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# Agricultural Experiment Station News February 1972

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UNIVERSITY OF NEBRASKA  
COLLEGE OF AGRICULTURE  
THE AGRICULTURAL EXPERIMENT STATION  
E. F. FROLIK, DEAN  
R. W. KLEIS, ACTING DIRECTOR

# Agricultural Experiment Station



Vol. 4, Number 7, February 1972

## SANDHILLS AGRICULTURAL LABORATORY DEVELOPMENT

The Sandhills Agricultural Laboratory has been in existence since January 8, 1972 as an adjunct to the North Platte Station. Project leaders of several disciplines are currently involved in research program development.

Research will begin with a typical cow-calf Sandhills ranch with range as the primary feed resource, i.e., growing cattle with grass and/or hay and moving the calf crop as grass feds to the North Platte Station for additional trials. Irrigation will be superimposed upon this 3,280 acre unit with the alternatives of producing feed for supplemental ranch income as irrigated pasture and/or alfalfa. Feedstuffs will be produced under irrigation to feed cattle in various experimental programs, using corn silage and/or corn grain, in comparison to selling the grain as a cash crop.

Objectives are related to the optimization of soil use, water use, and present or new Sandhills ranch management systems. This will be accomplished through a logical priority of facility and program developments.

Potential problems created by intensifying practices (irrigation) into an agricultural situation that traditionally has been extensive in nature, will be studied. Studies will emphasize research on inherent fertility of sandy soils and change under intensive cultural practices; the use of agricultural chemicals by monitoring the water supply and quality; the soil loss through wind and water erosion along with optimum plant establishment; and the change in insect populations and plant diseases. Animal diseases will also be evaluated under existing and new regimes. Ecological objectives will receive a fair share of the research effort under this intensified production schedule.

The "Smith-Thompson" ranch unit has been leased as the site of the "Sandhills Agricultural Laboratory." This 3,280 acre unit is located approximately 10 miles north of the intersection of Highways 92 and 97 in eastern McPherson County. It has one good set of improvements and 14 stock wells. It was considered appropriate by the site selection committee on the basis of location, distance, soils, irrigation potential and leasing arrangements. The assistance of the Soil Conservation Service will aid in developing detailed soil and range site classification.

Ground water should be available in the Ogallala formation at an approximate pumping level of 140 feet. A test hole for an irrigation well will be drilled in February and an irrigation well will be designed and developed in March, 1972.

Warren W. Sahs

## PERSONNEL ACTIONS

Douglass, Richard L.-Assistant Prof. of Agricultural Education (appointment)  
Laster, Danny B.-Assistant Prof. of Animal Science (MARC, courtesy appointment)  
Streeter, Charles L.-Associate Prof. of Animal Science (MARC, courtesy appointment)  
Sullivan, Thomas W.-Acting Chairman of the Dept. Poultry Science effective  
February 1, 1972.

## GRANTS AND CONTRACTS

Baker, Frank H.-Animal Science-Emergency Employment Act	\$ 9,700
Campbell, J. B.-Entomology-Shell Development Company	1,000
Coyne, D. P.-Horticulture and Forestry-William Underwood Company	1,000
Danielson, D. M.-North Platte-Shell Development Co.	5,000
Guyer, Paul Q.-Animal Science-Celanese Chemical Corp.	1,000
Klopfenstein, Terry-Animal Science-Flambeau Paper Co.	7,500
Mandigo, Roger W.-Animal Science-National Pork Producers Council	85,000
Satterlee, L. D.-Food Science & Technology-Viobin Corporation	1,250
Splinter, W. E.-Agricultural Engineering-Deere & Co.	45,000
Splinter, W. E.-Agricultural Engineering-Food and Agriculture Organization of the United Nations, Rome, Italy	25,000
Sullivan, T. W.-Poultry Science-Borden Chemical Company	2,000
Tolman, Walter L.-Northeast Station-Celanese Chemical Corp.	2,500
Twiehaus, M. J.-Veterinary Science-Eli Lilly and Company	1,300
Twiehaus, M. J.-Veterinary Science-Nebraska SPF Swine Accreding Agcy.	18,140
Twiehaus, M. J.-Veterinary Science-Hess and Clark	1,600
Twiehaus, M. J.-Veterinary Science-Miscellaneous Donor	245
Weihing, John L.-Scotts Bluff Station-Gering National Bank	1,000
White, Gene R.-North Platte Station-Nebraska Livestock Foundation	8,000

## GENERAL NOTES

1. Dean E. F. Frolik has recently returned from a trip to East Africa. The purpose of the trip was to check on the possibility of a USAID-supported University of Nebraska technical assistance program in Tanzania. Dean Frolik also visited agricultural research programs in Kenya and Uganda.
2. Mary Ann Stritikus has joined the Experiment Station staff as secretary to the Associate Director's office. Se will be responsible for the work formerly handled by Susan Lantz.
3. Just a reminder that anytime you have news releases you should contact J. P. Holman or Grant Johnson in the Department of Information. They will be glad to assist you in getting the information to the public.
4. Each staff member is responsible for submitting his or her "staff activity" to Mr. Ken Keller, editor of the Bulletin Board. Each department should establish its own procedures for getting this information to Mr. Keller.
5. As of January 1, 1972, all Experiment Station and A.R.S. research activities have been phased out at the Fort Robinson site. The programming functions for these research activities have been transferred to USMARC.
6. The station superintendents (Baxter for Lucas) are serving as a committee to consider more appropriate names for the outstate units and will be submitting suggestions in the next few weeks.

E. H. Cobb

NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - January 1972

3318. Exocortis Disease: Evidence for a New Species of "Infectious" Low Molecular Weight RNA in Plants. J.S. Semancik and L. W. Weathers. *Nature*.
3319. Enzymes in Food Technology. Khem M. Shahani. *Encyclopedia of Food Technology*.
3320. Safety and Toxicity of Dietary Organic Arsenicals Relative to Performance of Young Turkeys. 3. Nitarsone. T. W. Sullivan and Ali A. Al-Timimi. *Poultry Science*.
3321. Chemical Studies of Solids, Runoff, Soil Profile, and Groundwater from Beef Cattle Feedlots at Mead, Nebraska. T. M. McCalla, J. R. Ellis, C. B. Gilbertson and W. R. Woods. *Proceedings of Cornell Agricultural Waste Management Conference*.
3322. Fertilizing the Soybean Crop. R. A. Olson. Technical Report, International Atomic Energy Agency.
3323. Light and Yield Related Aspects of Sorghum Canopies. Max D. Clegg. *Proceedings-International Sorghum Symposium*.
3324. Photosynthesis and Translocation in Relation to Plant Development. Jerry D. Eastin. *Proceedings - International Sorghum Symposium*.
3325. Maximizing the Utilization Efficiency of Fertilizer N by Soil and Crop Management. R. A. Olson. *Food and Agriculture Organization Bulletin*.
3326. Control of Beef Cattle Feedlot Runoff. C. B. Gilbertson. T. M. McCalla, J. R. Ellis and W. R. Woods. *American Society of Agricultural Engineers*.
3327. Post-irradiation Recovery of Pathogens and Indicator Bacteria. N. P. Tiwari and R. B. Maxcy. *Journal of Food Science*.
3328. Pneumonic Lesions in Gnotobiotic Pigs Caused by Mycoplasma hyopneumoniae Isolated from Nebraska Swine. C. W. Livingston, E. L. Stair, N. R. Underdahl and C. A. Mebus. *American Journal of Veterinary Research*.
3329. Effect of Delayed Thinning on Sorghum Growth and Yield. Max D. Clegg and Jerry W. Maranville. *Agronomy Journal*.
3330. Safety and Toxicity of Dietary Organic Arsenicals Relative to Performance of Young Turkeys. 4. Roxarsone. T. W. Sullivan and Ali A. Al-Timimi. *Poultry Science*.
3331. Mitochondrial ENA Synthesis During Fungal Spore Germination. Larry D. Dunkle, James L. Van Etten and Robert M. Brambl. *Archives of Biochemistry and Biophysics*.
3332. Students Prefer A La Carte Meal Plans. Bennet D. Chilson and Marie E. Knickrehm. *College and University Business*.

3333. A Resistance Model to Predict Evapotranspiration and Its Application to a Sugar Beet Field. K. W. Brown and Norman J. Rosenberg. *Agronomy Journal*.
3334. Loneliness Among Housewives. Mary Jane Visser and John C. Woodward. *Journal of Home Economics Research*.
3335. Sorghum Leaf Water Status and Stomatal Activity as Influenced by Soil Moisture Stress. A. Blum, J. D. Eastin and C. Y. Sullivan. *Crop Science*.

#### ABSTRACTS

- 72-1. Effect of Frozen Storage on Flavor Stability of Mechanically Deboned Chicken Back Meat. Darrell Cornish, G. W. Froning and R. G. Arnold. *Journal of Food Science*.
- 72-2. Improving the Quality Characteristics of Mechanically Deboned Fowl Meat. G. W. Froning. *Journal of Food Science*.
- 72-3. Characterization of Double-stranded RNA from Bacteriophage. J. S. Semancik, J. L. Van Etten and A. K. Vidaver. *Bacteriological Proceedings*, 1972.
- 72-4. Neonatal Calf Diarrhea of Viral Etiology. C. A. Mebus. *The Symposium on Physiology and Digestive Pathology of the Newborn Calf*, Theix, France.
- 72-5. Mechanisms of Heat Degradation of Thiamine. Basant K. Dwivedi and R. G. Arnold. *Journal of Food Science*.
- 72-6. Gas Chromatographic Estimation of Thiamine Content of Food Products. Basant K. Dwivedi and R. G. Arnold. *Journal of Food Science*.
- 72-7. Techniques for the Analysis of Dyes on Historic Textiles. Catherine M. Schweiger and Patricia J. Sailor. *Home Economics Research Abstracts - Textiles and Clothing*.
- 72-8. Perception of Fashion Among Selected College Women. Gail M. Skinner and Patricia J. Sailor. *Home Economics Research Abstracts - Textiles and Clothing*.
- 72-9. A Study of Selected Variables and Their Relationship to Performance in a Clothing Construction and Design Class. Janet Ambrosek and Dr. Audrey Newton. *Journal of Home Economics Abstracts*.

#### Bulletins Printed

- OTC 146 Nebraska Spring Small Grain Variety Tests 1971. A. F. Dreier, J. W. Schmidt, P. H. Grabouski, R. S. Moomaw and L. A. Nelson.
- OTC 147 Nebraska Corn Performance Tests 1971. A. F. Dreier, P. H. Grabouski and R. S. Moomaw.
- 85th Annual Report of the Nebraska Agricultural Experiment Station.