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UNIVERSITY OF NEBRASKA COLLEGE OF
AGRICULTURE AND HOME ECONOMICS
THE AGRICULTURAL EXPERIMENT STATION

E. F. FROLIK, DEAN
H. W. OTTOSON, DIRECTOR

Agricultural Experiment Station



Vol. 1, No. 6, December 1968

FROM THE DIRECTORS OFFICE

Our Very Best Wishes for a Happy and Satisfying 1969 !

Recent discussions have been directed at corn stalk rot. As you know the damage in 1968 in Nebraska has been estimated at \$32,000,000. An all-day meeting of research and Extension people was held December 9 at Lincoln to review the current situation, and to coordinate recommendations to farmers for 1969.

In the meantime we have had further discussions concerning ways and means of bringing more effort to bear on this complex disease, since there are many unanswered questions. Our future efforts will include:

1. Evaluation of corn varieties for resistance to stalk rot, and development of more resistant varieties.
2. Expanded work on the relationship between irrigation systems, timing, and application rates, and stalk rot infection.
3. Expanded work on the effect of fertilizer rates on stalk rot infection.
4. Testing of systemic fungicides for ability to control stalk rot.
5. Research aimed at the isolation and specific identification of causal organisms.
6. Research on the physiology and biochemistry of the causal organisms in their interaction with the host plant.

We are organizing an interdisciplinary group, under the leadership of Dr. Boosalis, to move our efforts to these objectives.

H. W. Ottoson

FIELD LABORATORY DEVELOPMENT - 1968

Animal Science: Dairy housing capacity was increased by moving in and developing four 26' X 50' buildings and by construction of a new 60 cow free-stall unit with related lots and utilities. New and expanded milk storage and cooling units were added as the North Platte Station herd was incorporated. A swine research complex established in a first stage included a 24 pen nutrition building, a 30 sow farrowing building, two 26' X 50' buildings for an operations center and sundry related facilities. No swine research operations remain on the campus. A beef physiology research unit southeast of the beef nutrition unit consists of a 26' X 200' building with related lots, fittings and utilities.

Agronomy: A new area has been developed for Extension, research and demonstration functions in Igloo Area 14 in the center of the laboratory. The Agronomy research "section" on the east side is rapidly being developed with roads, drainage, irrigation surveys and service facilities.

Foundation Seed: Has moved into a major portion of Load Line 3 and is proceeding with the development of facilities and adjoining land. Much development remains to be done in 1969.

Horticulture & Forestry: Section 26 on the west side of the laboratory is operating well in research with physical facilities recently expanded with a second 50' X 50' building.

(over)

Agricultural Engineering: Three surface irrigation automation research systems are installed and operational with reuse and fertigation systems. Six different tow line irrigation units are also in demonstration-research use.

Feed Center: Modest development continued with the addition of a 20' X 50' Harvestore unit to the group of five upright silos.

Waste Management: Research was established in an extensive program involving four experimental systems installed at the beef complex. This is an excellent cooperative effort involving ARS, Agricultural Engineering, Agronomy and Animal Science.

Eppley Cancer Institute: Small animal production and care unit has been extensively developed at Load Line 4 utilizing some existing facilities and adding 16 new environmentally controlled buildings.

PERSONNEL ACTIONS

Hardin, Clifford M. - Professor of Agricultural Economics with tenure
Handy, M. Eisa - Postdoctoral Fellow, Horticulture & Forestry
Mattern, Paul J. - Joint appointment with Food Science & Technology
Neild, Ralph E. - Horticulture & Forestry - Leave of absence Feb. 1, 1969 to Jan. 3, 1970
White, Raymond G. - Assistant Professor of Veterinary Science - North Platte Station

NEW GRANTS, CONTRACTS AND COOPERATIVE AGREEMENTS

Anderson, F. N. - Scotts Bluff Station - Intnat's Minerals & Chemicals Corp.	\$500.00
Daigger, L. A. - Scotts Bluff Station - Geigy Agr'l Chemical Company	500.00
Horner, J. T. - Agr'l Education - U. S. Office of Education	37,500.00
Horner, J. T. - Agr'l Education - U. S. Office of Education	12,500.00
Munson, J. D. - Entomology - Mobil Chemical Company	500.00
Nordquist, P. T. - North Platte Station - Shell Development Company	1,000.00
Schuster, M. L. - Plant Pathology - National Science Foundation	33,400.00
Sullivan, T. W. - Poultry Science - Borden Chemical Company	1,600.00
Sullivan, T. W. - Poultry Science - Occidental Petroleum Company	1,500.00
Trotter, V. Y. - Home Economics - J. C. Penney Company	600.00
Trotter, V. Y. - Home Economics - Nebraska Heart Association	3,000.00

GENERAL NOTES

1. College of Agriculture and Home Economics Advisory Council meeting January 13 and 14 in Lincoln - Dr. McGill coordinating.
2. International symposium on "Physiological Aspects of Crop Yield" January 21-24 at the Nebraska Center - Dr. Haskins coordinating.
3. Special centennial year dedication programs:
Marvel Baker Hall (Animal Science) - March 7
North Platte office building and Diagnostic Laboratory - May 1
Maxwell Arboretum - East Campus - May 18
4. The second year of hunting at the Field Laboratory was very successful for the Laboratory, quite successful for the game and somewhat less successful for the hunters. Sixteen hundred hunter-days took 261 pheasants, 26 quail, 32 rabbits, 5 squirrels and 1 coyote.
5. There is need for new names for the Dairy Industry building (housing Agricultural Economics and Food Science and Technology) and old Animal Science (housing Forestry and Statistical Laboratory). Suggestions are solicited.
6. This is the sixth monthly issue of the Experiment Station Newsletter. We would like your reactions to it and comments on content, format, detail, etc. We have deliberately and with some effort held it to one sheet plus the publication list. Suggestions or material for items to include are always welcome.

R. W. Kleis

AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - DECEMBER 1968

- 2486a. Preemergence and Postemergence Herbicides for Weed Control in Sorghum Across Nebraska. C. R. Fenster, G. A. Wicks, and O. C. Burnside. 1968 North Central Weed Control Conference Proceedings.
- 2487a. Effect of Atrazine and Oil on Weed Control in Sorghum across Nebraska in 1968. G. A. Wicks, O. C. Burnside, and C. R. Fenster. 1968 North Central Weed Control Conference Proceedings.
- 2488a. Effect of Preemergence Herbicides on Weed Control in Corn and Carryover on Succeeding Crops. G. A. Wicks and C. R. Fenster. 1968 North Central Weed Control Conference Proceedings.
- 2489a. Herbicide Residue when Applied to Sorghum in a Winter Wheat-Sorghum-Fallow Rotation. G. A. Wicks, C. R. Fenster, and O. C. Burnside. 1968 North Central Weed Control Conference Proceedings.
2490. Economies of Plant Size in Flour Milling. James E. Haskell and Richard G. Walsh. The Northwestern Miller.
- 2491a. Effect of Processing Variables on Stability and Protein Extractability of Turkey Meat Emulsions. Gary L. Hargus, G. W. Froning, C. A. Mebus, Sankara Neelakantan, and T. E. Hartung. Journal of Food Technology.
2492. Genetic Variation in Total and Differential Growth of Carcass Components in Beef Cattle. L. V. Cundiff, K. E. Gregory, R. M. Koch, and G. E. Dickerson. Journal of Animal Science.
- 2493a. Chemical Control of Weeds in Potatoes. David S. Nuland and Lloyd W. Andersen. North Central Weed Control Conference Proceedings.
2494. The Concentration of CO₂ In the Air Above a Sugar Beet Field. K. W. Brown, and N. J. Rosenberg. Journal of Applied Meteorology.
2495. Improved Methods of Locating Centers of Gravity. G. W. Steinbruegge. Presentation at American Society of Agricultural Engineers.
2496. Selective Control of Plains Pricklypear in Rangeland with Herbicides. G. A. Wicks, C. R. Fenster, and O. C. Burnside, Weed Science.
- 2497a. The Persistence of Trifluralin in Soil and Its Effect on Sorghum Yields 2 and 4 Years after Application. David S. Nuland, and John W. Dunse. 1968 North Central Weed Control Conference Research Report.
- 2498a. Weed Control and Stand Establishment in Pickling Cucumbers at Lincoln, Nebraska in 1968. David S. Nuland, and Charles Boyes. 1968 North Central Weed Control Conference Research Report.
- 2499a. Evaluation of Herbicides for Weed Control in Dry Beans. C. R. Fenster, D. S. Nuland, G. M. Miyoshi, and L. R. Robison. 1968 North Central Weed Control Conference Research Report.
2500. A Review of Techniques Used to Estimate the In Vivo Digestibility of Grazed Forage. Charles L. Streeter. Journal of Animal Science.

2501. Nitrate as a Deterrent to Feeding by the Sweetclover Weevil. W. R. Akeson, Gary L. Beland, and G. R. Manglitz. *Journal of Economic Entomology*.
2502. Influence of Developmental Stage on the Resistance of Melilotus infesta Leaves to Feeding by the Sweetclover Weevil. W. R. Akeson, F. L. Beland, F. A. Haskins, and H. J. Gorz. *Journal of Economic Entomology*.
2503. Effect of Soil Depth and Plant Age on ³²Phosphorus Uptake by Corn and Sorghum in the Field. T. L. Lavy and J. D. Eastin. *Agronomy Journal*.
2504. Further Studies on Aminopeptidases from the Intestine of Ascaris suum. Marvin B. Rhodes, Connell L. Marsh, and Donald L. Ferguson. *Experimental Parasitology*.
2505. Studies in Helminth Enzymology. VI. Aminopeptidases from Uterine Extracts of Ascaris suum¹. Marvin B. Rhodes, Connell L. Marsh, & Donald L. Ferguson. *Experimental Parasitology*.
2506. Influence of Weed Competition on Sorghum Growth. O. C. Burnside and G. A. Wicks. *Journal of Weed Science*.
2507. Susceptibility of Several Microorganisms to Milk Lysozymes. J. R. Vakil, R. C. Chandan, R. M. Parry, and K. M. Shahani. *Canadian Journal of Microbiology*.
2508. Computer Program For Plotting Time Dependent Data. K. W. Brown and Norman J. Rosenberg. *Journal of Applied Meteorology*.
2509. Soil Biology. T. M. McCalla. *Soil Science Society of America Proceedings - Book Review*.
2510. Computer Program For Plotting Time Dependent Data With Instruction and Examples. K. W. Brown, and Norman J. Rosenberg. *Miscellaneous Publication*.
2511. A Method for Determining Dielectric Properties of Grain and Seed in the 220-to 500-MHz Range. L. E. Stetson and S. O. Nelson. *Paper for ASAE Meeting*.
2512. Temperature and the Preference of the Spotted Alfalfa Aphid for Resistant and Susceptible Alfalfa Plants. J. M. Schalk, S. D. Kindler, and G. R. Manglitz. *Journal of Economic Entomology*.
2513. Problems Relating to Ultrasonic Tissue Depth Estimation. William E. McReynolds and Vincent H. Arthaud. *Journal of Animal Science*.

a - Denotes abstract

STATION AND RESEARCH BULLETINS PRINTED

RB 232 The Biology and Ecology of Trogoderma glabrum (Herbst) in Stored Grains. Benjamin H. Kantack and Robert Staples.

82nd Annual Report of the Nebraska Agricultural Experiment Station.