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# Agricultural Experiment Station News November 1974

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THE AGRICULTURAL EXPERIMENT STATION
INSTITUTE OF AGRICULTURE
AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA–LINCOLN
H. W. OTTOSON, DIRECTOR

# Agricultural Experiment Station NEWS

Vol. 7, No. 5, November 1974

## FROM THE DIRECTOR'S DESK

When someone is doing a good job, he should be told that he is! I think that the Nebraska Station staff is doing a good job, and I wish to express our appreciation to everyone.

We recognize that publications aren't the whole story; however, some comparative CSRS data for the various state experiment stations for 1973 give me some confidence in commending you:

--The Nebraska Station ranked in the top ten percent in 1973 in technical articles per FTE.

--We are about medium in size of scientific staff (25th) but ranked 9th among 53 in the total number of technical articles.

--We are efficient; we ranked 6th from the lowest among 53 in the appropriated funds expended per journal article.

--We have made progress! In 1972-73 we published 3.1 technical articles per FTE compared to .9 in 1960-61. 1972-73 was a very good year. We were above our growth trend. In 1973-74 on the other hand, we came out with 2.4 articles per FTE, below trend.

Keep up the good work.

Howard W. Ottoson

## ANIMAL SCIENCE CHAIRMAN

Dr. Irvin T. Omtvedt (pronounced Omtwight) has accepted the chairmanship of our Animal Science Department to succeed Dr. Frank Baker. Originally from Wisconsin, Dr. Omtvedt earned his B.S. degree at the University of Wisconsin in 1957 and his M.S. and Ph.D. degrees at Oklahoma State University in 1959 and 1961.

He has an impressive record of professional accomplishment as a Livestock Specialist at the University of Minnesota and in swine genetics teaching and research at Oklahoma State University. His most recent position is Associate Director of the Alabama Agricultural Experiment Station.

Mrs. Omtvedt's name in Wanda; their son Mark is 13 and their daughter Tenny is 11.

## PERSONNEL ACTIONS

Brakke, Myron K. - Regents Professor of Plant Pathology (promotion)
Caporaso, Frederic - Assistant Professor of Food and Nutrition (appointment)
Gilley, James Ray - Assoc. Prof. of Agricultural Engineering (appointment)
Holmes, O. Wendell - Associate Professor of Agricultural Economics (courtesy appointment,
Palmer, Louis - Asst. Prof. of Plant Pathology (resignation)
Weiss, Albert - Assistant Professor of Agr'l Meteorology--Panhandle Station (appointment)

## GRANTS AND CONTRACTS

| | |
|---|---|
| Burnside, O. C. - Agronomy - Chevron Chemical Company | 1,500 |
| Burnside, O. C. - Agronomy - Rhodia Incorporated | 500 |
| Campbell, J. B. - Entomology (NP Sta.) - USDA, ARS | 2,300 |
| Campbell, J. B. - Entomology (NP Sta.) - American Cyanamid Co. | 500 |
| Campbell, J. B. - Entomology (NP Sta.) - Stauffer Chemical Co. | 2,000 |
| Daigger, Louis A. - Agronomy (PH Sta.) - Dow Chemical Company | 650 |
| Fritchen, R. D. - Animal Science (NE Sta.) - National Pork Producers Council | 5,000 |
| Hagen, A. F. - Entomology (PH Sta.) - FMC Corporation | 500 |
| Hanway, D. G. - Agronomy - Elliott Fund | 10,728 |
| Kies, C. - Food & Nutrition - Traveno and Basher Laboratories | 1,000 |
| Lewis, A. J. - Animal Science - Nebraska Pork Producers Association | 1,000 |
| Nelson, L. A. and W. A. Compton - PH Sta., Agronomy - Elliott Fund | 6,800 |
| O'Keefe, R. B. - Horticulture - State Department of Agriculture | 2,500 |
| Perry, L. J. - Agronomy - Texas Grain Sorghum Producers Board | 500 |
| Peterson, G. A.; F. Anderson & J. Hart - Agron. (PH Sta.) - Elliott Fund | 5,216 |
| Satterlee, L. D. & J. G. Kendrick - FS&T - Nebraska Alfalfa Dehydrators Assoc. | 4,500 |
| Vidaver, A. K. - Plant Pathology - State Department of Agriculture | 2,150 |
| Ward, J. K. - Animal Science - Texas Grain Sorghum Producers Board | 500 |
| White, R. G. and D. M. Danielson - Vet. Sci. (NP Sta.) - Eli Lilly & Co. | 6,000 |
| Wicks, G. A. - Agronomy (NP Sta.) - Velsicol Chemical Corporation | 500 |

## GENERAL NOTES

1. The 1975 biennial Experiment Station and Extension Workers Conference will be held at the Nebraska Center January 6-8. It will open with a noon luncheon and program on Monday and adjourn following a noon luncheon on Wednesday. Please guard these dates in your schedule.

2. Richard C. Ehlers is the new Facilities Manager at the Field Laboratory. Mr. Ehlers has an excellent background in construction, renovation, and utilities. We welcome him to this important position in our program.

3. We wish Chick and Ann Hastert good health and much happiness in their retirement.

4. A leaflet has been prepared describing the need for and nature of the proposed Plant Sciences Complex. Copies will be available for your information and for others interested in this project. This is a top priority capital construction request of UNL.

5. The Eighth Annual Research-Industry Conference of the American Forage and Grasslands Council will be held in Omaha, February 11-13, 1975.

6. With recent changes in the finance and personnel office, Phil Sutton is now devoting full time to Civil Rights Compliance. Chuck Koopmann is now responsible for personnel functions in addition to the fiscal functions which he previously served.

R. W. Kleis

NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - November 1974

Journal Articles (contact authors for more information)

3894. Ammoniated Acid Hydrolyzed Wood Residue as a Source of Nitrogen for Ruminants. L. L. Erlinger and Terry Klopfenstein. Journal of Animal Science.

3895. Sorghum Growth as Affected by Annual Applications of Atrazine. O. C. Burnside and Russell Moomaw. Journal of Environmental Quality.

3896. Added Fiber and Apparent Protein Value of a Food Product for Humans. C. Kies and H. M. Fox. Cereal Chemistry.

3897. Phony Pastrami and Fortified Cake: Nutritional Implications of Engineered Foods. Constance Kies. Journal of American Dietetic Association.

3898. Effect of Weed Control on Forage Production in the Nebraska Sandhills. L. A. Morrow and M. K. McCarty. Journal of Range Management.

3899. Grapes and Wine Technology: Grapes to Wine. A. M. Joe and K. M. Shahani. Milk and Food Technology.

3900. Isolation and Study of Bovine Pancreatic Lipase. II. Stability and Effect of Various Activators and Inhibitors. I. M. Khan, R. C. Chandan and K. M. Shahani. Journal of Dairy Science.

3901. Reflectant Induced Modification of the Radiation Balance for Increased Crop Water Use Efficiency. Raoul Lemeur and Norman J. Rosenberg. Proceedings of the International Seminar on Heat and Mass Transfer in the Environment of Vegetation, Dubrovnik, Yugo. August 26-30, 1974. - Agronomy Journal.

3902. Isolation and Study of Bovine Pancreatic Lipase I. Isolation, Homogeneity and Characterization. K. M. Shahani, I. M. Khan and R. C. Chandan. Journal of American Oil Chemists Society.

3903. Ecofallow Reduces Stalk Rot in Grain Sorghum. Ben Doupnik, Jr., M. G. Boosalis, Gail A. Wicks and Darryl E. Smika. Phytopathology.

3904. Influence of Seed Size, Planting Depth, and Companion Crop on Emergence and Vigor of Seedlings in Sweetclover. F. A. Haskins and H. J. Gorz. Crop Science.

3905. Selection for Positive and Negative Postweaning Gain of Rats Fed Thyroprotein. A. A. W. Abdel-Malek and C. T. Blunn. Journal of Animal Science.

3906. Root Rot of Bean in Nebraska. Primary Pathogen and Yield Loss Appraisal. J. R. Steadman, E. D. Kerr and R. F. Mumm. Plant Disease Reporter.

3907. Identification of Intermediates in the Biosynthesis of Bacteriophage Ø6 Double-Stranded Ribonucleic Acids. D. L. Coplin, J. L. Van Etten, R. K. Koski and A. K. Vidaver. Proceedings of the National Academy of Sciences, USDA.

3908. Sampling and Calculation Methods for Determining Quantities of Nitrogen and Phosphorus in Watershed Runoff. R. E. Burwell, G. E. Schuman, R. F. Piest, W. E. Larson and E. E. Alberts. ASAE Transactions.

3909. Yield Reduction in Winter Wheat Infected with Soil-borne Wheat Mosaic Virus. L. T. Palmer and M. K. Brakke. Plant Disease Reporter.

Journal Abstracts (contact authors for more information)

74-388. Carbon 14 Extractability of Labeled Alachlor, Atrazine, Butylate, and Picloram from Three Soils. Dr. T. L. Lavy. North Central Weed Control Conference Research Report.

74-389. Mobility Aspects of Atrazine in Soils Under Center Pivot Irrigation Systems. T. L. Lavy and L. E. Wilson. North Central Weed Control Conference Research Report.

74-390. Use of Adsorbents to Remove $^{14}C$ Atrazine, Alachlor, Butylate, and Picloram from Water. Dr. T. L. Lavy. North Central Weed Control Conference Research Report.

74-391. Butylate Volatilization from Solution. Dr. T. L. Lavy and Dennis L. Bucholtz. North Central Weed Control Conference Research Report.

74-392. Effect of Bux on the Degradation Rate of Dicamba. Dr. Terry L. Lavy. North Central Weed Control Conference Research Report.

74-393. Analysis of Water Taken from Sandy Soil Profiles Treated With Atrazine. Dr. T. L. Lavy. North Central Weed Control Conference Research Report.

74-394. Effect of Soil Pre-Treatment on Adsorption of Atrazine and Carbaryl. T. L. Lavy. North Central Weed Control Conference Research Report.

74-395. A Comparative Analysis of Three Clothing Value Instruments. Dr. Audrey Newton and Anne K. Sutton.

74-396. Utilization of Crop Residues by Beef Cows. L. J. Perry, Jr. Journal of Range Management Abstracts.

74-397. Flowering Crabapple. D. S. Wysong and L. T. Palmer. Fungicide & Nematicide Tests - Results of 1974.

74-398. Evapotranspiration by a Resistance Model Using Remotely Sensed Thermal Imagery. E. T. Kanemasu, B. L. Blad, N. J. Rosenberg and J. Heilman. American Society of Agronomy, Agronomy Abstracts, 1974 Annual Meeting.

74-399. Estimation of Evapotranspiration in the Central Great Plains by Mass Transfer and Crop Resistance Models. B. L. Blad and N. J. Rosenberg. American Society of Agronomy, Agronomy Abstracts, 1974 Annual Meeting.

74-400. Reflectorized Soybeans (*Glycine max* (L.) Merr.): Leaf Temperature and Longwave Radiation Balance. M. W. Baradas, N. J. Rosenberg and B. L. Blad. American Society of Agronomy, Agronomy Abstracts, 1974 Annual Meeting.

74-401. Evapotranspiration Estimates Based on Remotely Sensed Crop Temperature Tested at Three Locations in the Central Great Plains. B. L. Blad, E. T. Kanemasu, N. J. Rosenberg, M. W. Baradas, S. B. Verma and J. Heilman. Bull. Amer. Meteorol. Soc.

BULLETINS PRINTED

MP 19. Handbook on Planning and Conducting Cooperative Occupational Education Programs in Off-Farm Agricultural Occupations. Dale G. Zikmund and James T. Horner.

NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - October 1974

Journal Articles (contact authors for more information)

3874. Work Requirement for Beef Cattle to Walk Through Mud. G. L. Riskowski and J. A. DeShazer. Transactions of the ASAE.

3875. A Rapid and Effective Drilling Method for Deep Profile Sampling. Edwin C. Seim, John Muir, J. S. Boyce, P. N. Mosher and R. A. Olson. Soil Science of America.

3876. Evaluation of Soil Deposition and Removal Processes. An Interpretive Review. S. M. Kulkarni, R. B. Maxcy and R. G. Arnold. Journal of Dairy Science.

3877. Home Economics and Rehabilitation/Habilitation in Higher Education. Lois O. Schwab and Rose Fadul. Journal of Home Economics.

3878. 250-Hz to 12-GHz Dielectric Properties of Grain and Seed. S. O. Nelson and L. E. Stetson. Transactions of the ASAE.

3879. Comparison of Gut Contents of Adult Western and Northern Corn Rootworms in Northeast Nebraska. Kenneth A. Ludwig and Roscoe E. Hill. Environmental Entomology.

3880. Reaction of Several Types of Roses to Black Spot, Diplocarpon rosae (Fr.) Wolf. L. T. Palmer and S. S. Salac. Plant Disease Reporter.

3881. Chemical Properties of Continuously Cropped Soil as Influenced by Annual Manuring. Leon Chesnin. Soil Soc. Sci. Amer. Proc.

3882. Seedling Growth of Three Switchgrass Strains. L. J. Perry, Jr., and Lowell E. Moser. Journal of Range Management.

3883. Swine Transmissible Gastroenteritis (TGE) Virus: I. Characteristics of Field Viral Isolates. A. Torres-Medina, C. A. Mebus, N. R. Underdahl and M. J. Twiehaus. Archiv fur die gesamte Virusforschung.

3884. Swine Transmissible Gastroenteritis (TGE) Virus: II. Antigenic Comparisons Among Field Viral Isolates. A. Torres-Medina, C. A. Mebus, N. R. Underdahl and M. J. Twiehaus. Archiv fur die gesamte Virusforschung.

3885. Osteopetrosis (Marble Bone Disease) in Angus Calves. Clair M. Hibbs. Angus Breeders Journal.

3886. Hydrocephalus in Calves. Clair M. Hibbs. Hereford Breeders Journal.

3887. A Tensile Testing Method for Determining the Tendency of Soybean Pods to Dehisce. S. A. Weeks, J. C. Wolford and R. W. Kleis. Transactions of the ASAE.

3888. Rheological Parameters Related to Meat Tenderness. Leonard L. Bashford and Les Vavak. Transactions of the ASAE.

3889. Oestrus, LH, Ovulation and Fertility in Beef Heifers. R. K. Christenson, S. E. Echternkamp and D. B. Laster. Journal of Reproduction and Fertility.

3890. Effect of Herbicides on Stands of Green Sagewort (Artemisia campestris L.) in the Nebraska Sandhills. L. A. Morrow and M. K. McCarty. Journal of Weed Science.

3891. Factors Affecting Chemical Properties of Heme and Lipid Components in Mechanically Deboned Turkey Meat. D. M. Janky and G. W. Froning. Poultry Science.

3892. Modelling of Plant Growth for Yield Predictions. W. E. Splinter. Agricultural Meteorology.

3893. Techniques in Using Normal Human Subjects in Protein Bioassay of Food Products. C. Kies and H. M. Fox. ACS Book - Methods in Protein Evaluation.

Journal Abstracts (contact authors for more information)

74-376. Control of Downy Brome in Nebraska Rangeland. Dr. M. K. McCarty and Dr. L. A. Morrow. NCWCC Report.

74-377. Biological Control of Musk Thistle. Dr. M. K. McCarty and Dr. Alex Martin. NCWCC Report.

74-378. High Moisture Shelled Corn for Finishing Cattle. Walter Tolman and Paul Q. Guyer. Journal of Animal Science.

74-379. Weed Control in Close-Seed Sorghum. Dr. O. C. Burnside. North Central Weed Control Conference Research Report.

74-380. Soil Persistence of Corn Herbicides in the Year of Application. Dr. O. C. Burnside. North Central Weed Control Conference Research Report.

74-381. Soil Persistence of Sorghum Herbicides. Dr. Orvin C. Burnside. North Central Weed Control Conference Research Report.

74-382. Control of Weed in Corn with Preplant, Preemergence, and Postemergence Herbicides. Orvin C. Burnside. North Central Weed Control Conference Research Report.

74-383. Weed Control in Narrow Row Soybean Production. Dr. O. C. Burnside. North Central Weed Control Conference Research Report.

74-384. Quillwork and Beadwork of Nineteenth Century Teton Tipi Furnishings. Dr. Audrey Newton, Dr. Mabel Skjelver and Virginia Nollmann Duffey. Journal of Home Economics.

74-385. Immune Reactions in Pigs to *Ascaris suum*. Rose A. McCullough and M. B. Rhodes.

74-386. Oat Yields the Year Following Herbicide Applications onto Corn and Sorghum That Were Grown in Untilled Wheat Stubble. O. C. Burnside. North Central Weed Control Conference Research Report.

74-387. Control of Roadside Vegetation and Lateral Herbicide Movement from Herbicide-Asphalt Soil Stabilization Mixtures. O. C. Burnside and Danny R. Gigax. North Central Weed Control Conference Research Report.

BULLETINS PRINTED

RB 265. Results of the Fourth International Winter Wheat Performance Nursery. J. E. Stroike, V. A. Johnson, J. W. Schmidt, P. J. Mattern and K. D. Wilhelmi.

SB 534. Soil Nutrient Levels for Alfalfa in the Central Platte Valley. R. C. Sorensen.