

**FOREIGN**

**Nitrogen Fertilizer Plant Planned for Italy**

A 350,000-ton nitrogen fertilizer plant is to be built in connection with a butadiene and synthetic rubber plant being planned for Ravenna, Italy, in the Po Valley.

The facilities are to be built by Azienda Nazionale Idrogenazione Comustibili at a total cost of \$75 million. Union Carbide & Carbon Corp. is to act as a consultant in the planning, design, construction, and start-up.

**\$25 Million Urea Plant to Go Up in Korea**

The Republic of Korea has notified McGraw-Hydrocarbon that it has been selected to negotiate a contract for constructing a \$25 million urea plant. The company, a joint venture of F. H. McGraw & Co. and Hydrocarbon Research, Inc., has that preliminary engineering and survey work will begin immediately with completion expected in 30 months.

The urea fertilizer plant is to have an annual capacity of 80,000 tons, nearly a third of Korea's needs, and is being financed by the U. S. Foreign Operations Administration.

**Brea Appoints Mexican Distributor**

Durham Chemical announces that its Mexican affiliate, Quimica Agricola del Pacifico, Mexicali, has been named by Brea Chemicals to distribute aqua ammonia and ammonium phosphate in Lower California.

The Mexican subsidiary is also expanding its insecticide branch and is buying land in Hermosillo for a warehouse and office to service increasing business in the Sonora area.

**ASSOCIATIONS**

**True Morse Featured Speaker at NAC's St. Louis Meeting**

True D. Morse, Undersecretary of Agriculture, is scheduled to be the principal speaker at the National Agricultural Chemicals Association Meeting this month. The meeting takes place March 7 through 9 at the Hotel Chase in St. Louis.

Other features of NAC's spring meeting are panel discussions on the Miller Bill, herbicides, and soil insecticides.

On the Miller Bill panel will be: Winton B. Rankin of Food and Drug, W. G. Reed of USDA, John D. Conner, NAC

counsel, and J. A. Noone, NAC technical adviser. Lea S. Hitchner, executive secretary of the association, will act as moderator.

The relatively new field of soil insecticides will be explored by the following panel: O. N. Allen of the University of Wisconsin, C. C. Compton of Shell Chemical, G. W. Decker of the University of Illinois, and John H. Lilly of Iowa State College.

Scheduled to be on the herbicide panel are: A. E. Carlson of Du Pont, M. W. Parker of USDA, Lloyd Sherwood of Monsanto, H. L. Smith of Dow, and R. D. Sweet of Cornell University.

Other speakers on NAC's program will be Fred Heinkel, president of the Missouri Farmers Association, Inc., Donald A. Wilbur of Kansas State College, and J. L. Gillis, vice president of Monsanto. Mr. Hitchner and W. W. Allen of Dow, president of NAC, will also address the meeting.

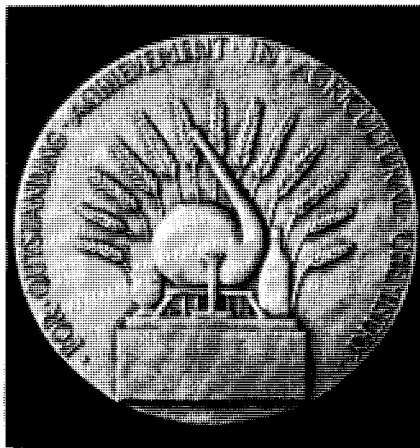
**Spencer Founds ACS Award in Agricultural Chemistry**

Kenneth A. Spencer, president of Spencer Chemical, has founded an award in agricultural chemistry in honor of his father, Charles F. Spencer. The award, a gold medal and \$500, is to be administered and presented annually by the Kansas City Section of the AMERICAN CHEMICAL SOCIETY.

The field of agricultural chemistry is to be interpreted as including food chemistry. The award is not to be limited to research contributions—contributions through industry and education are also eligible.

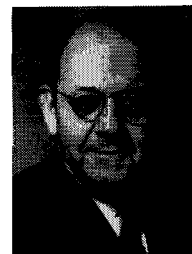
There is no field of human endeavor so enduringly important to man's welfare as the field of agricultural and food chemistry. Men of vision in agricultural

The medal to be awarded by the Kansas City Section for contributions made to agricultural chemistry. On the other side of the medal is a profile of Charles F. Spencer



chemistry have always labored to improve on life's necessities by providing more nourishing foods, better shelter, and better clothing. If man is to continue to have an improved standard of living, these endeavors must make vigorous progress. To this end it is a pleasure for me to make available this award . . . which will perhaps stimulate continued high endeavor in this field."

Charles F. Spencer, for whom the award is named, died in 1942 at the age



C. F. Spencer

of 69. His interest in coal and chemicals advanced the chemical industry's growth in Midwest. At the time of his death, the famous Kansas journalist William Allen White editorialized in the Emporia (Kans.) Gazette: "He

was, when he died, in the midst of developing, through chemistry, a really great future for Kansas. No dreamer was he, but a hard-fisted, hard-headed, cold-blooded competent businessman who knew that modern chemistry holds the key to the brave new world, opening out in the latter part of this century."

Selection of the winner will be made by a jury of 12 members of the ACS, selected by the Kansas City Section from the membership at large to represent fairly industry, research, and education. Nominations for the award must be made by June 1, and the selection is to be made by Sept. 1. Nominating blanks and instructions can be obtained from: Chairman, Charles F. Spencer Award, AMERICAN CHEMICAL SOCIETY, 425 Volker Boulevard, Kansas City 10, Mo.

**Atomic Energy for Food Sterilization on Agenda**

Applications of atomic energy in the food industry, including cold sterilization and eradication of insects, will be discussed during a two-day conference on atomic energy at San Francisco April 4 and 5. The conference will have as its theme "Atomic Energy—The New Frontier" and is to be sponsored by Stanford Research Institute and the Atomic Industrial Forum. Sessions will be in the Hotel Mark Hopkins. Among those leading the discussions will be Bruce Morgan, technical director of the Quartermaster Corps food sterilization program.

**Research Forum on Frozen Foods at Packers Meeting**

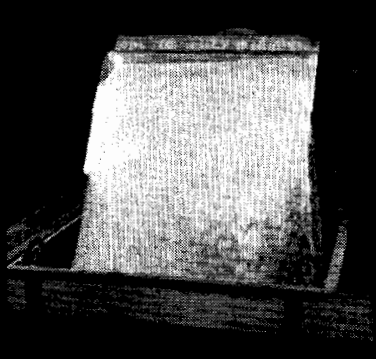
A research forum on frozen foods is being planned for March 14 in Chicago during the National Frozen Food Con-

# Concentrated LIQUID Fertilizer

**Progressive Formulator of Sullivan, Ill., Makes  
and Sells It with Monsanto Phosphoric Acid.**



The flow of phosphoric acid is gauged from the storage tank into a stainless steel vat where the liquid fertilizer is being blended.



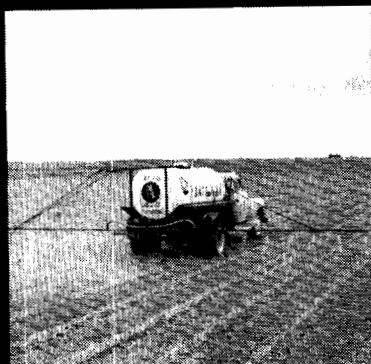
Potash nutrient pours into the anhydrous ammonia-urea-phosphoric acid mix in the vat. Phosphoric acid used is completely soluble—made from Monsanto 99.9% pure electric furnace elemental phosphorus.



Concentrated liquid fertilizer is pumped through a 3/4" heavy-duty rubber hose into a tank truck. Truck is completely filled in approximately 30 minutes with enough fertilizer for a full day's spray schedule.



Formulator enters cab to drive to first spray job. Parked nearby are fertilizer spray rigs which can be custom-fitted to a wide variety of fertilizing jobs. Some are the products of the inventiveness of the local farmers.



Truck begins spraying concentrated liquid fertilizer on the field. Formulator's entire operation is fast, simple and requires only one man.



Spray rig features simple design, adjustable boom and rapid-delivery nozzles. Pump delivers fertilizer from tank with equal pressure at all nozzles.

Diammonium Phosphate (21.0-53.8-00.0)  
Monoammonium Phosphate (12.2-61.6-00.0)  
75% Phosphoric Acid (00.0-54.5-00.0)  
Dipotassium Phosphate (00.0-39.9-53.0)  
Monopotassium Phosphate (00.0-51.6-34.2)

They're highly concentrated—cost you less to store and handle. They're pure—give you extremely close control of formulation. And—your supply is assured by Monsanto, world's largest producer of elemental phosphorus. Write now for "Concentrated Water Soluble Fertilizers" to MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, 710 North Twelfth St., St. Louis 1, Missouri.

Photographs courtesy Alyward Fertilizer Company

Serving Industry . . . Which Serves Mankind

vention. The forum, to be held in the afternoon at the Conrad Hilton Hotel, is under the sponsorship of the frozen food committee of the Institute of Food Technologists and the research and standards committee of National Association of Frozen Food Packers.

A team of experts from research agencies will spearhead the discussion by briefly reviewing present research on frozen fruits, juices, vegetables, and prepared frozen foods. A team of industry experts will comment on present research, review unsolved problems, and suggest new and practical avenues of research. The forum will be conducted informally to encourage audience questions. The forum is an opening meeting—registration at the food convention is not required to attend the forum.

### Ag & Food Division Schedules 2½ Day Technical Session

Two and a half days of technical sessions are planned by the Division of Agricultural and Food Chemistry at the ACS National Meeting in Cincinnati. The meeting begins March 30 and continues through April 7. With divisional sessions staggered, the Ag and Food division meets during the first week, its program beginning at noon on Wednesday and lasting through Friday. Only one symposium is scheduled (the program is

printed below) and the Pesticides and Fermentation Subdivisions have each scheduled programs of general papers. All sessions will be held in Taft Auditorium Ballroom, except for the symposium on the Literature of Agricultural Chemicals which takes place in the ballroom of the Metropole Hotel.

#### Wednesday Afternoon (March 30)

##### Symposium on the Literature of Agricultural Chemicals

Joint with Division of Chemical Literature

Richard L. Kenyon, *Presiding*

RICHARD L. KENYON. Introductory Remarks.

C. J. WILLARD AND E. K. ALBAN. The Literature of Chemical Weed Control.

FRANCIS A. GUNTHER AND LOUIS A. RIEHL. Use of the Entomological Literature by the Agricultural Chemical Specialist.

M. M. BALDWIN AND K. STARR CHESTER. The Literature of Plant Pathology Useful to Agricultural Chemical Specialists.

HAROLD H. SHEPARD. Economic and Marketing Information on Pesticides.

F. DALLAS SPARRE. The Literature of Regulatory Systems for Agricultural Chemicals.

HENRY F. SMYTH, JR. The Literature of Pesticides Toxicology.

#### Thursday Morning and Afternoon (March 31)

##### Pesticides Subdivision

General

Joseph A. Noone, *Presiding*

L. W. HAZLETON. Introductory Remarks.

K. S. DRESS AND R. H. SHUPE. Determination of 2,4-D Acid and Other Chlorinated Phenoxyacetic Acids in Commercial Herbicides by Infrared Spectrophotometry.

A. E. O'DONNELL, H. W. JOHNSON, JR., AND F. T. WEISS. Chemical Determination of Dieldrin in Crop Materials.

KENNETH A. SUND, FRED M. GORDON, AND BRYANT L. WALWORTH. Agricultural Applications and Soil Residue Studies of 3-Amino-1,2,4-Triazole.

R. C. BLINN, F. A. GUNTHER, AND R. B. MARCH. Quantitative Determination of Residues of *O*-[2-isopropyl-4-methyl-pyrimidyl-6]-*O*,*O*-diethyl phosphorothioate (Diazinon) in Milk.

W. F. BARTHEL, B. H. ALEXANDER, P. A. GIANG, AND S. A. HALL. Insecticidal Phosphates Obtained by a New Rearrangement Reaction.

JAMES B. MCPHERSON, JR., AND GERALD A. JOHNSON. Heat Stability of Some Thiophosphate Insecticides.

ELTON L. CLARK, G. A. JOHNSON, AND E. L. MATTSON. *O*,*O*-Dialkyl *S*-(Alkylmercaptomethyl)Dithiophosphates as Systemic Insecticides.

**Divisional Luncheon.** ARNOLD J. LEHMAN. Some Interpretive Problems of Evaluating the Safety of Chemical Food Additives.

F. A. Gunther, *Presiding*

HIROSHI TSUYUKI, JOHN E. CASIDA, AND MARK A. STAHMANN. The Oxidation of Octamethylpyrophosphoramidate (Schradan).

JOSEPH F. TREON, FRANK P. CLEVELAND, AND JOHN CAPPEL. The Toxicity of Endrin.

R. W. FOGLEMAN, J. R. ELSEA, O. E. PAYNTER, AND W. KUNDZINS. Toxicity of Trinitrobenzene-Aniline-Complex, a Rodent Repellent.

L. J. MULLINS. A Model for the Site of Action of Chlorinated Insecticides.

JOSEPH R. HARRIS, GEORGE E. STODDARD, GEORGE Q. BATEMAN, J. LEGRANDE SHUPE, DELBERT A. GREENWOOD, LORI E. HARRIS, AND THOMAS L. BAHLER. Effects of Feeding Dieldrin and Heptachlor-Treated Alfalfa Hay to Dairy Cows.

L. H. HAZLETON. Toxicological Studies on Sulphenone.

**Business Meeting.** Division of Agricultural and Food Chemistry.

#### Friday Morning (April 1)

##### Pesticides Subdivision

General

Wendell F. Phillips, *Presiding*

W. E. DOVE AND H. O. SCHROEDER. Protection of Stored Grain with Pyrethrins-Piperonyl Butoxide Emulsion Sprays.

P. C. HAMM AND A. J. SPEZIALE. Herbicidal Activity of *N*-Substituted  $\alpha$ -Chloroacetamides.

F. A. GUNTHER, R. C. BLINN, AND R. L. METCALF. Acaricidal Activity of Some Substituted Topographical Analogs of 4,4'-Dichloro- $\alpha$ -methyl benzhydrol (DMC).

F. A. GUNTHER, R. C. BLINN, AND G. E. CARMAN. Mechanisms of Insecticidal Action. VI. The Structural Topography Theory and DDT-Type Compounds. II. Diphenylmethane Series.

##### Fermentation Subdivision

General

J. C. Sylvester, *Presiding*

J. C. SYLVESTER. Introductory Remarks.

ROBERT A. GILLIES AND LLOYD L. KEMPE. A Comparison of Gamma

### CALENDAR

**National Farm Chemurgic Council.** Deshler-Hilton Hotel, Columbus, Ohio. March 22-24.

**American Meat Institute Research Conference.** University of Chicago, Chicago, Ill. March 24-25.

**Entomological Society of America,** North Central Branch. East Lansing, Mich. March 24-25.

**American Chemical Society.** Cincinnati, Ohio. Division of Agricultural and Food Chemistry. March 30-April 2.

**American Oil Chemists' Society.** Roosevelt Hotel, New Orleans, La. April 17-20.

**American Society of Brewing Chemists.** Hotel Bellevue-Stratford, Philadelphia, Pa. May 1-5.

**American Association of Cereal Chemists.** Chase Hotel, St. Louis, Mo. May 15-19.

**Institute of Food Technologists.** Columbus, Ohio. June 12-16.

**National Fertilizer Association and American Plant Food Council** (joint meeting). Greenbrier Hotel, White Sulphur Springs, W. Va. June 13-15.

# Get to the Root of Your Troubles



## SOILFUME

*Controls Harmful Soil Insects,  
Diseases and Nematodes*

High value crops—celery, beans, carrots, cucumbers, parsley, tobacco, etc., demand healthy root systems if they are to produce bumper crops. There's an effective way to assure better crops and bigger yields. Just fumigate the soil before planting with Niagara Soilfume. It contains the agent ethylene dibromide. Get rid of soil insects, disease and nematodes that limit your crops. Ask your supply dealer for details about Niagara Soilfume or write for our descriptive folder, entitled "Soil Fumigation Pays off with Soilfume."

*For Seed Bed Treatment Use Niagara Bed-Fume  
A Methyl Bromide Soil Fumigant*



**DANGER  
ZONE**

# Niagara

CHEMICAL DIVISION

FOOD MACHINERY AND CHEMICAL CORPORATION

Middleport, N. Y., • Jacksonville, Fla.



## News of the Month

Radiation and Heat Sterilization of Fermentation Media.

WALTER J. SCHUBERT AND BASILIO LOPEZ-RAMOS. A Relation Between the Structure of Mold Pigments and Their Interaction with Enzymes.

SIEGFRIED S. LICHTBLAU AND ELMER L. GADEN, JR. Oxidation-Reduction Indices in the Fermentation of *Streptomyces griseus*.

Friday Afternoon (April 1)

### General

#### W. O. Lundberg, Presiding

W. O. LUNDBERG. Introductory Remarks.

A. LAURENCE CURL AND GLEN F. BAILEY. The Carotenoids of Aged Canned Valencia Orange Juice.

HAROLD J. FAGEN, EUGENE P. KOLEN, AND RALPH V. HUSSONG. Spectrophotometric Determination of Piperine in Oleoresins of Black Pepper.

HAROLD SALWIN, I. BLOCH, AND J. H. MITCHELL, JR. Rapid Determination of Fat in Meat Products.

JOSEPH T. HOGAN AND MELVIN L. KARON. Hygroscopic Equilibria of Rough Rice at Elevated Temperatures.

RICHARD W. LIU AND F. M. STRONG. Determination of Bound  $\beta$ -Alanine in Legumes.

E. D. WALTER, E. M. BICKOFF, AND C. R. THOMPSON. Crystalline Saponin from Ladino Clover (*Trifolium repens*).

M. S. MAMEESH, H. E. SCHENDEL, AND B. CONNOR JOHNSON. The Metabolism of  $C^{14}$ -Labeled Trimethyl Alkyl Ammonium Stearate.

DOUGLAS C. STRONG, DELBERT A. GREENWOOD, ETHELWYN B. WILCOX, THERAL V. BISHOP, JAMES A. BENNETT, LORIN E. HARRIS, THOMAS L. BAHLER, J. LEGRANDE SHUPE, AND HOWARD LLOYD. The Effect of Feeding Sucrose on Gain in Weight, Dressing Percentage, Liver Weight, and the Quality of Meat of Beef Prior to Slaughter.

H. YACOWITZ, E. ROSS, AND R. D. CARTER. Factors Affecting the Incidence of a Hemorrhagic Syndrome in Chicks Receiving Sulfaquinolaxaline.

### PEOPLE

**Henry R. Kraybill** has been elected vice president of the American Meat Institute Foundation in addition to his position as director of research and education.

**Robert E. Hulse**, vice president in charge of chemical operations for National Distillers Products Corp., has been elected to the company's board of directors.

**Thomas G. Batchelor** has been appointed to the newly created position of

managing director of Hercules Powder Co. (Canada) Ltd. He has been assistant director of sales for the paper makers chemical department of Hercules in Wilmington.

**Edward Orban** has been transferred to the development department of Monsanto's inorganic chemicals division. He has been chief of the technical information section at Mound Laboratory, which is operated by the Atomic Energy Commission.

**G. C. Klingman**, North Carolina State College of Engineering, has been elected president of the Southern Weed Conference. New vice president is **W. B. Albert**, South Carolina Agricultural Experiment Station. **E. G. Rogers**, of the University of Florida, remains secretary.

**H. Clay Hansen** has been appointed agricultural specialist in the Arkansas fertilizer district for Olin Mathieson. His headquarters will be in North Little Rock.

**Alvan H. Tenney** has been appointed manager of market research for Carbide & Carbon. He has been serving as product manager in the fine chemical division in charge of sales and sales development of aryl chemicals. **DeFrance Clarke, Jr.**, has been appointed assistant manager in the fine chemicals division and **David S. Alcorn** has been named product manager for the market development of aryl chemicals in the fine chemicals division.

**Wilson M. Whaley** has left Pabst Brewing Co., where he was assistant director of research, to join General Foods' central laboratories as section head in the scientific development area. **Harold E. Devaney**, formerly with American Cyanamid, has joined the laboratories as assistant technologist in engineering research. Two new assistant technologists in product development are **Aaron B. Koras** and **Emery Polya**.

**Frederic H. Courtenay** has been elected secretary of Federal Chemical Co., and **Clark L. Kelly, Jr.**, has been named assistant treasurer. Courtenay has been working in production and sales, and Kelly has been serving as assistant credit manager.

**Melvin Calvin**, professor of chemistry and director of the bio-organic division of the University of California radiation laboratory, has been chosen to deliver the 1955 Edgar Fahs Smith Memorial Lecture, sponsored each year by the ACS Philadelphia Section and the University of Pennsylvania. The lecture, on the photosynthetic cycle, will be given at the museum of the University of Pennsylvania on March 17.

**Herbert Heesch** has been promoted from field sales supervisor to general sales supervisor for Hooker Electrochemical.

**Warrend B. Stanton** has been named assistant to the manager of Wyandotte Chemical's new products-organic chemicals department, Michigan Alkali Division. He was formerly resident salesman in New England.

**Earle Stevens** has been named vice president and general manager of Durham Chemical Co., Los Angeles. Replacing him in the southern California sales territory is **Fred DeGraw**, formerly with International Minerals.

**Kenneth R. Brown**, vice president of Atlas Powder Co., has been named to receive the 1955 honor award of the Commercial Chemical Development Association for his work in development and marketing of sorbitol and related products.

**Donald Emery**, recent Ph.D. in biochemistry at Purdue, has joined the staff of the food development department at General Mills' research laboratories in Minneapolis.

**Arthur Raven** has been named assistant sales manager for Emulsol Chemical Corp.

**Dwight P. Joyce** has been elected chairman of the board of directors of Glidden Co. He is also the company's president.

**Kenneth R. Newman**, formerly technical director for Beck Vanilla Products Co., has joined the central laboratories of General Foods. Other new staff members there are: **Raymond J. Moshy** and **Eugene P. Bibella**, formerly with Heyden Chemical; and **Clifford H. Spotholz**. **Alina S. Szczesniak** has been promoted from associate technologist to project leader.

### DEATHS

**Richard A. Stegeman**, associate director for development of the food laboratories, Quartermaster Food and Container Institute for the Armed Forces, died Jan. 13 at the age of 42. He joined the food laboratories in 1946 as chief of the dairy, oil and fat products division, after positions with National Starch, Mellon Institute, Pabst Brewing, First National Stores, and Ramsey Laboratories. He had been in charge of the institute's program of developing ration and ration items for all the armed services since 1948.

**F. Elmer Oswald**, president of Pulva Corp., died Jan. 11. He had been associated with the sale and manufacture of pulverizing machinery for 28 years and organized Pulva Corp. in 1949.