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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



Vol. 10, No. 2, August 1977

FROM THE DIRECTOR'S DESK

Just off the press is a report entitled "World Food and Nutrition Study -- The Potential Contributions of Research", the product of a study by the National Research Council of the National Academy of Sciences. It presents an analysis of the world food and nutrition situation in detail, and outlines the special role that accelerated research and development can play in attacking these problems. It also contains a listing of the most promising areas of research and development, based on studies made by 12 teams of experts. Finally it makes recommendations concerning the mechanisms for getting the job done.

I was privileged to hear a briefing on this study by Dr. Joel Bernstein, the Study Director. My impressions were as follows:

- The report is cautiously optimistic about reducing world hunger by 2000 AD, despite the estimate of 2 billion more people to be fed by that time.
- An average increase in average crop yields of 2½% annually will be required, compared to the past average of 1.9%.
- The ability of the Developing Countries to address their food problem has increased; several factors are cited, including potential to increase food production; a favorable turn in population growth rates; better understanding by the leadership of these countries; and new technical possibilities on the horizon. But, political will is the key to mobilizing these favorable factors.
- The report stresses the role of research in addressing the world food problem; it identifies 22 priority areas of research which have the potential for important advances, and which would contribute significantly to improving the world food and nutrition situation. The 22 areas fall into four categories: nutrition, food production, food marketing, and policies and organizations. Increased U. S. research support is recommended for these 22 areas.
- Strategic themes underlying the recommendations included the following:
 - (1) The need to focus on nutritional needs of individuals;
 - (2) A need to shift U. S. food producing strategy toward more biological improvement as opposed to the application of more capital;
 - (3) A need to increase the division of labor and sharing of results in research;
 - (4) The role of governmental policies in providing incentives toward increasing food production and the needed analysis of alternative policies.
- The mobilization of research resources is discussed; the report suggests that the U. S. agricultural research establishment needs to work with the science community and the world research community to a greater degree.
- Title XII needs strengthening; foreign aid is not the answer for mobilizing research sources.

From Nebraska William Splinter and Carl Leopold served on study teams in this effort.

This report is available from the Printing and Publishing Office, National Academy of Sciences, 2101 Constitution Avenue, N.W., Washington, D.C., 20418.

Howard W. Ottoson

PERSONNEL ACTIONS

Beals, Dale J. - Instructor, Prod. Ag. Tech. (UNSTA) - Appointment
 Chollet, Raymond - Assoc. Prof., Biochemistry - Appointment
 Combs, Elizabeth - Assist. Prof., Ed. and Family Resources - Appointment
 Cross, Otis - Assoc. Prof., Ag. Engineering - Resignation
 Erickson, Eric - Assist. Prof., Veterinary Science - Appointment
 Frey, Merwin - Professor, Veterinary Science - Appointment
 Hamilton, Ricky - Assist. Prof., Forestry and District Extension Forester - Resignation
 Handel, A. Philip II - Assist. Professor, Food Science and Technology - Appointment
 Loveday, Hugh - Assist. Prof., Animal Science & Ext. Meats Specialist - Appointment
 Schinstock, Jack - Assist. Prof., Ag. Engineering - Appointment
 Spalding, Mary - Assist. Prof., Research Chemist, Conservation and Survey - Appointment
 Torres-Medina, Alfonso - Assist. Prof. Veterinary Science - Appointment
 Wallen, Stanley - Assist. Prof., Food Science and Technology - Appointment

GRANTS AND CONTRACTS

Anderson, F. N., Agronomy (PH Sta.) - TransAgra Corporation	\$ 1,000
Ball, H. J., Entomology - FMC Corporation	2,000
Brandle, J. R., Forestry - Nebraska Railroad Association	1,000
Burnside, O. C., Agronomy - Mobil Chemical Company & Shell Oil Company	1,400
Clanton, D. C., Animal Science (NP Sta.) - International Minerals & Chemical Co.	2,000
Daly, J. M. and H. W. Knoche, Biochemistry - Nebr. Wheat Division--Dept. of Ag.	7,800
Ellington, E. F., Animal Science - Chevron Chemical Co.	4,500
Flowerday, A. D., Agronomy - Olin Chemicals	1,200
Hudson, D. B. - Vet. Science (NP Sta.) - Norden Laboratories	1,090
Kerr, E. D., Plant Pathology (PH Sta.) - Olin Chemical	600
Klopfenstein, T. J., Animal Science - Chevron Chemical	5,000
Mattern, P. J., Agronomy - Nebr. Wheat Division --Dept. of Agriculture	10,800
Mayo, Z. B., Entomology - Mobil, Chemagro and FMC	3,500
Peters, L. L. Entomology (SC Sta.) - FMC, Chemagro, & Gulf Oil Corporation	2,700
Rhodes, M. B., Vet. Science - Miscellaneous Donors	927
Roeth, F. W., Agronomy - BASF Wyandotte Corporation	500
Schmidt, J. W., Agronomy - Nebr. Wheat Division--Department of Agriculture	12,000
Steadman, J. R., Plant Pathology - Olin Chemicals	1,500
Trimmer, W. L., Agricultural Engineering (PH Sta.) Misc. Donors (3)	900
Watkins, J. E. & B. L. Doupnik, Plant Path. - Miscellaneous Donors (4)	2,300
Wicks, G. A., Agronomy (NP Sta) - Chemagro	750
Williams, J. H., Agronomy - Archer Daniels Midland Company	5,500
Wilson, R. G. Jr., Agronomy (PH Sta.) Miscellaneous Donors (5)	2,500

GENERAL NOTES

1. Early Warning on New CSRS Grants! The FY 1978 federal appropriations bill for Agricultural Research will likely include a \$15 million basic research grants program for the areas of human nutrition, photosynthesis, nitrogen fixation and genetic engineering. It is not too early to generate thinking about proposal possibilities.
2. Dr. R. R. Oltjen, distinguished beef nutrition scientist, will become the new Director of the US MARC. For the past five years, he has been Chief of the Ruminant Nutrition Laboratory at Beltsville. We look forward to working with him in our many cooperative activities with MARC.
3. Congratulations to Dr. Keith Gregory for the high honor of election as an Honorary Fellow of the ASAS and to Dr. Bill Splinter, the new President Elect of the ASAE.

R. W. Kleis

NEBRASKA AGRICULTURAL EXPERIMENT STATION PUBLICATIONS - July 1977

Journal Articles (contact authors for more information)

5342. Management of Electrical Peaks Caused by Irrigation. L. E. Stetson, D. H. Husted, J. H. Evans and M. L. Smith. Institute of Electrical & Electronic Engineers Transactions.
5343. Simple Method of Converting Rangeland Drills to Experimental Plot Seeders. Kenneth P. Vogel. Journal of Range Management.
5344. Comparison of Methods of Establishing Greenhouse-Grown Grass Seedlings for Use in Space-Transplanted Fields. K. P. Vogel and J. Riesselman. Research Note in HortScience.
5345. Effect of Transportation and Handling of Calves Upon Blood Serum Composition. H. R. Crookshank, M. H. Elissalde, R. G. White, D. C. Clanton and H. E. Smalley. Journal of Animal Science.
5346. Extraction of Soil Solution by Centrifugation for Pesticide Adsorption-Desorption Studies. T. H. Dao and T. L. Lavy. Soil Science Society of America Proceedings.
5347. Determining Microquantities of Lipoidal Materials in Cleaning Solutions by a Surface Film Method (Research Note). R. B. Maxcy and R. G. Arnold. Journal of Food Protection.
5348. A Simple Technique for Maintaining Temperature of Cooked Meat Samples Prior to Sensory Evaluation. F. Caporaso. Journal of Food Science.
5349. Effects of Post-Cooking Sample Temperature on Sensory and Shear Analysis of Beef Steaks. F. Caporaso, A. L. Cortavarria and R. W. Mandigo. Journal of Food Science.
5350. Use of a Bleach Test to Screen Single Head Sorghum Selections for the Presence of a Testa Layer. K. D. Kofoid, J. W. Maranville and W. M. Ross. Agronomy Journal.
5351. Heritabilities and Genetic and Phenotypic Correlations for Prebreeding Traits, Reproductive Traits and Principal Components. L. D. Young, R. A. Pumfrey, P. J. Cunningham and Dwane R. Zimmerman. Journal of Animal Science.
5352. Scanning Electron and Light Microscopy of Nasopharyngeal Mucosa of Cats Infected with Virulent and Attenuated Feline Rhinotracheitis Virus. C. A. Mebus and E. V. Davis. Journal of American Veterinary Medical Association.
5353. Enzymatic Treatment of Dairy Effluents. P. J. Bailey, K. M. Shahani and A. Kilara. Journal of Food Science.
5354. Factors Affecting Atrazine Adsorption on Soil at 0.3 and 0.1 Bar Moisture Contents. T. H. Dao and T. L. Lavy. Weed Science.
5355. Modified Bowen Ratio-Energy Balance Method for Use Where Advection of Sensible Heat is Considerable: Tests in Alfalfa and Soybean Fields. Shashi B. Verma and Norman J. Rosenberg. Irrigation Science.
5356. Nitrogen Source with Sodium Hydroxide Treated Wheat Straw. Sumer Hasimoglu, Terry Klopfenstein, T. H. Doane and T. L. Hanson. Journal of Animal Science.

Journal Abstracts (contact authors for more information)

- 77-897. Evaluation of Western Corn Rootworm, Diabrotica virgifera LeConte, Adult Control on an Individual Field Basis as an Alternative to the Use of Soil Insecticides in Eastern Nebraska. Bruce W. Beardmore and Z. B. Mayo. 32nd Annual Meeting, North Central Branch of the Entomological Society of America.
- 77-898. Genetic and Phenotypic Parameters of Lamb Weights. J. M. Dzakuma, M. K. Nielsen and T. H. Doane. Journal of Animal Science.
- 77-899. Effect of Elfazepam on Apparent Digestibility, Intake and Gain in Sheep. Sergio S. Gonzales, Stanley D. Farlin and Clifton A. Baile. Journal of Animal Science.
- 77-900. Effects of Elfazepam and Monensin in Cattle Finishing Rations on Gain, Efficiency and Carcass Characteristics. Stanley D. Farlin and Clifton A. Baile. Journal of Animal Science.
- 77-901. The Relative Feeding Value of Cane Molasses, Sodium Hydroxide- and Calcium Hydroxide-Neutralized Wood Molasses. Charles B. Doxon, Stephen R. Lowry and Stanley D. Farlin. Journal of Animal Science.
- 77-902. Effect of Protein Levels on In Vivo Lactate Concentration. Tim L. Stanton, Stephen R. Lowry and Stanley D. Farlin. Journal of Animal Science.
- 77-903. Adaptation of Lambs Fed Monensin. T. L. Hanson and T. J. Klopfenstein. Journal of Animal Science.
- 77-904. Monensin, Protein Source and Protein Levels for Growing Steers. T. L. Hanson and T. J. Klopfenstein. Journal of Animal Science.
- 77-905. Chemical Treatment of Wheat Straw. Gary Lesoing, Terry Klopfenstein, Ivan Rush and John Ward. Journal of Animal Science.
- 77-906. Digestibility of Cobs Treated at Five NaOH Levels. L. L. Berger. T. J. Klopfenstein, R. Britton and M. J. Prokop. Journal of Animal Science.
- 77-907. Bright Greenish-Yellow Fluorescence (BGY) Aspergillus flavus, and Aflatoxins in Farmer-Stored Corn in Nebraska. Ben Douplik, Jr. Annual Proceedings, American Phytopathological Society.
- 77-908. The Biology of Tiphia berbereti Allen (Hymenoptera: Tiphidae). R. L. Rivers, Z. B. Mayo and T. J. Helms. 53rd Annual Meeting, Kansas Entomological Society.
- 77-909. Use of Gel Encapsulated Slow-Release Insecticides for Control of Face Fly and Horn Fly on Cattle in Nebraska. David J. Boxler, Jack I. Shugart and J. B. Campbell. 53rd Annual Meeting, Kansas Entomological Society.
- 77-910. Some Aspects of Insect Photoperiodism. Harold J. Ball. 53rd Annual Meeting, Kansas Entomological Society.

BULLETINS PRINTED

- RB 280. Growing Degree Days Predictions for Corn and Sorghum Development and Some Applications to Crop Production in Nebraska. R. E. Neild and M. W. Seeley.