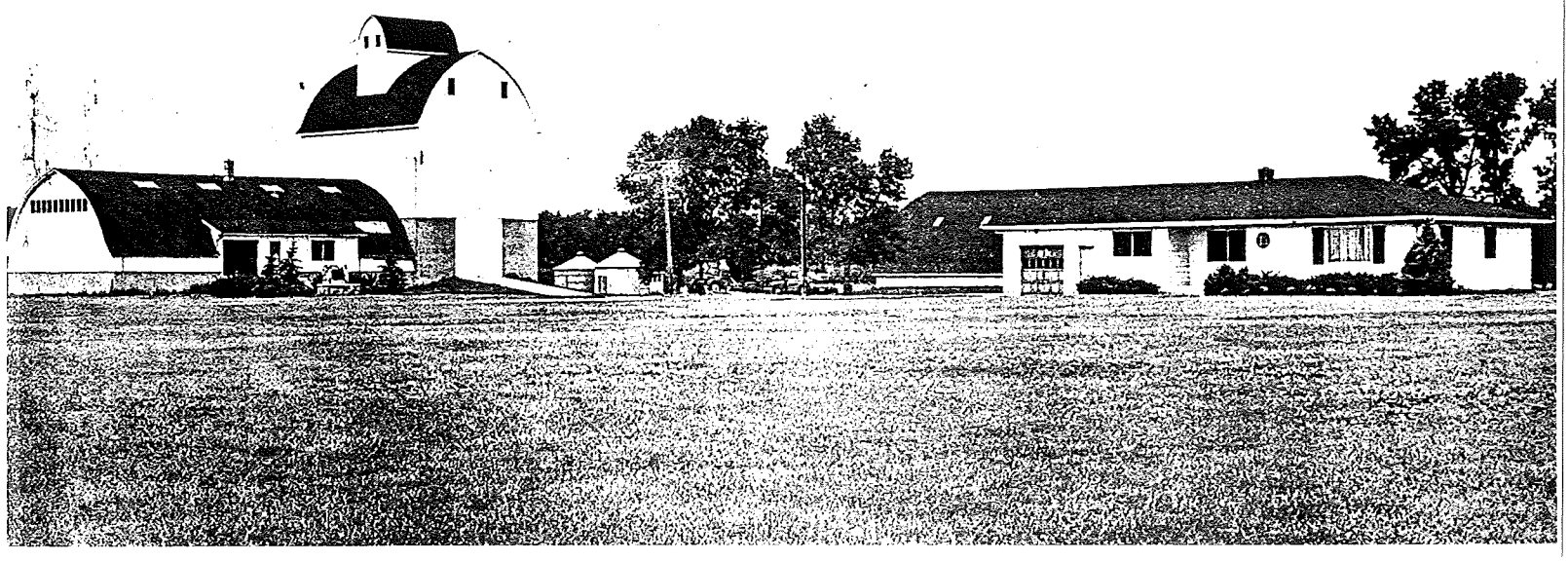
SEPTEMBER 1965

The Agronomy Seed Farm

HOW IT CAME INTO BEING - HOW IT OPERATES

T. E. STOA

Agricultural Experiment Station,
North Dakota State University of
Agriculture and Applied Science
Fargo, N. D.



THE AGRONOMY SEED FARM

How it came into being - How it operates

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Persistent drouth, low crop yields and low prices in the early thirties made for a discouraging farm outlook. But the years which followed, and extending through the forties, inaugurated a period of outstanding farm production, and with it a new era of optimism. Rainfall again was more plentiful, crop yields generally were from good to excellent, and prices increasingly favorable. Some of these were war years, resulting in larger world markets and better prices, encouraging greater farm production. This was also a period of great advances in farm mechanization, with the many advantages this afforded, resulting in much higher production per man-hour. Times were good and the progressive and efficient farmer shared in the general prosperity.

Contributing to the good production throughout this period were some improved crop varieties, developed and released by the Experiment Stations. These varieties were capable of high yields and could resist prevalent races of rust and other major diseases common to this area. The significance of these varieties, with the disease protection which they provided, was fully realized during several of the years in the forties when good rainfall, heavy crop stands and high humidity combined to provide an environment ideal for rust propagation. Some of the releases from the North Dakota Agricultural Experiment Station included Rival and Pilot, followed by Mida and Cadet. These gave excellent rust protection to the hard red spring wheat crop. Renown and Regent from Canada were available for production in North Dakota. Similar protection for the durum wheat crop was made possible with the release and, later, the extensive use of the varieties Stewart and Carleton. New flax varieties capable of good yields and combining resistance to both flax rust and wilt included B 5128, Victory, Sheyenne and Dakota. These releases from the North Dakota Agricultural Experiment Station did much to assure good flax production and make this crop more attractive to the farmer.

These years were marked by many other variety improvements, including rust and smut resistant oats, mostly from other states; some improvements in barley, and hybrid corn developed for specific areas. Farmers were highly appreciative of the new varieties developed and became increasingly aware of the value of crop research.

Many of these farmers were concerned as to how they might provide more support for research in areas of so much direct benefit to them. Did the Department of Agronomy need more land? Would more land make possible a more rapid increase, better control of new seedstocks and allow for larger initial releases to individual seed growers? These were questions which individual farmers and certified seed producers

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1/ Formerly agronomist and chairman, Department of Agronomy.

were asking among themselves and of research workers. The idea of a special farm for the specific purpose of increasing seed of new varieties, or purified seed lots of older desirable varieties, appealed to the certified seed grower. Could funds be raised for the purchase of such a farm? If there was to be solicitation of funds, which farm organization or other organizations might logically sponsor such a drive?

Crop Improvement Association Sponsors a Fund Drive

The board of directors of the North Dakota Crop Improvement Association, meeting January 27, 1948, in Bismarck, went on record favoring the idea of a seed increase farm and agreed to sponsor solicitation of the necessary funds. Since this plan was initiated by the farmers, a committee consisting of W. A. Plath, Davenport; Roy Johnson, Casselton, and Otto Klindworth, Carrington, was appointed to visit with officials of the Agricultural Experiment Station at Fargo, advise them of their interest and action, and make certain that the proposed plan had their approval.

At the annual meeting of the Crop Improvement Association in Valley City March 11 this committee reported on its meeting in Fargo with President John H. Longwell and T. E. Stoa, Chairman, Department of Agronomy, representing Experiment Station Director H. L. Walster. Longwell and Stoa had expressed their pleasure for this evidence of support and assured the committee that a farm devoted to increasing desirable seedstocks could be a big asset to the plant breeding and crop improvement program at North Dakota Agricultural College.

It was generally agreed, too, that a seed farm, to be most valuable, should be located on good productive land and preferably on a somewhat lighter soil than Fargo clay. A lighter soil would be more easily managed, permit better drainage and allow more timely field operations, as well as afford better opportunity for control of weeds and diseases. The farm should be large enough to be self-supporting, the income from the sale of seed to pay the operating costs.

Seed Farm Action Committee Selected

President John H. Fisher of the North Dakota Crop Improvement Association then asked association members present to approve or disapprove the preliminary action taken by the board of directors. Most of those present agreed that the idea was good, and that funds for purchasing such a farm could be raised. A motion for the association directors to proceed with plans and organization for raising the necessary funds carried unanimously. Later, the board of directors met to discuss organization plansfor such a drive. Otto Klindworth was elected to serve as chairman of a Seed Increase Farm Committee and was authorized to appoint the members to work with him. Otis Schlak, Minot; E. J. Taintor, Grand Forks; Ted Monke, Dickinson; Melford Tryhus, Kindred; W. A. Plath, Davenport; Clyde Barks, Egeland; E. A. Madsen, Minot; Colin Stewart, Gilby, and John Fisher, Tappen were appointed. L. A. Jensen, Secretary of the North Dakota Crop Improvement Association, was selected as secretary for the committee.

At a subsequent meeting of the committee in Devils Lake, March 23, the appointment of a smaller special executive committee of five members was authorized. Elected were Otto Klindworth, Casselton; Clyde Barks, Egeland; Otis Schlak, Minot; Ted Monke, Dickinson, and A. A. Berg, Wyndmere. This committee met in Fargo April 5, with all members present, and officially organized with Klindworth, chairman and Barks, secretary. R. C. Hastings, Fargo State Seed Commissioner, was asked to serve as treasurer and assistant secretary. John Ridley, Langdon, then president, and R. B. Widdifield, then secretary of the North Dakota Crop Improvement Association, successor to L. A. Jensen, were appointed exofficio members.

President Longwell, Associate Director Glenn S. Smith, T. E. Stoa, agronomist, R. C. Hastings, seed commissioner and Roy Johnson, member of the Board of Higher Education were invited to this meeting. Committee members asked and received information from Longwell and Johnson how ownership of such land and money from seed sales could be handled to return to a Seed Farm account.

Joe Thompson Selected to Head Drive

This committee met again in Devils Lake June 17 to review the progress made. To speed up the solicitations, committee members decided that someone with the necessary enthusiam, time and energy, should be appointed to head the drive. The committee agreed that Joe Thompson, Nash, a farmer and long time certified seed grower in Walsh County, met these qualifications. He was asked to take this responsibility. Mr. Thompson agreed to do so without remuneration except for travel and miscellaneous expenses. Lyle Currie, Park River, was appointed to head a publicity committee. Donations to the fund were to be designated for the "Seed Increase Farm Fund" and to be deposited in the First National Bank, Fargo. Money to be paid from this fund would be only by checks signed by the committee chairman, secretary and treasurer.

Thompson added a much needed spark to the solicitations, and with some key men he selected in communities to help him, the drive for funds took on a more hopeful turn. A goal of $100,00 was set. This was to allow for purchase of the land, provide the farm with equipment, some of the facilities needed and at least one year's operating expense until there could be income from seed sales. Mr. Thompson, and those he selected to work with him, believed that the funds could be obtained most readily by contacting people most interested in such a project, who understood its objectives and who had the means to give financial support. From such individuals, donations of $100 or more might be expected. Smaller amounts were, of course, also acceptable, but to meet the goal with smaller contributions, would call for many more solicitors, many more contacts to be made, and thus be time consuming.

IN LINE WITH THE EXPERIMENT STATION POLICY, NO PROMISES OF PREFERENTIAL TREATMENT IN RELEASE OF SEED WAS OR COULD BE GIVEN TO DONORS, AND NO SPECIAL CONSIDERATION COULD BE EXPECTED BY ANYONE NO MATTER WHAT THEIR CONTRIBUTION MIGHT BE.

Contributions to the fund continued to accumulate, but not at the expected rate. At a meeting November 22, Mr. Thompson reported about $35,000 on hand, with another estimated $25,000 collected in counties, but not yet reported to the treasurer. By January 16, 1949, however, at a special meeting of the Seed Increase Farm Committee at North Dakota Agricultural College, with Experiment Station and Extension Division personnel invited to attend, treasurer Hastings reported $67,000 in the treasury and estimated another approximately $13,000 collected and not yet reported. Mr. Thompson expressed the thought that this amount - about $80,000 - should be given wide publicity, to encourage the less active counties to step up their solicitations.

Farm Purchase Committee Selected

At this stage the Seed Increase Farm Committee decided to select a farm purchasing committee. Fifteen men from throughout North Dakota were appointed. The committee membership included some of those who best understood the purposes and objectives of the seed improvement and increase program, and who had been active in soliciting funds for the purchase of such a farm. Invited Experiment Station representatives suggested that the committee give preference to farms with a productive, medium-textured, well drained soil. The farm preferably should be located within 40 miles of Fargo, to be readily accessible to station personnel. Location on or near an all-weather highway should be another consideration. Discussion followed with respect to size of the farm. The consensus was that for efficient operation size should not be less than 320 acres. However, the final determination necessarily would depend on the price per acre, and the amount of funds available for the purchase.

The importance of facilities and the equipment necessary on a good seed farm were not overlooked. Selected to work with and assist the purchasing committee was a subcommittee consisting of R. C. Hastings, T. E. Stoa, Albert Sinner, Casselton, and Lloyd Roden, Mapleton. These men were to make inquiries, solicit information, inspect farms which might be available and make recommendations to the purchasing committee.

The purchase committee met again February 25 at the college to hear reports on available farms. Specifically mentioned was a half section farm near and east of Casselton, with good soil and modest farm buildings available at $125.00 per acre, but which offered little future opportunity for enlarging the farm. Another half section in Traill county, north of Hillsboro, available at $94.50 per acre, had a less desirable soil, fair but small farm buildings and also a limited opportunity for acreage expansion. A second farm in the Hillsboro area was available at $100 per acre, but was not favorably considered as meeting the requirements sought by the committee.

Several other farms, mostly in the Casselton and Amenia areas, were investigated during the spring and summer. Four such farms appealed to the investigating subcommittee, but the owners were not interested in selling. Several years of good production and good farm income had greatly reduced the number of farmers who wanted to sell. Good productive land was regarded as hedge against inflation, which was another factor in keeping farms off the market.

A 3/4 section (435.5 A.) farm immediately south and west of Casselton was available at $125 per acre, from John Dalrymple Sr., the owner. It had a number of the desirable features the committee was looking for, but lacked suitable farm buildings. Two other farms south and east of Casselton, also owned by John Dalrymple, appealed to the committee. One was a section with a substantial and attractive residence and other good farm buildings, thus eliminating the need for any immediate large investment in construction of buildings. The other, also a section farm, had less pretentious farm buildings. Both farms were attractive and located on an all-weather road 1½ and ½ miles from U.S. Highway 10.

Because some of the farms which had desirable soil and location were owned by persons having several farms, the committee thought that these owners might be induced to sell. With that thought, three members of the subcommittee believed that they should visit Mr. Dalrymple in Minneapolis, who was owner of several farms in the Casselton area. If Mr. Dalrymple, upon learning of the purposes and objectives of the Seed Increase Farm and the interest and financial support North Dakota farmers were giving to this project, would he consent to sell one of these other farms? If none of the above farms were for sale, might the three quarters in Sec. 3 already offered be purchased at a lower price, so that enough funds could be retained for immediate construction of some suitable buildings? A meeting with Mr. Dalrymple was arranged for early in September.

Mr. Dalrymple however, did not wish to sell any of the farms the subcommittee members rated of highest preference. He regarded these as his "best farms". However, his farm in Sec. 3, as previously mentioned, was available for purchase at $125 per acre. Seeing no opportunity to improve this situation, the subcommittee decided to recommend that the purchase committee accept this offer and purchase the 435.5 acres in Sec. 3. Mr. Dalrymple was so advised and then he gave his personal check for $1,000 as his contribution to the fund drive. 1/

1/ Later, before his death in April 1958, Mr. Dalrymple, without the knowledge of anyone connected with the Experiment Station, had caused to be inscribed in his will that a certain half section of land near Mapleton be "deeded to the Experiment Station" for its use and that it be known as "The Dalrymple Experimental Plot".

Fund Drive Reaches Goal

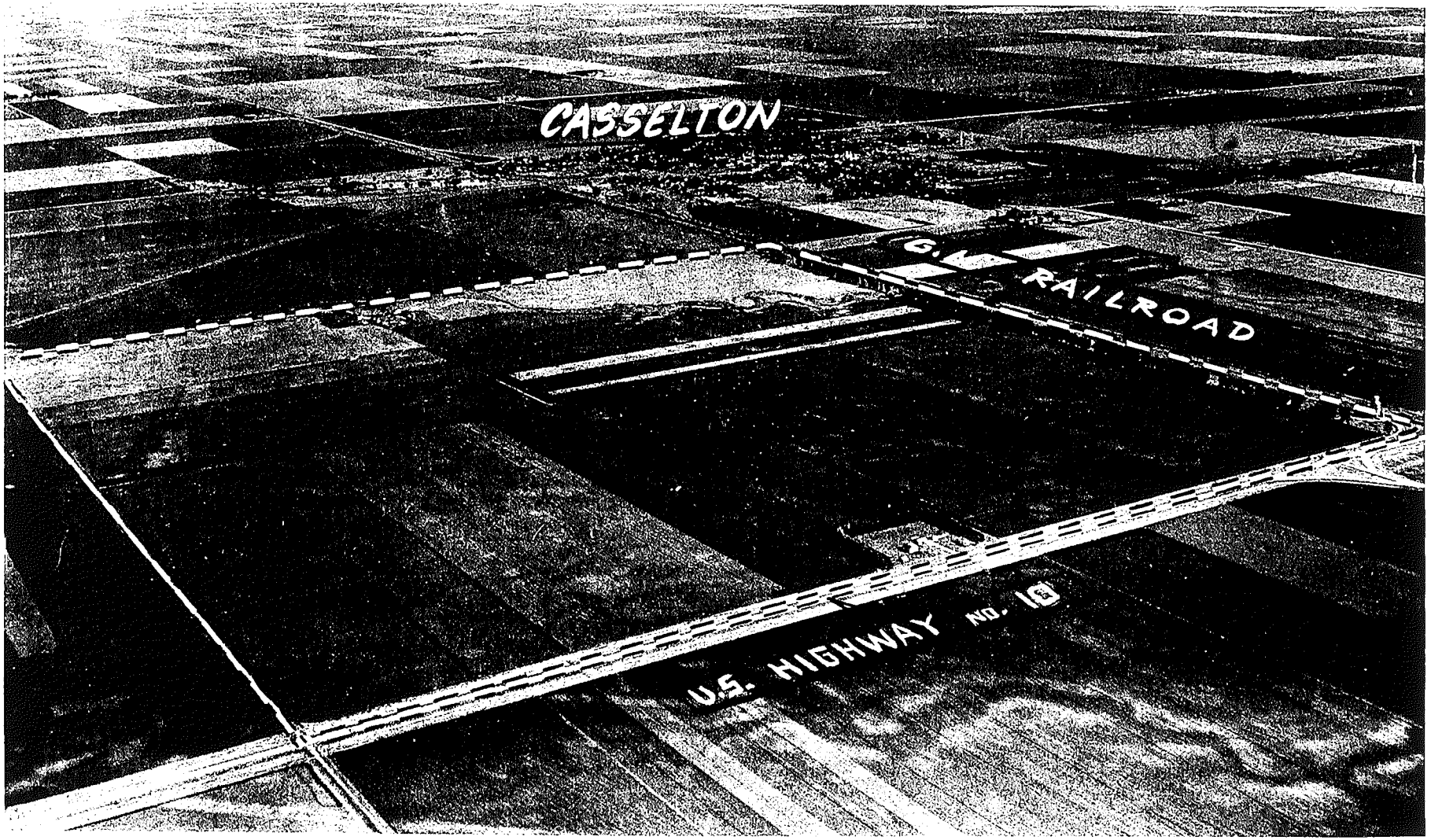
To obtain up to date information on the progress of the fund drive and to consider the recommendations of the advisory subcommittee, the purchase committee was then called for a special meeting in Fargo September 17, 1949. Treasurer Hastings reported that the goal of $100,000 had been reached and as of that date about $107,000 was available. Mr. Klindworth thanked all who helped to make the fund raising campaign a success. A special commendation was given Joe Thompson, who headed the drive. Thompson expressed his appreciation to all of the working committees. He made special mention of the Bottineau Committee, which in less than one day raised its quota, when 22 individuals contributed $100 each and two others $25 and $50 for a total of $2,275. John Scott, Gilby, was especially cited for his efforts, including a highly successful individual solicitation in his home county, Grand Forks.

Three-Quarter Section Farm Purchased

The subcommittee recommendation on farm location and purchase then recommended that the purchase committee accept the John Dalrymple offer and purchase the three quarters (435.5 A) southwest of Casselton in Sec. 3, Everest Township, price $125 per acre, or $54,437.50. While 11 of the 15 member committee already had indicated their approval of this purchase in writing, the committee desired that formal action for the record should be taken at this meeting. After a short discussion a motion was made to approve the recommendation of the subcommittee, and to authorize completion of the deal. The motion was passed unanimously. It was suggested, too, that in completing the purchase, that an attorney be asked to advise on the legal aspects of certain restrictions which some committee members thought should be written into the deed and title transfer, intended to provide against possible future misuse of the farm or its income. W. A. Plath moved, seconded by Joe Thompson, that in the description of the farm it should be known as the "Agronomy Seed Farm" and that such name, and the intended purpose of the farm, be incorporated into the deed. This motion carried unanimously.

Having approved the purchase of the three quarters in section 3, Mr. Sinner urged that the committee consider purchasing also the other quarter in the section (155 acres), pointing out that in conversation with the owner, Mr. Peter Keiffer, that it probably could be purchased for $135 per acre. Mr. Sinner thought this was perhaps the best quarter in the section, and had been farmed better with sugarbeets, etc., so would have less weeds. Also, it had a farmstead bordering on Highway 10, a small but fairly good farm house, a good well, and was served by REA. Other members supported the idea that, if the land was available, that the committee should take an option now, since it might not be available at some future date.

However, the fact that the larger land purchase would require



Aerial view of farm, Section 3, September 1949, purchased by the North Dakota Crop Improvement Association, and deeded to the North Dakota Agricultural Experiment Station for use by the Agronomy Department as a seed increase farm. Farmstead on Dalrymple farm in background. Kieffer farmstead in foreground facing U.S. Highway 10 and chosen to be the headquarters site for the Agronomy Seed Farm. What was U.S. Highway 10 now serves as the exit road to new U.S. Interstate Highway 94 (Fargo Forum Photo).

another $21,060 raised some concern about the adequacy of the remaining funds to purchase equipment, provide some of the more urgent facilities needed, and to meet the farm's operating expenses until the income from sales would be available. Several expressed the willingness to continue the fund drive. Suggestions that the necessary money be borrowed, or that the legislature be asked for an appropriation for construction of some necessary buildings, was given little support. This project, it was argued, had been initiated by farmers, voluntarily taxing themselves, and they wished it to be continued as such. The final decision was to continue the drive and that an option to purchase the Kieffer quarter be taken at the earliest opportunity.

Acting on these instructions, the procedures to complete the purchase of the Dalrymple farm were set in motion. For a payment of $54,437.50 John S. Dalrymple and wife Bernice B. gave a warranty deed and an up-to-date abstract of title to the North Dakota Agricultural College Memorial Foundation 1/, covering the N½ and SE¼, Sec. 3, Twp. 139 R52 (435.5 A.). In turn, the Memorial Foundation gave a warranty deed, covering the same property to "The State of North Dakota", with the stipulation "that it be for the use and benefit of the Agricultural Experiment Station."

In line with the wishes of those providing the money for the purchase of the property, the deed from the Foundation further specified that the farm "be used as an Agronomy Seed Farm, for the increase, development, improvement and production of seed of new and established varieties, all income from the Farm to be kept separate from other funds", and directed to the "improvement, development, production and increase of seeds". It further stipulated that if at some future time "the grantee should fail, neglect or refuse to use the said property, or the income therefrom, for the purposes specified, the title and ownership shall revert to the grantor (Memorial Foundation), its legal successor or assigns". These stipulations were readily accepted as consistent with the objectives and purposes desired by those in the Experiment Station, charged with the supervision of the farm, and the Board of Higher Education, under whose direction the farm would be operated.

The warranty deed from the Dalrymples to the Memorial Foundation, and the deed from the Foundation to the State of North Dakota, were acted upon favorably by Attorney Herbert Nilles, duly recorded with the Register of Deeds, and the Agronomy Seed Farm began operating, planting its first crop in the spring of 1950.

Following the decision of the purchase committee to buy the remaining quarter (156 A.) in Sec. 3, if available, selected members of the committee called on Mr. Kieffer, the owner. Mr. Kieffer agreed

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1/ A nonprofit organization incorporated June 7, 1948, John Longwell, President. Under the articles of incorporation it is empowered to "receive contributions or donations of money, equipment, land",---including---"bequests of money and property to be used for the benefit of the Agricultural College".

to sell at the price mentioned earlier, $135.00 per acre, giving a contract for deed at the time, but because of plans and farm preparations already made, wished to retain possession and use of the land through the 1951 crop season. Under the terms of the contract, however, the Seed Farm could have immediate use of the farm buildings, and have land to enlarge the farmstead, if desired, in case an earlier building program was begun. A $6,000 down payment was agreed to and paid. In turn, Mr. Kieffer made out a warranty deed in favor of the Agricultural College Memorial Foundation, covering the SW¼ Sec. 3, Twp. 139, which along with the abstract of title was placed in escrow at the Merchants National Bank and Trust Company, pending the time when the final payment should be made and the deed delivered.

To insure that the funds would be available for the final payment when due, $15,060 was deposited with the Memorial Foundation, which in turn executed a warranty deed conveying the same SW¼ to "The State of North Dakota for the use and benefit of the Agricultural Experiment Station" and under the same conditions as set forth in case of the Dalrymple property.

The Agronomy Seed Farm Given $29,000 to Begin Operations

In the meantime the drive for additional funds was continued, to make up for the new obligations on the Kieffer property. After providing for some expenses in connection with the fund drive, and providing for the obligation on the Kieffer property, the Crop Improvement Association had available about $29,000 to transfer to the Agronomy Seed Farm to begin operations. This amount was not enough to purchase needed equipment, make some necessary improvements and also assure the operating expenses for at least one year. Mr. Thompson then suggested since farm people had donated the money for the purchase of the land, it would not be improper to solicit implement manufacturers and wholesale distributors for machinery and equipment. If successful, this would reduce the first year's outlay the Seed Farm would have to make from its limited operating funds. This suggestion was good and one medium large tractor, a 14-foot press drill, a 1½ ton truck, a grain elevator, a grain cleaner, a seed treater, a weed sprayer and some other miscellaneous equipment valued in total at about $9,000 were thus obtained from machinery companies.

After the fund drive was closed, an audit of the Seed Increase Farm fund for the period August, 1948 to May 1, 1953, showed money taken in amounted to $111,510.64. When the value of the farm machinery and equipment was added to this, the total contribution came to about $120,000. In recognition of this splendid total, and the many donors who gave generously of their time and means to make it possible, the North Dakota Crop Improvement Association, in cooperation with the Experiment Station, in 1953 caused a stone cairn to be erected on the Agronomy Seed Farm lawn. To this was attached a bronze plaque for visitors, to read and learn of the contributions made for the Seed Increase Farm.

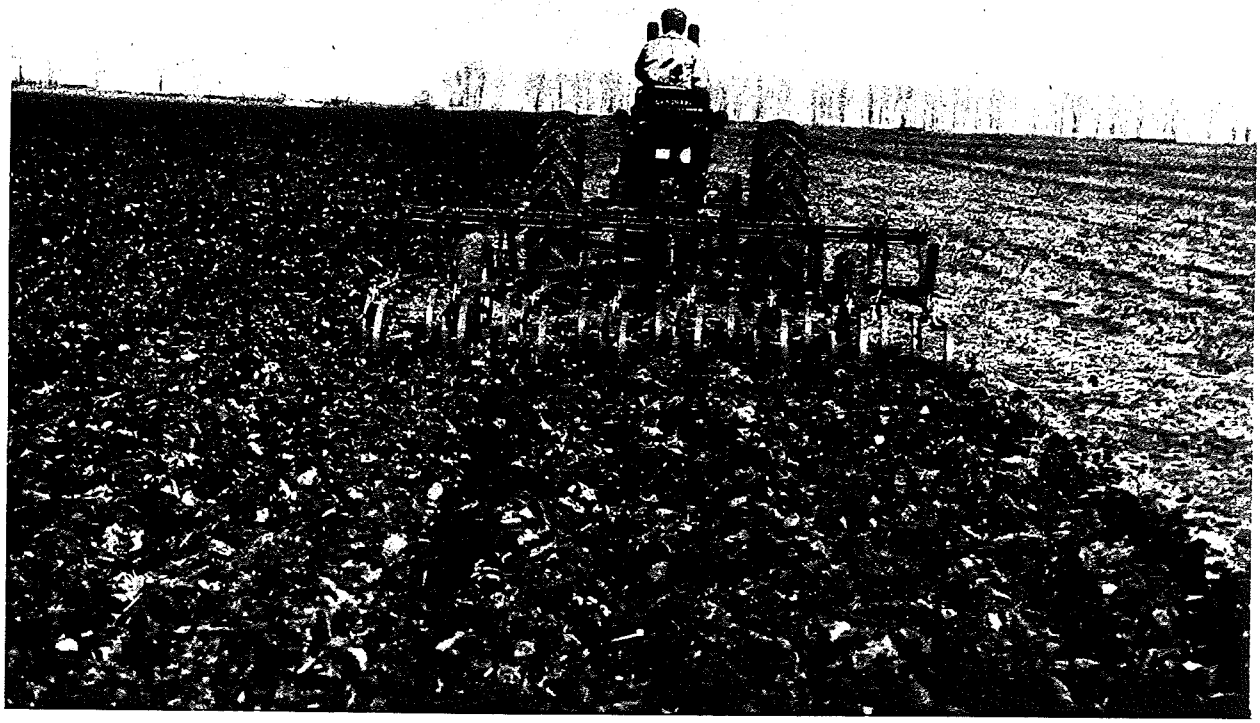
Advisory Council

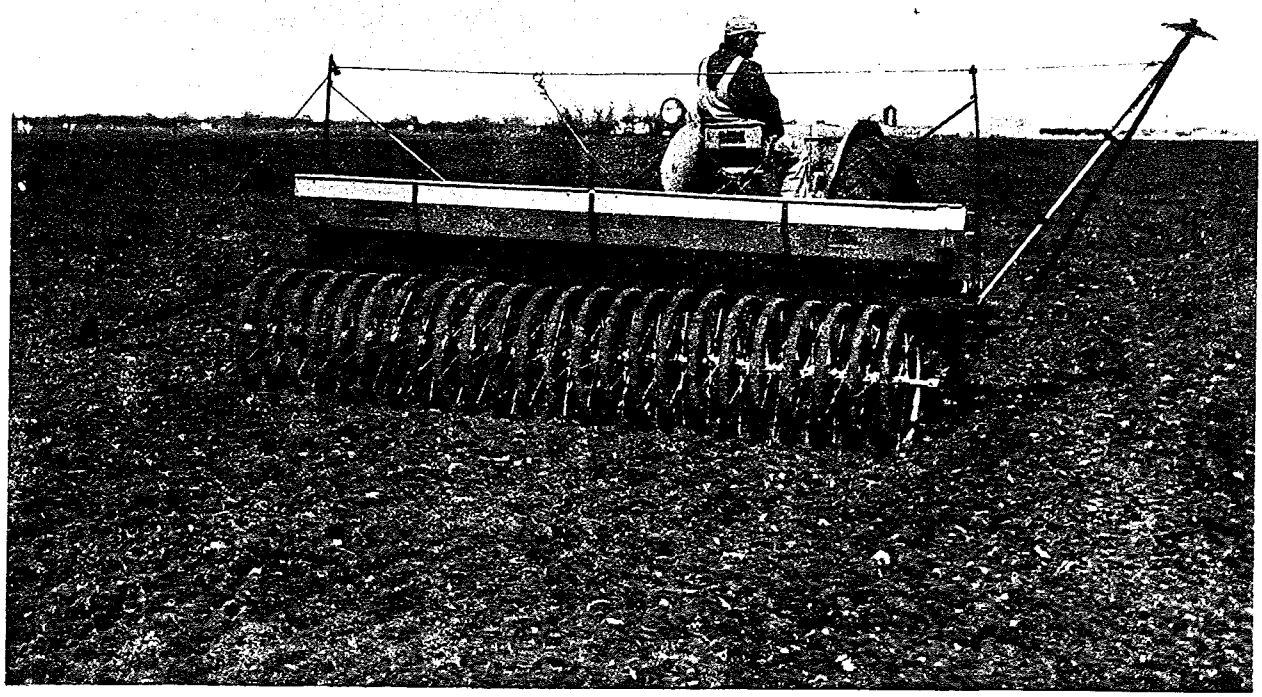
To further recognize the many donors, their interest in better seed production and the purposes of the Seed Farm, it was proposed that a committee, representing the certified seed producers and seed distributors, be appointed to serve as an advisory council to the Seed Farm. Such council members, appointed by the Experiment Station director, would not be active in the management of the farm, but would offer suggestions with respect to general farm plans, seed stocks needing repurification, amounts, prices, etc. An advisory council was not a new idea. Earlier in the fund drive Director Walster had suggested such an advisory group as was in practice at the Minot station. Also, the Department of Agronomy had for many years invited and used the counsel of certified seed producers and seed distributors in its increases and seed release program. Under the new policy, which was formalized when approved by the Board of Higher Education, the council is made up of 12 farmers who grow certified seed and who represent different sections of the state. They serve for staggered 6-year terms. An experienced farmer from the Casselton area, serving without term appointment, also is a council member. Serving on the council, by virture of their official positions, are the President of the North Dakota Crop Improvement Association, the Extension Service agronomist, the North Dakota state seed commissioner, the Commissioner of Agriculture and Labor, and a representative of the North Dakota Seed Trade Association. The chairman of the Department of Agronomy is the designated chairman of the Advisory Council and is responsible for supervising the Agronomy Seed Farm.

Council meetings usually are held in alternate years at NDSU or at the Seed Farm to allow for farm inspection. At these meetings, members review progress reports and consider plans for the future. From time to time progress reports also are published in the Experiment Station's Farm Research bulletin, with copies sent to all those who contributed to the fund drive. There is no fixed date for the meetings but the chairman tries to select a time convenient to most members, who serve without pay. The advice of council members on matters of some urgency also may be sought by mail. This advisory group has proved to be very helpful. The appointed members not only serve the Agronomy Seed Farm in an advisory capacity, but take the opportunity to inform themselves and others on current problems. The members can and do function also in a helpful public relations capacity.

Preparations to Begin Operation

With the land in possession of the Experiment Station, plans and preparations were begun early in 1950 to get field operations underway when the season opened. The farm manager appointed was Mark Jendro, for the previous 8 years tenant on this same farm. Mr. Jendro also had shown interest in community affairs, was a member of the Casselton school board, clerk for his township board and was active in 4-H programs. As





First field operations on the Agronomy Seed Farm in the spring of 1950.

manager he would assist in planning for the equipment most urgently needed and make needed building modifications and repairs. With the opening of the planting season he would be responsible for the detailed field operations.

The selection of Mr. Jendro as manager was a wise choice. His familiarity with the farm fields, their cropping history and weed conditions, was very helpful. Similarly, his interest, cooperation, and ready understanding of the purposes of the seed improvement program has contributed much to the success of the Seed Farm.

Adequate facilities for storing and processing seed were not available and so much planning and improvising were necessary to care for the first year's crop. Facilities available for storage included a small farm granary, two discarded railroad boxcars and a portable steel bin. To prepare the grain for seed the processing equipment was set up in the granary. The processed seed was sacked and moved to one of the farm buildings on the Kieffer land bordering U.S. Highway 10, where it was accessible in case of bad roads. Obviously, better facilities had to be provided as soon as funds were available.

New Seed Farm Residence Constructed

A suitable farm residence was urgently needed. Remodeling the house on the Kieffer land was considered. However, when architectural plans for this were viewed, and cost estimates approximating $8,000 were obtained, the advisory council joined with the Experiment Station in recommending against spending this amount for remodeling. An alternate plan to sell the old house and to build a suitable and attractive new house was favored. The Kieffer land and farmstead, on U.S. Highway 10, was chosen to be the headquarters site. After a good 1950 crop was harvested, and the prospect of a satisfactory income assured, the decision was made to contract for and start construction of the new house. Excavating for the basement and putting in the foundation were completed in the fall of 1950. Construction resumed in the spring, and the house was ready in the fall of 1951. Other farm improvements begun in 1950 included an enlarging of the headquarters site, some filling, grading, leveling, and the planting of a new shelterbelt.

The 1950 crop, sold during the winter and spring of 1951, grossed $15,580. Other miscellaneous income, including sale of the old house, came to about $2,300, or a total income of $17,880 for the year. This, plus the unexpended portion of the original allotment of $29,000 to the farm, made it possible to meet all operating expenses and also the cost of the new house, which came to $18,646.

Large Machine Shed Constructed

However, better seed storage and processing facilities were needed. How could such facilities be acquired and how financed? An up-to-date

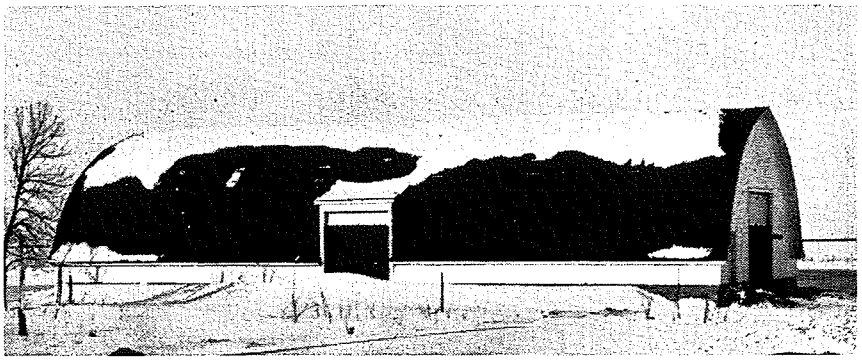
seed plant appeared beyond the present financial means of the farm. What improvements could be provided in the meantime? Some thought was given to remodeling the barn on the Kieffer land, but the idea was abandoned as too costly and impractical. A more satisfactory suggestion, agreed upon early in 1951, was to construct a 40 x 100 feet machine storage shed, setting aside a portion of this temporarily for the processing equipment and its use. This shed also would provide storage for the bagged seed until it could be sold. The estimated cost of such a building, with a good cement floor, was about $12,000. While this amount was beyond the balance in the Seed Farm account, the proposal had many aspects in its favor and there was agreement to build immediately. A short term loan of $10,000 was obtained from the Bank of North Dakota and construction began in June of 1951. The building, completed late that fall, at a total cost of $12,718, provided a big improvement for processing and handling the seed crop. Income from the 1951 crop seed sales, along with some miscellaneous income, including the sale of some of the old unused buildings, made possible a prompt repayment of the bank loan and a comfortable balance of $11,132 on July 1, 1952.

The Kieffer quarter became available for sowing in 1952. Its use was expected to result in larger total production, a larger net income and, hopefully, contribute to a more rapidly growing reserve account, permitting the earlier construction of an adequate seedhouse. With proper care most farm machinery then in use was expected to serve for another five or six years. Except for the larger acreage to be cared for, this should permit operating costs to be held at about the existing level. Later, when some expensive farm machinery would be replaced, the net income, or the amount which could be added to a growing reserve, would necessarily be reduced. It was hoped, therefore, that for the next several years crop conditions and farm income would continue favorable, permitting an increasingly favorable savings account balance. Net farm income and balance on hand after the 1952 crop was $11,132. After the 1955 seed crop was sold the savings balance was $50,947.

Seed Processing and Storage Building Constructed

During these waiting years, a number of storage and processing plants had been inspected, their advantages and limitations examined in relation to the use and services envisioned for the Seed Farm. Preliminary plans and architectural designs, therefore, began early under the supervision of Richard Witz in the Department of Agricultural Engineering, and the necessary final plans and specifications were ready in the spring of 1956, when it was hoped construction bids might be requested. By late spring the expected Agronomy Seed Farm reserves would be about $50,500 which, after allowing for next year's estimated operating expenses, would leave about $37,000 available for the construction project. If this was not adequate, perhaps an additional amount might be borrowed, as was done when the machine storage shed was constructed. The Advisory Council, at its meeting a year earlier, had urged construction of a seedhouse at the earliest possible time, recommending financing up to 50 per cent of the cost if necessary.

Modern farm residence on Agronomy Seed Farm. Began construction in fall of of 1950, completed in 1951. Photo taken in winter of 1951-52.



Machine storage shed 40 x 100 feet, built in 1951 to serve temporarily as a place for processing and storing bagged seed. Photo taken winter of 1951-52.

Construction bids were advertised for and opened in June 1956. The lowest general construction bid was $56,000. Adding to this, the mechanical and electrical bids raised the total to about $62,000. This was somewhat higher than expected and considerable beyond the savings in the Agronomy Seed Farm account. Director Glenn Holm and Pres. F. S. Hultz informed the Board of Higher Education of the situation and inquired if the Board would approve and make application to the Bank of North Dakota for a loan of about $30,000 to permit acceptance of the lowest bid, and pledging the income from the 1956 crop as security for the loan. Before taking positive action, the Board asked for and received an opinion from its attorney that the Board was without legal authority to obligate the state. The opinion raised some doubt that pledging the income from the Agronomy Seed Farm as collateral would be interpreted as excluding a state obligation. Therefore, the application for a loan was not made and the bids were rejected.

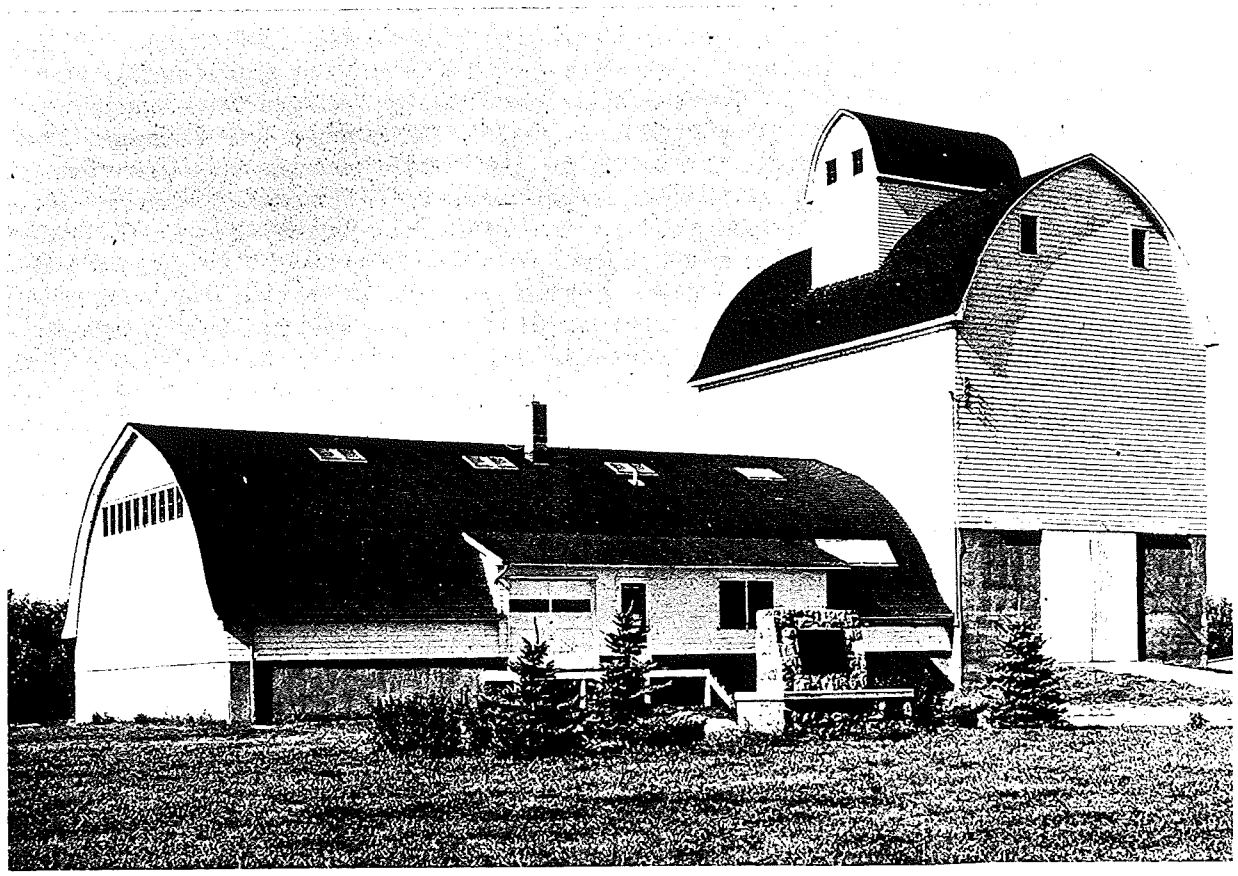
The seedhouse plans called for a 32 x 40 feet grain bin section and an annex 32 x 68 feet for bag storage. As a seed increase farm, serving the Experiment Station and a state crop improvement program, the seedhouse would house and store a variety of special increases, including several crops and varieties of each, as well as different seed lots, some of which would be carried over into subsequent years. This meant many bins of varying sizes would be required, and a storage capacity for more than one year's production was necessary. This seedhouse as constructed has 18 bins, ranging in capacity from about 300 to 1,800 bushels. All bins are metal lined for easy cleaning.

Following a good income crop in 1956, and the savings balance approaching $70,000, it was decided late in the winter of 1957 to readvertise for construction bids. Four contractors submitted sealed bids, which were opened April 3, 1957. The low general construction bid was $56,650.00, submitted by Steve DeVries, Valley City. When the low electrical and plumbing bids were added, the total costs contracted for, including some change orders, came to $61,781.37 1/. On recommendation of President Hultz, the Board of Higher Education approved acceptance of the low bids and construction began in early June, 1957. The seedhouse was ready for seed processing early in January, 1958.

Formal Dedication July 15, 1958

Completion of this important facility called for a formal recognition of the event. So, in appropriate ceremonies, the new seed storage and processing plant was dedicated July 15, 1958, in connection with the annual field day and crops tour at the Experiment Station.

1/ Special items not included in the contracts, such as elevators, distributors, piping, risk insurance premiums, lightning rods and other miscellaneous items, made the total construction costs of the seedhouse $66,407.28.



Closeup of seed storage and seed processing plant built in 1957. Dedicated July, 1958.

Groups of farmers attending seedhouse dedication ceremonies stop for informal visits during inspection tour. (Fargo Forum Photo).

The inspection and dedication ceremonies were well attended. Participating in the program were members of the Seed Farm Advisory Council, officers of the North Dakota Crop Improvement Association, the sponsoring organization, and officers of the Northwest Farm Managers Association. Mark Andrews, president of the North Dakota Crop Improvement Association, served as master of ceremonies. Principal speaker was T. E. Stoa, NDSU agronomist. Brief talks were given also by William Sinner, for the Northwest Farm Managers Association; Otto Klindworth, as chairman of the committee supervising the fund raising project, and Joe Thompson, who directed the solicitation of the funds. Thompson and Klindworth also participated in the presentation to the Experiment Station of a neatly bound alphabetical list of all donors by counties, who by their generous contributions made the Agronomy Seed Farm possible, and took part in the unveiling of an "honor roll" recognizing contributors of "$100 or more". This "honor roll" and donor list occupy a prominent place in the office of the Agronomy Seed Farm seedhouse.

In the dedication remarks Mr. Stoa re-emphasized the purposes and objectives of the Agronomy Seed Farm: Service to the Experiment Station, service to the certified seed grower and through them service to farmers generally. These services, he noted, will be most valuable when the farm provides seed that is (1) genetically superior or (2) superior in purity and quality. In its relation to the certification program, its purpose and objectives, insofar as possible, will be the increase and distribution of foundation and registered grades of seed. This may be the increase and release of a new variety, or purified seed of an old variety, thereby providing a service for the producers of certified seed. Only to the extent that the farm achieves one or both of these objectives will it be serving the cause and purposes for which it was intended.

Weeds a Persistent Problem

The Agronomy Seed Farm has had its share of production problems. One of these has been weeds. When the farm was purchased in 1950, it had, in common with other farms, been cropped heavily to small grains over a long period, and had its accumulated share of weeds and weed seeds. Wild oats has been the most persistent and troublesome of these weeds. Perennial sowthistle also appeared to be increasing on this farm as elsewhere. Other weeds generously present included mustard, wild rose, wild buckwheat and Frenchweed. Lambsquarters, pigweed, Mexican fireweed (Kochia), pigeongrass (green and yellow foxtail) were troublesome in flax and other fields where the crop did not offer sufficient competition.

How to cope with the most persistent of these weeds, while keeping the farm producing at a profitable level, became a pressing concern. Intertilled or row crops which could be grown and sold for seed were limited. The use of summerfallow was helpful, but was only a partial solution. The use of sugarbeets after fallow was considered, to permit destruction of emerging weeds in successive years. This plan offered promise, but sugarbeets was not a seed crop and special machinery to handle this crop was costly. Deferred sowing of a crop like

flax, which could be sown late, permitting destruction of wild oats and other early starting weeds before sowing, offered some promise and has been used fairly effectively. Similarly, fall rye sown on summerfallow has been used to a limited extent to check wild oats and other early starting weeds, and also sowthistle. Prompt tillage after removing the rye crop has added to the effectiveness of this practice. Early maturing soybeans, an intertilled crop which can be sown late, also has offered opportunity for weed destruction.

Selective herbicides have been helpful in eliminating mustard and some other broadleaf plants in small grain fields, and have helped to hold down spread of sowthistles. Selective herbicides also have been used effectively in control of pigeongrass and barnyard grass in flax. More recently, pre-emergence and post-emergence herbicides have helped in the control of wild oats. Good plowing, along with timely tillage, are other factors in good soil and crop management which lead to better weed control and better production. While the complete elimination of weeds may be too much to hope for, a degree of control which permits successful cropping without much interference from weeds has been the goal. This goal has not been fully achieved, but encouraging progress is being made.

Progress Reports

Production on the Agronomy Seed Farm has been recorded in progress reports, published from time to time in the North Dakota Experiment Station Farm Research Bimonthly Bulletin 1/. Thus, there is no reason for any detailed report here. However, in a brief summary it can be pointed out that in the first 10 years (1950-59) 8 varieties of hard red spring wheat were increased. Four of these were new releases, Lee, Selkirk, Conley and Pembina. Six varieties of durum were increased during the same 10-year period. Five of these were the new releases, Sentry, Langdon, Ramsey, Lakota and Wells. Six lines of flax have been increased. Four of these were the new releases, Marine, Norland, Bolley and Arny. During this same period, four varieties of barley increased and distributed were Traill and Parkland, both new releases; also reselected stripe mosaic free lines of Kindred and Tregal. Two new oats varieties, Shelby and Ransom, and three new soybeans, Grant, Norchief and Crest, also were increased and distributed. Some other increases during the first 10 years included Nordan crested wheatgrass, Piper sudangrass and Spanish white sweetclover, all new releases. Reselected lines of Turghai millet were other increases and releases.

Since 1959 three more new hard red spring wheats were increased, Justin, Crim and Chris; three new flaxes, Windom, Marine 62 and Summit; three new barleys, Trophy, Larker and Dickson; also three new oats,

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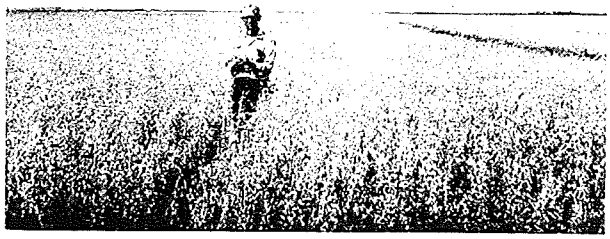
1/ Bimonthly Bul. Vol. 15, No. 2; Vol. 17, No. 4; Vol. 19, No. 5; Farm Research Bul. Vol. 21, No. 9 and Vol. 23, No. 2.

Justin wheat



The early increase of a promising new oat not yet approved for release

Wells durum in the swath

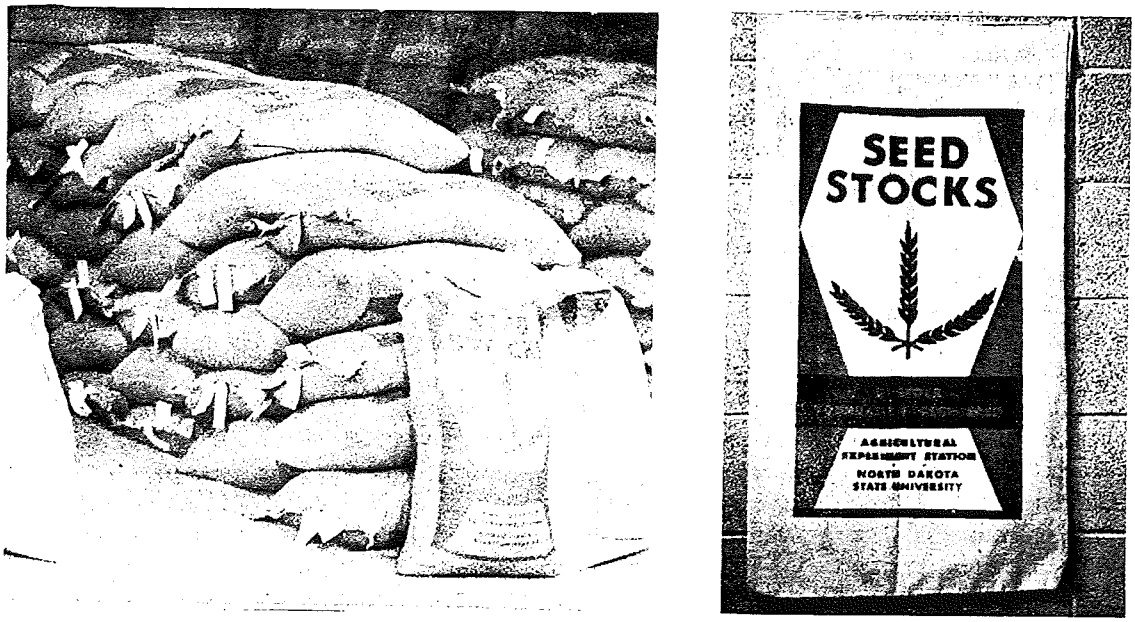
Vinall, a new strain of Russian wildrye grass

An early increase of a promising new wheat not yet approved for release

Lakeland red clover

The Agronomy Seed Farm grows and increases the seed supply of many crops and varieties. A few of these are shown here.

To purify an established variety many head selections of the desired type are made. The seed of each of these are then grown in individual rows, checked again for plant type, uniformity, disease reaction, etc. Those selections which meet the standards for the variety can then be bulked, providing seed for longer rows and a larger increase, thus a source of new foundation seed for the variety.



Top grade seed is distributed in special bags.

Ortley, Lodi, and Brave. Special forage crop increases included Ladak alfalfa, Vinall Russian wildrye and Lakeland red clover 1/. Several of these releases, which include promising lines from cooperating experiment stations, have had a significant impact on North Dakota's farm production and economy. THE AGRONOMY SEED FARM'S CONTRIBUTION HAS BEEN TO MAKE POSSIBLE A MORE RAPID INCREASE IN THE AVAILABLE SEED SUPPLY, ASSURING LARGER, WIDER AND MORE RAPID DISTRIBUTION OF GOOD SEED AND HELPING TO STABILIZE AND HOLD SEED PRICES IN LINE.

In this service of the Experiment Station to the seed producers, the Agronomy Seed Farm is self-supporting. All operating costs, including new machinery, special equipment, construction of buildings and other improvements are paid from seed farm earnings. Since 1950, in addition to caring for the usual farm operating costs and equipment purchases, accumulated farm savings have paid for the construction of a modern farm residence 2/, a large machine storage shed and a modern seed storage and seed processing plant. These buildings, plus a good new well and some other permanent improvements, have a combined cost of about $100,000.

In Retrospect and a Look Ahead

Just as there has been much progress in the physical improvements, there has also been a satisfying improvement in the grade and quality of the seed distributed. Purer stocks of seed available for sowing, more help for roguing and better facilities for handling have made it possible to upgrade the seed distributed, nearly all of it in recent years qualifying for foundation or registered grade.

As a part of a stronger foundation seedstocks program in the Department of Agronomy, and under the supervision of a seedstocks project leader added to the department staff in 1961, the Agronomy Seed Farm becomes an increasingly effective facility in serving the seed and crop improvement program. The seedstocks leader is responsible for planning and supervising the farm's seed increase operations as well as in coordinating the entire state seed increase program. He coordinates the seed increase of promising new lines supplied by the breeders. This may be winter increases in Arizona or Mexico, or summer increases in North Dakota. From the early increases he allots seed to the branch stations for further increase, and, eventually, to the certified seed producers and the seed trade throughout the state. Desirable

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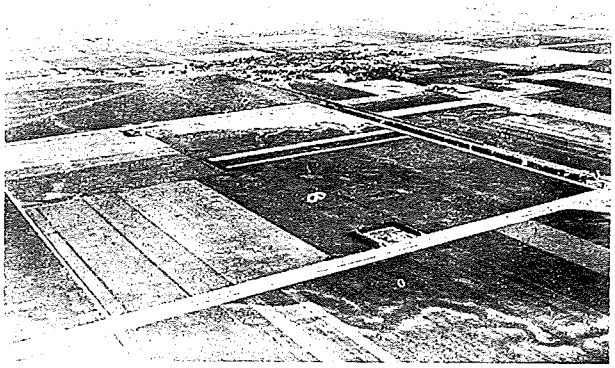
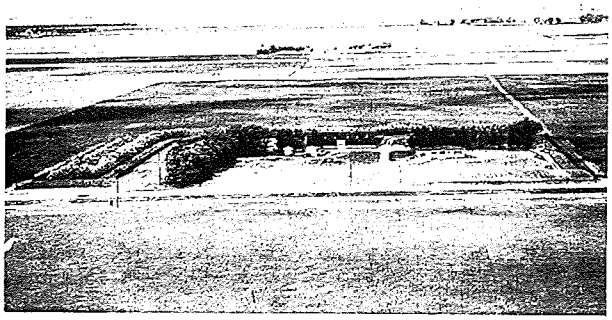
1/ A special service of the Seed Farm has been to stock foundation Vernal, Lakeland, and Empire seed from the National Foundation Seed Stocks Project for convenient purchase by North Dakota certified seed producers.

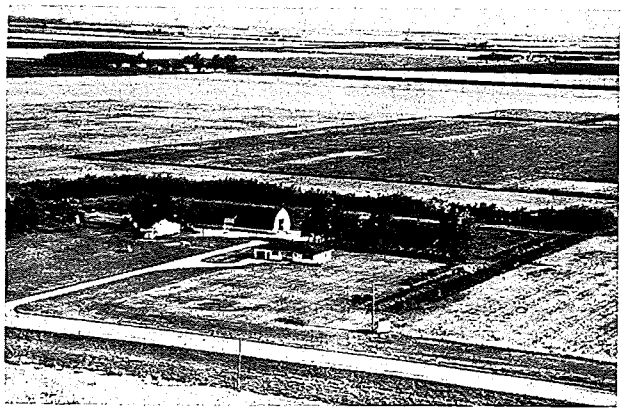
2/ About $8,000 of the original $29,000 operating allotment for the first year was applied to house construction.



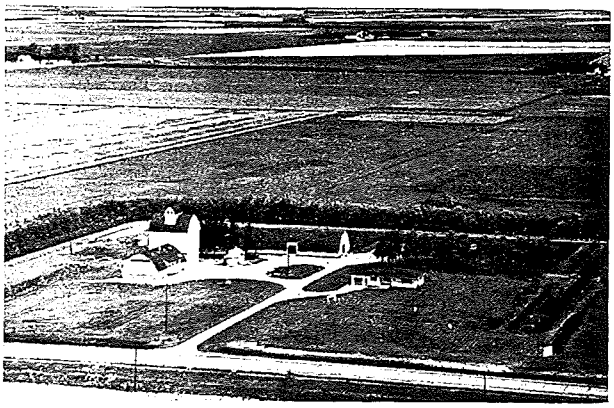
1949



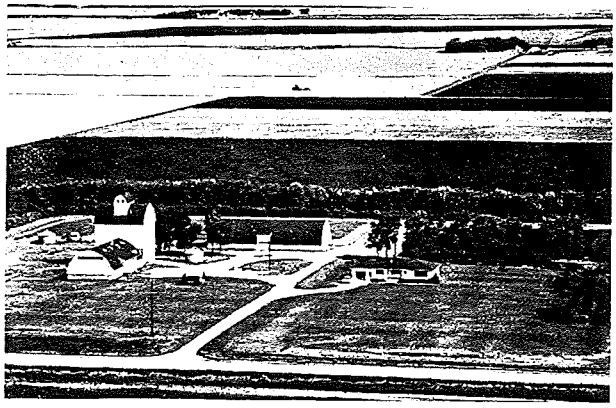
1954



1956



1958



1963

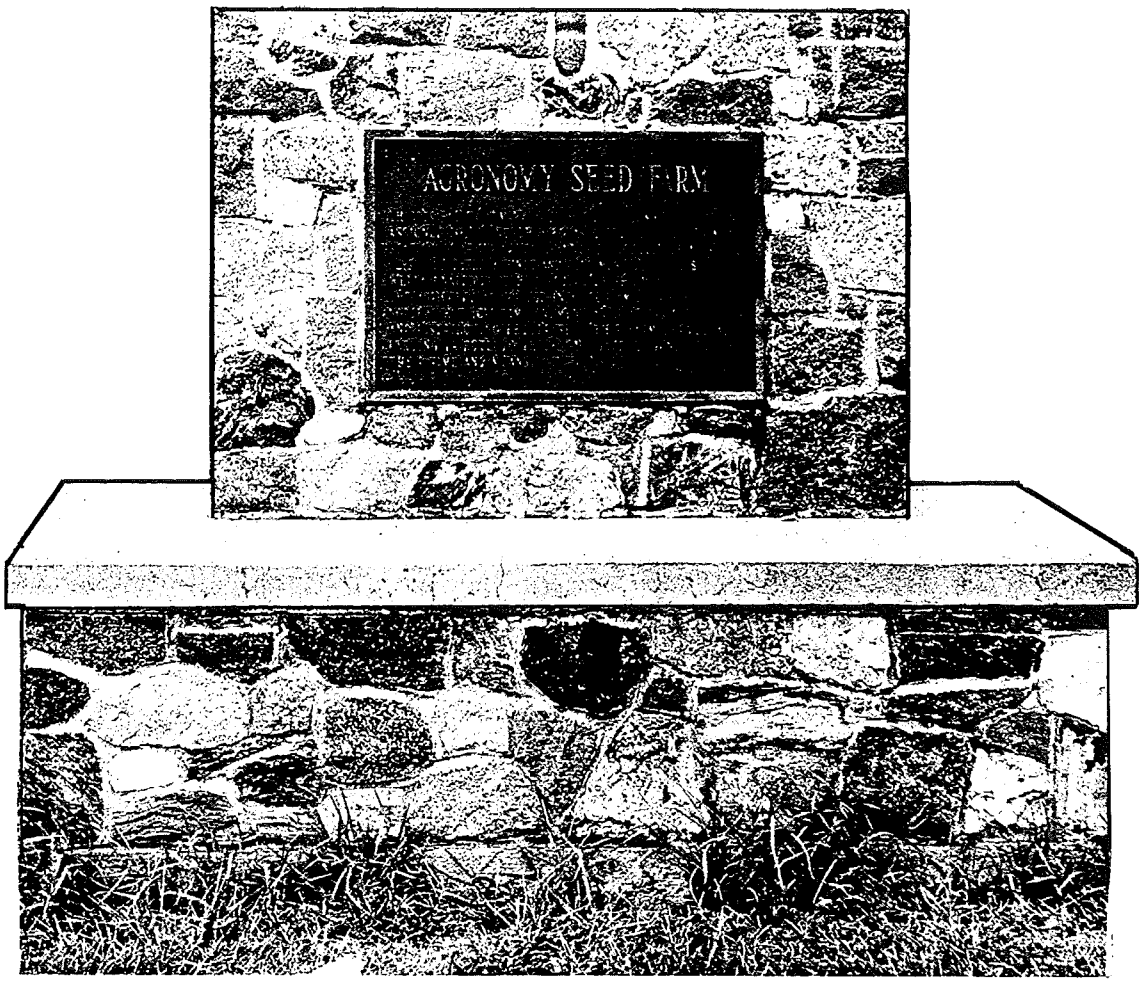
Aerial views of Agronomy Seed Farm, showing progress in development of the farmstead, 1949 to 1963. (Photos by W. P. Sebens).

older varieties needing purification are reselected, increased and released in much the same way. The production of foundation and registered classes of seed is planned to provide as closely as possible such amounts as needed by seed growers for the necessary production of certified or other high quality seed for sowing purposes.

Through the seedstocks program the Agronomy Seed Farm cooperates effectively in the national seedstocks program and in a "northern seed increase" program. During the last three years, 1963-65, two new varieties of flax were increased for the Texas Agricultural Experiment Station, and a new birdsfoot trefoil was increased for the Missouri Agricultural Experiment Station, in each instance with excellent economic returns for the Agronomy Seed Farm. Just as North Dakota has had cooperation of some southern states and Mexico in obtaining winter increases to aid our state's plant improvement program, so do these services to other states benefit the programs in these states.

Members of the North Dakota Crop Improvement Association, and the many other friends, who made it possible to have a seed farm, can be proud of the accomplishments to date. In the future, the better facilities and additional personnel now available assure even more and better services to the Experiment Station, to the specialized seed producers and to farmers generally.

Members of the Cass County Crop Improvement Association visit the Agronomy Seed Farm to inspect fields and observe new varieties under increase.



The North Dakota Crop Improvement Association and the Agricultural Experiment Station, wishing to recognize and honor the many donors who made it possible to have a seed increase farm, had a stone cairn erected on the seed farm lawn. To this cairn is attached a bronze plaque which reads:

"This 591 acre farm was purchased September 2, 1949, and assigned to the North Dakota Agricultural Experiment Station for the increase and distribution of new and reselected seed. Funds and equipment totaling $120,000 were donated for this project by the many friends of the Agricultural College, in a program sponsored by the North Dakota Crop Improvement Association. In producing and distributing better seed this farm serves as a lasting tribute to those who gave so generously of their time and means."

More than 3500 North Dakota farmers and farm supported businesses contributed to this project. Among them were 534 who each contributed $100 or more.