

# ANNUAL REPORT 1975

## FINANCIAL STATEMENT

North Dakota Agricultural Experiment Station  
July 1, 1974, Through June 30, 1975

### OPERATIONS Main Station

	Balance 7-1-74	Receipts	Expenditures	Transfers	Balance 6-30-75	Salaries	Fees and Services	Supplies and Materials	Equipment
State Appropriations	\$ (55,361.87)	\$2,781,072.00	\$2,850,973.59	\$ -0-	\$ (125,263.46)	\$2,005,449.96	\$368,311.77	\$276,526.02	\$200,685.84
Sales & Services	347,326.91	327,350.60	332,047.38	-0-	342,630.13	62,913.87	76,605.95	103,670.01	88,857.55
Gifts & Grants	358,142.88	792,077.33	698,677.10	(67,944.59)	383,598.52	406,592.02	91,811.22	67,939.46	132,334.40
Federal Appropriations CSRS, USDA	3,678.45	1,077,540.00	1,092,215.63	-0-	(10,997.18)	1,053,340.98	23,751.97	14,578.58	544.10
Other Federal	(80,812.51)	373,508.39	390,111.76	(3,756.44)	(101,172.32)	309,922.58	42,110.48	32,120.00	5,958.70
TOTAL Main Station	\$ 572,973.86	\$5,351,548.32	\$5,364,025.46	\$(71,701.03)	\$ 488,795.69	\$3,838,219.41	\$602,591.39	\$494,834.07	\$428,380.59
<b>Branch Stations</b>	658,687.34	969,979.72	1,001,148.95	-0-	627,518.11	467,417.88	103,781.63	237,711.38	192,238.06
TOTAL Operations	\$1,231,661.20	\$6,321,528.04	\$6,365,174.41	\$(71,701.03)	\$1,116,313.80	\$4,305,637.29	\$706,373.02	\$732,545.45	\$620,618.65

### LAND AND STRUCTURES

#### Main Station

State Appropriations	\$ 173,801.55	\$ -0-	\$ 163,027.19	\$ -0-	\$ 10,774.36
Other	-0-	20,579.82	32,539.11	-0-	(11,959.29)
TOTAL Main Station	\$ 173,801.55	\$ 20,579.82	\$ 195,566.30	\$ -0-	\$ (1,184.93)

#### Branch Stations

State Appropriations	9,047.02	-0-	9,045.43	-0-	1.59
TOTAL Land & Structures	\$ 182,848.57	\$ 20,579.82	\$ 204,611.73	\$ -0-	\$ (1,183.34)

### GRAND TOTAL

Operations, Land and  
Structures

	\$1,414,509.77	\$6,342,107.86	\$6,569,786.14	\$(71,701.03)	\$1,115,130.46
--	----------------	----------------	----------------	---------------	----------------

PROFESSIONAL STAFF  
AGRICULTURAL EXPERIMENT STATION  
NORTH DAKOTA STATE UNIVERSITY  
of AGRICULTURE and APPLIED SCIENCE  
(as of January 1, 1976)

**STATE BOARD OF HIGHER EDUCATION:** Vincent J. Buck, President, Jamestown; Robert C. Painter, Vice President, Grand Forks; Mrs. E.G. (Geraldine) Clapp, Jr., Fargo; Mrs. James L. (Eleanor) Grahl, Bismarck; Richard H. McGee, Minot; Harold C. Refling, Bottineau; Lester M. Stern, Wahpeton; Kenneth E. Raschke, Commissioner, Bismarck.

**CONSULTATION BOARD** for the Experiment Station and the Extension Service to the State Board of Higher Education: Arden Burbidge, Chairman, Park River; Arthur Christianson, Alamo; Clark Jenkins, Fargo; Lois Jones, Webster; Raymond Schnell, Dickinson.

**ADMINISTRATION:** L.D. Loftsgard, Ph.D., President; Kenneth A. Gilles, Ph.D., Vice President for Agriculture<sup>35</sup>; H. Don Stockman, M.S., Vice President for Business and Finance<sup>35</sup>; Arlon G. Hazen, M.S., Director<sup>65</sup>; H. Roald Lund, Ph.D., Associate Director<sup>90</sup>; Peder A. Nystuen, M.S., Associate Director<sup>40</sup>; James B. Swank, ABA, Administrative Assistant to Director<sup>90</sup>.

**AGRICULTURAL ECONOMICS:** Frederick R. Taylor, Ph.D., Professor and Chairman<sup>50</sup>; Donald E. Anderson, Ph.D., Professor<sup>60</sup>; Gary M. Bedker, M.S., Research Associate<sup>55</sup>; David W. Cobia, Ph.D., Associate Professor<sup>50</sup>; Randal C. Coon, M.S., Research Assistant<sup>100</sup>; Norman L. Dalsted, M.S., Research Associate<sup>100</sup>; Edward V. Dunn, M.S., Associate Professor<sup>55</sup>; Gordon W. Erlanson, Ph.D., Associate Professor<sup>40</sup>; Delmer L. Helgeson, Ph.D., Associate Professor<sup>70</sup>; Thor A. Hertsgaard, Ph.D., Professor<sup>40</sup>; Jerome E. Johnson, Ph.D., Associate Professor<sup>50</sup>; Roger G. Johnson, Ph.D., Professor<sup>60</sup>; Arlen G. Leholm, M.S., Research Associate<sup>100</sup>; F. Larry Leistritz, Ph.D., Associate Professor<sup>58</sup>; William C. Nelson, Ph.D., Associate Professor<sup>70</sup>; Thomas K. Ostenson, M.S., Associate Professor<sup>60</sup>; Timothy A. Petry, M.S., Assistant Professor<sup>70</sup>; LeRoy W. Schaffner, M.S., Associate Professor<sup>100</sup>; Donald F. Scott, Ph.D., Assistant Professor<sup>80</sup>; Arlyn R. Staroba, M.S., Research Assistant<sup>100</sup>; Donald E. Thomson, M.S., Assistant in Agricultural Economics<sup>100</sup>; Norman Toman, M.S., Research Assistant<sup>100</sup>; Harvey G. Vreugdenhil, M.S., Research Associate<sup>100</sup>; Wallace McMartin, M.S., Agricultural Economist, USDA<sup>0</sup>; John R. Price, M.S., Agricultural Statistician, USDA<sup>0</sup>; Robert Tosterud, Ph.D., Director of Upper Great Plains Transportation Institute<sup>0</sup>; Stanley W. Voelker, M.S., Agricultural Economist, USDA<sup>0</sup>; Robert L. Vossen, M.S., Assistant Agricultural Statistician, USDA<sup>11</sup>.

**AGRICULTURAL ENGINEERING:** W.J. Promersberger, M.S., Professor and Chairman<sup>50</sup>; John E. Gilley, M.S., Research Associate<sup>100</sup>; Henry L. Kucera, M.S., Associate Professor<sup>30</sup>; Charles W. Moilanen, M.S., Associate Professor<sup>60</sup>; George L. Pratt, Ph.D., Professor<sup>50</sup>; Ronald T. Schuler, Ph.D., Associate Professor<sup>50</sup>; Elton G. Solseng, B.S., Assistant in Agricultural Engineering<sup>100</sup>; Earl C. Stegman, Ph.D., Professor<sup>70</sup>; Richard L. Witz, M.S., Professor<sup>60</sup>; Roger H. Cossette, M.A., Associate Professor (Cooperative Extension Service)<sup>0</sup>.

**AGRICULTURAL INFORMATION (Cooperative Extension Service):** Robert A. Jarnagin, Ph.D., Professor<sup>0</sup>; James A. Berg, M.S., Associate Professor<sup>0</sup>; John J. Feight, M.S., Associate Professor<sup>0</sup>; James R. Kenward, M.S., Associate Professor<sup>0</sup>; Mathias F. Lanz, B.A., Associate Professor<sup>0</sup>; Dorothea G. McCullough, M.A., Associate Professor<sup>0</sup>; Gary W. Moran, M.S., Assistant Professor<sup>0</sup>; Courtney R. Rotzien, Assistant Editor<sup>0</sup>.

**AGRONOMY:** Jack F. Carter, Ph.D., Professor and Chairman<sup>60</sup>; Melvern K. Anderson, Ph.D., Associate Professor<sup>75</sup>; Robert H. Busch, Ph.D., Associate Professor<sup>90</sup>; Harold Z. Cross, Ph.D., Assistant Professor<sup>90</sup>; Edward L. Deckard, Ph.D., Assistant Professor<sup>65</sup>; David C. Ebeltoft, Ph.D., Professor<sup>95</sup>; John R. Erickson, Ph.D., Associate Professor<sup>90</sup>; Peter K. Fay, Ph.D., Research Associate<sup>100</sup>; A. Earl Foster, Ph.D., Professor<sup>60</sup>; Richard C. Froberg, Ph.D., Professor<sup>80</sup>; James J. Hammond, Ph.D., Associate Professor<sup>75</sup>; Karl A. Lucken, Ph.D., Professor<sup>100</sup>; S.S. Maan, Ph.D., Professor<sup>90</sup>; Calvin G. Messersmith, Ph.D., Associate Professor<sup>50</sup>; Dwain W. Meyer, Ph.D., Assistant Professor<sup>60</sup>; Jerry F. Miller, M.S., Research Assistant<sup>100</sup>; Stephan D. Miller, Ph.D., Assistant Professor<sup>100</sup>; John D. Nalewaja, Ph.D., Professor<sup>80</sup>; James S. Quick, Ph.D., Associate Professor<sup>95</sup>; Paul C. Sandal, Ph.D., Professor<sup>25</sup>; Albert A. Schneider, Ph.D., Assistant Professor<sup>100</sup>; Arnold B. Schooler, Ph.D., Professor<sup>80</sup>; Galen Schroeder, M.S., Research Assistant<sup>100</sup>; Glen S. Smith, Ph.D., Professor<sup>100</sup>; Dean A. Whited, Ph.D., Associate Professor<sup>30</sup>; Darrell F. Cole, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Gerhardt N. Fick, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Richard H. Hodgson, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Leonard R. Joppa, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Richard H. Shimabukuro, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Tommy E. Thompson, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Norman D. Williams, Ph.D., Adjunct Professor, USDA<sup>0</sup>.

**ANIMAL SCIENCE:** Marion L. Buchanan, M.S., Professor and Chairman<sup>60</sup>; Paul T. Berg, Ph.D., Instructor<sup>70</sup>; Russell B. Danielson, M.S., Assistant Professor<sup>70</sup>; William E. Dinusson, Ph.D., Professor<sup>70</sup>; Charles G. Edgerly, M.S., Associate Professor<sup>60</sup>; Duane O. Erickson, Ph.D., Associate Professor<sup>60</sup>; Robert L. Harrold, Ph.D., Associate Professor<sup>70</sup>; Clayton N. Hauge, M.S., Associate Professor<sup>60</sup>; John N. Johnson, M.S., Associate Professor<sup>30</sup>; Robert L. Johnson, M.S., Assistant Professor<sup>75</sup>; Verlin K. Johnson, Ph.D., Professor<sup>50</sup>; Merle R. Light, M.S., Professor<sup>70</sup>; Wesley R. Limesand, B.S., Instructor<sup>70</sup>; Martin J. Marchello, Ph.D., Associate Professor<sup>50</sup>; Bert L. Moore, Ph.D., Instructor<sup>70</sup>; Jerry L. Sell, Ph.D., Professor<sup>60</sup>; William D. Slanger, Ph.D., Assistant Professor<sup>100</sup>; Frank O. Thetford, Jr., Ph.D., Assistant Professor<sup>100</sup>; James E. Tilton, Ph.D., Associate Professor<sup>60</sup>; Ronald E. Wollmuth, B.S., Instructor<sup>70</sup>; Ronald C. Zimprich, B.S., Instructor<sup>70</sup>; Peter W. Aschbacher, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Kenneth L. Davison, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Jerome C. Pekas, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Edward J. Thacker, Ph.D., Adjunct Professor, USDA<sup>0</sup>.

**BACTERIOLOGY:** Kenneth J. McMahon, Ph.D., Professor and Chairman<sup>50</sup>; Beverley A. Baldwin, B.S., Instructor<sup>30</sup>; David L. Berryhill, Ph.D., Assistant Professor<sup>60</sup>; Mary C., Bromel, Ph.D., Professor<sup>40</sup>; John A. Doubly, M.S., Assistant Professor<sup>70</sup>; Berdell R. Funke, Ph.D., Associate Professor<sup>40</sup>; Paul E. Holmes, Ph.D., Assistant Professor<sup>100</sup>; Bayard P. Sleeper, Ph.D., Professor<sup>50</sup>; Edward R. Renner, M.D., Adjunct Professor (Fargo Clinic)<sup>0</sup>; Phletus P. Williams, Ph.D., Adjunct Professor, USDA<sup>0</sup>.

**BIOCHEMISTRY:** Harold J. Klosterman, Ph.D., Professor and Chairman<sup>60</sup>; Douglas W. Bristol, Ph.D., Associate Professor<sup>85</sup>; Allan G. Fischer, Ph.D., Associate Professor<sup>60</sup>; James R. Fleeker, Ph.D., Associate Professor<sup>60</sup>; George Graf, Ph.D., Professor<sup>60</sup>; Arland E. Oleson, Ph.D., Associate Professor<sup>60</sup>; Don C. Zimmerman, Ph.D., Adjunct Professor, USDA<sup>0</sup>.

**BOTANY:** Warren C. Whitman, Ph.D., Professor and Chairman<sup>75</sup>; William T. Barker, Ph.D., Associate Professor<sup>60</sup>; Murray E. Duysen, Ph.D., Professor<sup>50</sup>; Donald S. Galitz, Ph.D., Professor<sup>50</sup>; Harold Goetz, Ph.D., Professor<sup>15</sup>; Paul E. Nyren, M.S., Assistant Botanist<sup>100</sup>.

**CEREAL CHEMISTRY AND TECHNOLOGY:** Orville J. Banasik, M.S., Professor and Chairman<sup>60</sup>; Charles W. Baker, Ph.D., Assistant Professor<sup>60</sup>; Merlin D. Breen, Ph.D., Assistant Professor<sup>100</sup>; Bert L. D'Appolonia, Ph.D., Associate Professor<sup>60</sup>; Brendan J. Donnelly, Ph.D., Associate Professor<sup>60</sup>; Clarence E. McDonald, Ph.D., Associate Professor<sup>60</sup>; Leonard D. Sibbitt, Professor<sup>100</sup>; A.A. Seyam, Ph.D., Assistant Professor<sup>100</sup>; Joel W. Dick, M.S., Food Technologist, USDA<sup>0</sup>; William C. Shuey, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Clifford A. Watson, Ph.D., Research Chemist, USDA<sup>0</sup>.

**ENTOMOLOGY:** John T. Schulz, Ph.D., Professor and Chairman<sup>70</sup>; Albin W. Anderson, Ph.D., Assistant Professor<sup>60</sup>; Robert B. Carlson, Ph.D., Associate Professor<sup>75</sup>; Richard D. Frye, Ph.D., Associate Professor<sup>65</sup>; Hendrik J. Meyer, Ph.D., Assistant Professor<sup>60</sup>; Gregory B. Mulkern, Ph.D., Professor<sup>50</sup>; Christian Y. Oseto, Ph.D., Assistant Professor<sup>70</sup>; Richard L. Post, Ph.D., Professor<sup>50</sup>; Terrance S. Adams, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Robert A. Bell, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Leo E. LaChance, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Edwin P. Marks, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Ian C. McDonald, Ph.D., Adjunct Professor, USDA<sup>0</sup>; David T. North, M.S., Adjunct Professor, USDA<sup>0</sup>; John G. Riemann, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Dale E. Wagoner, Ph.D., Adjunct Professor, USDA<sup>0</sup>.

**HORTICULTURE AND FORESTRY:** Edward P. Lana, Ph.D., Professor and Chairman<sup>70</sup>; Dale E. Herman, Ph.D., Associate Professor<sup>60</sup>; Neal S. Holland, M.S., Professor<sup>70</sup>; Robert H. Johansen, Ph.D., Professor<sup>100</sup>; Donald C. Nelson, Ph.D., Professor<sup>70</sup>; Earl W. Scholz, Ph.D., Associate Professor<sup>70</sup>; Robert H. Heintz, Associate Professor (Cooperative Extension Service)<sup>0</sup>.

**PLANT PATHOLOGY:** Richard L. Kiesling, Ph.D., Professor and Chairman<sup>70</sup>; Robert M. Hosford, Jr., Ph.D., Professor<sup>60</sup>; Joseph E. Huguelet, Ph.D., Professor<sup>60</sup>; Larry J. Littlefield, Ph.D., Professor<sup>60</sup>; Vernyl D. Pederson, Ph.D., Professor<sup>60</sup>; Glen D. Statler, Ph.D., Associate Professor<sup>60</sup>; William M. Bugbee, Ph.D., Adjunct Professor, USDA<sup>0</sup>; James D. Miller, Ph.D., Adjunct Professor, USDA<sup>0</sup>; Roland G. Timian, Ph.D., Adjunct Professor, USDA<sup>0</sup>; David E. Zimmer, Ph.D., Adjunct Professor, USDA<sup>0</sup>.

**SOILS:** Charles M. Smith, Ph.D., Professor and Chairman<sup>70</sup>; James W. Bauder, Ph.D., Assistant Professor<sup>60</sup>; Armand Bauer,

Ph.D., Professor<sup>100</sup>; Lynn J. Brun, Ph.D., Assistant Professor<sup>60</sup>; William C. Dahnke, Ph.D., Associate Professor<sup>100</sup>; Glendon W. Gee, Ph.D., Research Scientist<sup>100</sup>; Terrance H. Krueger, B.S., Assistant in Soils<sup>100</sup>; Timothy J. Method, B.S., Research Assistant<sup>100</sup>; John T. Moraghan, Ph.D., Professor<sup>60</sup>; Delmer D. Nantt, B.S., Research Assistant<sup>100</sup>; Hollis W. Omodt, M.S., Professor<sup>100</sup>; Donald D. Patterson, M.S., Associate Professor<sup>100</sup>; Juanito M. Ramirez, Ph.D., Associate Professor<sup>70</sup>; Russell P. Schneider, Ph.D., Assistant Professor<sup>100</sup>; Fred W. Schroer, M.S., Associate Professor<sup>100</sup>; Francis J. Sobolik M.S., Area Extension Agent<sup>30</sup>; Michael D. Sweeney, M.S., Associate Professor<sup>100</sup>; Larry J. Swenson, B.S., Assistant in Soils<sup>100</sup>; Bruce K. Worcester, Ph.D., Assistant Professor<sup>70</sup>; Joseph C. Zubriski, Ph.D., Professor<sup>50</sup>; James F. Power, Ph.D., Adjunct Professor, USDA (Mandan)<sup>0</sup>; Wayne O. Willis, Ph.D., Adjunct Professor, USDA (Mandan)<sup>0</sup>.

**VETERINARY SCIENCE:** Myron F. Andrews, D.V.M., Professor and Chairman<sup>50</sup>; Arnold D. Alstad, D.V.M., Associate Professor<sup>100</sup>; Ivan E. Berg, D.V.M., Associate Professor<sup>100</sup>; Howard H. Casper, Ph.D., Assistant Professor<sup>100</sup>; Ithel A. Schipper, D.V.M., Professor<sup>60</sup>; George E. Staples, D.V.M., Associate Professor<sup>60</sup>; Raul Weiss, D.V.M., Assistant Professor<sup>100</sup>; James V. Bundy, D.V.M., Adjunct Professor, (Private Practice)<sup>0</sup>; Donald K. Christian, D.V.M., Adjunct Professor (Private Practice)<sup>0</sup>; Gary R. Christian, D.V.M., Adjunct Professor (Private Practice)<sup>0</sup>; Robert A. Moen, D.V.M., Adjunct Professor (Private Practice)<sup>0</sup>; Merrill J. Reinholder, D.V.M., Adjunct Professor (Private Practice)<sup>0</sup>; Clarence W. Samuel, D.V.M., Adjunct Professor (Private Practice)<sup>0</sup>; Daniel P. Treat, D.V.M., Adjunct Professor (Private Practice)<sup>0</sup>.

## BRANCH STATIONS

**AGRONOMY SEED FARM:** LeRoy A. Spilde, Ph.D., Superintendent<sup>100</sup>.

**CARRINGTON:** Howard M. Olson, M.S., Superintendent and Agricultural Engineer<sup>100</sup>; Joseph J. Caroline, B.S., Assistant Agronomist<sup>100</sup>; Robert S. Hoffman, B.S., Assistant Agricultural Engineer<sup>100</sup>; David W. Rodgers, M.S., Assistant Animal Husbandman<sup>100</sup>.

**DICKINSON:** Thomas J. Conlon, M.S., Superintendent<sup>100</sup>; Douglas G. Landbloom, M.S., Assistant Animal Husbandman<sup>100</sup>; James Lee Nelson, B.S., Animal Husbandman<sup>100</sup>.

**HETTINGER:** Timothy C. Faller, M.S., Superintendent<sup>100</sup>.

**LANGDON:** Robert E. Nowatzki, B.S., Superintendent<sup>100</sup>.

**NORTH CENTRAL:** Ben K. Hoag, M.S., Superintendent<sup>100</sup>.

**WILLISTON:** Ernest W. French, M.S., Superintendent<sup>100</sup>; Neil Riveland, M.S., Assistant Agronomist<sup>100</sup>.

The small superscript figure after each title indicates the per cent of the salary paid by the Agricultural Experiment Station. The superscript zero indicates the entire salary is paid by some state or federal agency, usually the United States Department of Agriculture.

**PROFESSIONAL  
STAFF CHANGES**

(to January 1, 1976)

**ADDITIONS TO STAFF**

Peter K. Fay, Ph.D. Research Associate	January 1, 1975
Arlyn R. Staroba, M.S. Research Assistant	January 1, 1975
Joseph J. Caroline, B.S. Assistant Agronomist	March 1, 1975
Wesley R. Limesand, B.S. Instructor	March 1, 1975
Delmer D. Nantt, B.S. Research Assistant	March 1, 1975
Paul E. Nyren, M.S. Assistant Botanist	March 1, 1975
Harvey G. Vreugdenhil, M.S. Research Associate	March 7, 1975
Timothy J. Method, B.S. Research Assistant	April 1, 1975
William T. Barker, Ph.D. Associate Professor	July 1, 1975
Brendon J. Donnelly, Ph.D. Associate Professor	July 1, 1975
Jens C. Shaver, M.S. Area Extension Agent	July 1, 1975
Francis J. Sobolik, M.S. Area Extension Agent	July 1, 1975
Norman Toman, M.S. Research Assistant	July 1, 1975
Galen Schroeder, M.S. Research Assistant	August 25, 1975
Charles M. Smith, Ph.D. Professor/Chairman (Soils Department)	October 1, 1975
Frank O. Thetford, Jr., Ph.D. Assistant Professor	October 15, 1975
Paul E. Holmes, Ph.D. Assistant Professor	November 1, 1975
Russell P. Schneider, Ph.D. Assistant Professor	December 1, 1975
William D. Slinger, Ph.D. Assistant Professor	December 15, 1975

**DELETIONS**

Daniel Hofland, M.S. Research Associate	January 10, 1975
Roger Jenson, M.S. Research Associate	March 14, 1975
Enoch B. Norum, Ph.D. Professor/Chairman (Soils Department)	June 30, 1975
Philip W. Stahlman, M.S. Assistant Agronomist	June 30, 1975
Robert W. Schottman, M.S. Assistant Professor	August 15, 1975
Robert J. Amundson, B.S. Instructor	August 31, 1975
Jens C. Shaver, M.S. Area Extension Agent	September 30, 1975

**GIFTS AND GRANTS**

Numerous grants of money and gifts of equipment, supplies, and other services are provided the North Dakota Agricultural Experiment Station each year in support of its research programs. The station expresses its sincere thanks to the following for the support provided during the year 1975.

- Abbott Laboratories
- Agricultural Research Service, USDA
- AGSCO Chemical Incorporated
- Agway, Inc.
- Amchem Products Incorporated
- American Crystal Sugar Company
- American Cyanamid Company
- American Hoechst Corporation
- BASF Wyandotte Corporation
- Beet Growers Association
- Beet Sugar Development Foundation
- Bureau of Reclamation, U.S. Department of Interior
- Burleigh County Water District
- Cargill, Incorporated
- Chemagro Division of Bay Chemical Corporation
- Chevron Chemical Company
- CIBA — Geigy Corporation
- City of Fargo Park District
- Clark Equipment Company
- Clemson University
- Colorado State University
- Diamond Shamrock Chemical Company
- Diamond Shamrock Corporation
- Dow Chemical Company
- E.I. du Pont de Nemours and Company
- Economic Development Administration,  
U.S. Department of Commerce
- Economic Research Service, USDA
- Eli Lilly Company
- Farmers Union Oil Company of Langdon
- Fats and Protein Research Foundation
- Ferma-Gro Corporation
- Fish and Wildlife Service, U.S. Department of the Interior
- Fisons Corporation
- FMC Corporation, Niagra Chemical Division
- Forest Service, USDA
- Frito Lay, Incorporated
- Garrison Diversion Conservancy District
- Gulf Oil Foundation
- Gustafson Manufacturing Company
- Hercules, Incorporated
- I.C.I. United States Incorporated
- International Multi-foods
- Interstate Seed and Grain
- Kocide Chemical Corporation
- Malting Barley Improvement Association
- Merck Chemical Company
- MINN-DAK Growers Association
- Mobil Chemical Company
- Monsanto Chemical Company
- NABISCO
- National Macaroni Manufacturers Association
- National Potato Promotion Board
- National Wheat Institute, USDA
- National Gas Pipeline Company of America
- Nor-Am Agricultural Products, Incorporated
- North Dakota Beef Cattle Improvement Association
- North Dakota Beef Commission

(continued on next page).

Agricultural Experiment Station  
**NORTH DAKOTA STATE UNIVERSITY**  
of Agriculture and Applied Science  
University Station  
Fargo, North Dakota 58102  
Publication

*Allen L. Hayes*

DIRECTOR

to

POSTAGE PAID  
U.S. DEPARTMENT OF  
AGRICULTURE  
AGR 101



BULK THIRD-CLASS

**(Gifts and Grants . . . from page 47.)**

North Dakota Business and Industrial  
Development Department  
North Dakota Livestock Mutual Aid Corporation  
North Dakota Power Use Council  
North Dakota State Seed Department  
North Dakota State Water Commission  
North Dakota State Wheat Commission  
North Dakota Water Resources Research Institute  
Northern Great Plains Research Center  
Old West Regional Commission  
Olin, Agricultural Division  
Pacific Oil Seeds Incorporated  
Peavey Company  
Pillsbury Company  
Pittsburg Plate Glass Industries  
Processors of Sunflower Seed  
Quaker Oats Company

Red River Valley Potato Growers Association  
Red River Valley Sugarbeet Growers Association  
Research Corporation  
Rhodia Incorporated  
Rohm and Haas Company  
Schafer, Harold  
Schuler Grain Company  
Shell Chemical Company  
Shell Development Company  
Sheyenne Valley Grazing Association  
Stauffer Chemical Company  
Tupas Electric Incorporated  
Turkey Federation  
Union Carbide  
UNIROYAL Chemical Company  
The Upjohn Company  
U.S. Borax Research  
Velsicol Chemical Corporation