



A GOLDEN OPPORTUNITY

CHICAGO FALL MEETING OFFERS RECORD TECHNICAL PROGRAM

THE 38th Fall Meeting of the AOCS will open the Society's third successive record Technical Program on Monday morning, October 12 at the Pick-Congress Hotel, Chicago, Ill. In addition to two outstanding symposia, the 15 sessions will be devoted to Analytical Methods, Biochemistry, Coatings and Drying Oils, Composition, Cruciferae, Nutrition, Processing, Processing Problems, Reactions, Surfactants and Technical Safety. The first of the symposia will consider the subject of obesity, with Roslyn B. Alfin-Slater as Chairman. The second, dedicated to retiring Prof. J. B. Brown, will offer a spectrum of subject matter which vividly exemplifies the diverse fields in which Dr. Brown's students have excelled. These include lipid metabolism, studies on composition, chemistry and physical properties of fatty acid derivatives and new methods of hydrogenation. W. C. Ault, first to receive a doctorate granted under Dr. Brown's supervision, has co-authored two of the papers.

This unusually international Technical Program is presented below, followed by abstracts of the papers numbered to correspond to the program.

MONDAY MORNING, OCTOBER 12, 1964

SESSION A—FLORENTINE ROOM

SYMPOSIUM: OBESITY

Chairman: Roslyn B. Alfin-Slater, School of Public Health, University of California.
Co-Chairman: J. E. Proctor, National Dairy Products Corporation.

1. **Different Types of Obesity** 10:00
*G. A. Reichard, Jr.,** Smith, Kline and French Laboratories.
2. **Some Etiological Factors in Obesity** 10:30
Hans Kaunitz, Columbia University.
3. **Weight Loss and Body Composition** 11:00
H. P. Sarett, Mead-Johnson Research Center.
4. **Alleviation of Obesity** 11:30
Roslyn B. Alfin-Slater, School of Public Health, University of California.

MONDAY MORNING, OCTOBER 12, 1964

SESSION B—PLAZA ROOM

COATINGS AND DRYING OILS

Chairman: J. G. Endres, Armour & Company.

5. **Polyester Amides from Linseed Oil for Protective Coatings** 10:00
L. E. Gast, Wilma J. Schneider and J. C. Cowan, USDA, Northern Regional Research Laboratory.
6. **Water-Resistant, Oil-Based, Intumescent Fire-Retardant Coatings** 10:20
G. A. Verburg, E. T. Rayner, D. A. Yeaton, L. L. Hopper, Jr., L. A. Goldblatt, F. G. Dollear and *H. P. Dupuy,* USDA, Southern Regional Research Laboratory; and *Emil York,* U. S. Army Engineer Research and Development Laboratories.
7. **Isomeric C₁₈ Dienoic Acids from Dehydrated Ricinelaic Acid** 10:40
Wilma J. Schneider and *L. E. Gast,* USDA, Northern Regional Research Laboratory.

* Speakers shown in italics.

8. **Cis-trans Isomerization in Dehydrated Castor Oil Derivatives Determined by GLC** 11:00
J. W. Breakey, Victor Wolf Limited, Manchester, England.

MONDAY AFTERNOON, OCTOBER 12, 1964

SESSION C—FLORENTINE ROOM

SYMPOSIUM HONORING J. B. BROWN

- Opening Remarks 2:00
T. W. Findley, Swift and Company.
9. **Serum Lipoprotein Transport of Exogenous and Endogenous Cholesterol as Influenced by the Nature of Diet Fat** 2:20
Raymond Reiser, Mary F. Sorrels, Betty S. Gibson and *Mary C. Williams,* Texas A & M University; *D. A. Clark* and *F. H. Wilson,* School of Aerospace Medicine, USAF.
10. **Studies on the Composition of Crayfish Lipids** 2:40
D. A. Wolfe, P. V. Rao and *D. G. Cornwell,* Ohio State University.
11. **Branched Chain Fatty Acids and Sulfonated Derivatives** 3:00
W. C. Ault, *T. J. Michich,* A. J. Stirton and *R. G. Bistline, Jr.,* USDA, Eastern Regional Research Laboratory.
12. **Rearrangement of Epoxy Esters to Keto Fatty Esters** 3:20
H. A. Walens, R. P. Koob, W. C. Ault and *G. Maerker,* USDA, Eastern Regional Research Laboratory.
13. **Infrared Absorption Spectra of Methyl Hexenoate Isomers** 3:40
A. F. Mabrouk, Helen M. Peters and *H. J. Dutton,* USDA, Northern Regional Research Laboratory.
14. **Specificity of the Homogeneous Catalyst Penta-cyanocobaltate II** 4:00
A. F. Mabrouk, USDA, Northern Regional Research Laboratory.
15. **Hydrogenation of Linolenate. XII. Effect of Solvents on Selectivity** 4:20
K. Sambasivarao and *H. J. Dutton,* USDA, Northern Regional Research Laboratory.

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SESSION D—LINCOLN ROOM

CRUCIFERAE

Chairman: L. H. Wiedermann, National Dairy Products Corporation.

16. **Search for New Industrial Oils. XIII. Oils from 104 Species of Cruciferae** 2:00
R. W. Miller, F. R. Earle and *I. A. Wolff,* USDA, Northern Regional Research Laboratory.
17. **Content of Chlorophylls and Carotenes in Rape-seed Oil** 2:20
Henryk Niewiadomski, Elzbieta Mossakowska and *Ina Pratkowska,* Gdansk Technical University, Gdansk, Poland.
18. **Crambe: Compositional Differences Among Samples and Between Seed Components** 2:40
F. R. Earle, J. E. Peters and *I. A. Wolff,* USDA, Northern Regional Research Laboratory.



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19. **Methods of Determining Thioglucosides in *Crambe abyssinica* and Related Oilseeds** 3:00
J. E. McGee, L. D. Kirk and G. C. Mustakas, USDA, Northern Regional Research Laboratory.
20. **Strongly Polar and Non-Extractable Lipids of Rapeseed and Other Cruciferae** 3:20
Jan Pokorny, Technical University, Prague; and Ivo Zeman, Fat Research Institute, Utsi, Czechoslovakia.
21. **Prepress-Solvent Extraction of *Crambe*: First Commercial Trial Run of New Oilseed** 3:40
G. C. Mustakas, USDA, Northern Regional Research Laboratory; and G. Kopas and N. Robinson, Pacific Vegetable Oil Corporation.
22. **The Incorporation of Acetate-1-C¹⁴ into Lipid by Systems Derived from Maturing Rape Seeds** 4:00
T. Negishi, Obihiro College, Hokkaido, Japan; and *R. P. A. Sims*, Food Research Institute, Ottawa, Canada.
23. **Flavor and Oxidative Stability of Some Linolenic Acid-Containing Oils** 4:20
Helen A. Moser, C. D. Evans, G. C. Mustakas and J. C. Cowan, USDA, Northern Regional Research Laboratory.
24. **Metabolism of C¹⁴ Labelled Erucic Acid and Neronic Acid in the Rat** 4:40
E. K. Carroll, The University of Western Ontario, London, Ontario.

TUESDAY MORNING, OCTOBER 13, 1964

SESSION E—PLAZA ROOM

PROCESSING

Chairman: R. W. Bates, Armour & Company.

25. **Processing Ironweed Seed, *Vernonia anthelmintica* (L.) Willd** 9:00
C. F. Krewson, C. L. Ogg and F. G. Oelshlegel, USDA, Eastern Regional Research Laboratory; and Reginald Hale and A. H. Hale, Angola Soya Company.
26. **New Pilot Plant Equipment for Mixed Solvent Extraction of Cottonseed** 9:20
E. L. D'Aquin, L. L. Holzenthal, E. A. Gastrock and H. L. E. Vix, USDA, Southern Regional Research Laboratory.
27. **A Simple and Efficient Method for the Recovery of Deodorizer Distillates** 9:40
R. H. Klingerman and *R. W. West*, Elliott Company.
28. **Continuous Recovery of Acid Oil** 10:00
Lois S. Crauer, The De Laval Separator Company.
29. **Engineering and Economic Aspects of Continuous Soapstock Acidulation** 10:20
C. W. Stahle, The De Laval Separator Company.
- 29a. **Continuous and Automatic Saponification of Fatty Acids** 10:40
A. Lanteri, G. Mazzoni S. p. A., Busto Arsizio, Italy. To be presented by *L. J. Monticelli*.

TUESDAY MORNING, OCTOBER 13, 1964

SESSION F—LINCOLN ROOM

COMPOSITION

Chairman: B. L. Gregory, Swift & Company.

30. **Composition and Structure of Phospholipids in Chicken Muscle Tissue** 9:00
C. Y. Peng and L. R. Dugan, Jr., Michigan State University.
31. **Dihydroxy Fatty Acids in the Petroleum Ether Extract of Cardamine impatiens Seed** 9:20
K. L. Mikolajczak, *C. R. Smith, Jr.*, and I. A. Wolff, USDA, Northern Regional Research Laboratory.
32. **Helichrysm Seed Oil. I. Separation and Characterization of Individual Acids** 9:40
R. G. Powell, *C. R. Smith, Jr.* and I. A. Wolff, USDA, Northern Regional Research Laboratory.
33. **An Optically Active Tetraester Triglyceride from the Seed of *Sapium sebiferum*** 10:00
Howard Sprecher, Rene Maier, M. Barber and R. T. Holman, The Hormel Institute.

34. **Cyclopropenoid Fatty Acid Content and Fatty Acid Composition of Crude Cottonseed Oils from Successive Solvent Extractions** 10:20
A. V. Bailey, W. A. Pons, Jr. and E. L. Skau, USDA, Southern Regional Research Laboratory.
35. **Tocopherol Content of Safflower Varieties** 10:40
J. E. Ruckman and A. B. Hill, University of California.
36. **Isolation and Structural Analysis of Flavonol Glycosides from Cottonseed** 11:00
Charles Pratt and Ida E. Dukes, Savannah State College.

TUESDAY MORNING, OCTOBER 13, 1964

SESSION G—FLORENTINE ROOM

BIOCHEMISTRY

Chairman: L. A. Witting, Illinois State College of Medicine.

37. **Radioactivity of Individual Carbons in the Chains of Unsaturated Acids from the Soybean** 9:00
E. M. Stearns, Jr. and F. W. Quackenbush, Purdue University.
38. **Characterization of Unsaturated Fatty Acids by Gas-Liquid Chromatography** 9:20
H. H. Hofstetter, N. Sen and R. T. Holman, The Hormel Institute.
39. **The Fatty Acid Composition of the Lipids from Bovine and Porcine Reproductive Tissues** 9:40
R. T. Holman and H. H. Hofstetter, The Hormel Institute.
40. **Fatty Acid Synthesis in Lactating Rat Mammary Gland** 10:00
J. G. Coniglio and Mark McCalla, Vanderbilt Medical School.
41. **Glyceride Distribution in Depot Fats of Animals** 10:20
R. A. Barford, F. E. Luddy, S. F. Herb and P. Magidman and R. W. Riemenschneider, USDA, Eastern Regional Research Laboratory.
42. **Anatomical Variation in Fatty Acid and Glyceride Type Distribution** 10:40
G. K. Chacko, F. A. Kummerow and E. G. Perkins, University of Illinois.
43. **Dietary Fatty Acid Utilization and Influence on Fatty Acid Biosynthesis** 11:00
N. E. Bottino, R. E. Anderson and Raymond Reiser, Texas A & M University.
- 43a. **The Effect of Varying Dietary Levels of Petroselinic and Linoleic Acids on Body Fat of Mice** 11:20
Frances Hicks, J. M. Bell and B. M. Craig, Prairie Regional Research Laboratory, Saskatoon, Saskatchewan.

TUESDAY AFTERNOON, OCTOBER 13, 1964

SESSION H—FLORENTINE ROOM

BIOCHEMISTRY AND NUTRITION

Chairman: E. G. Perkins, University of Illinois.

44. **Free Radical Lipid Peroxidation Damage: A Deteriorative Pathway in Biological Systems** 2:00
W. T. Roubal, U.S. Bureau of Commercial Fisheries; and A. L. Tappel, University of California.
45. **Comparison of in vitro and in vivo Lipid Peroxidation Reactions** 2:20
L. A. Witting and M. K. Horwitt, University of Illinois College of Medicine.
46. **Kinetics of in vivo Lipid Peroxidation and the Competitive Inhibition by α -Tocopherol** 2:40
L. A. Witting, University of Illinois College of Medicine.
47. **Brain Cholesterol Metabolism as Influenced by Dietary Lipids** 3:00
R. E. Anderson and Raymond Reiser, Texas A & M University.
48. **Effects of Double Bond Configuration in Lecithin Synthesis** 3:20
W. E. M. Lands, University of Michigan.
49. **Studies on the Ethylene Glycol Lipids of Lung** 3:40
Peter Johnson, H. E. Carter and R. K. Yu, University of Illinois.

50. **Lipids of Cancerous Persons** 4:00
Johanna Budwig, Lauterbad, Germany.

TUESDAY AFTERNOON, OCTOBER 13, 1964

SESSION I—PLAZA ROOM

TECHNICAL SAFETY

Chairman: N. H. Moore, N. Hunt Moore and Associates.

Co-Chairman: F. M. Bloomberg, Arkansas Grain Corporation.

51. **Control of Static Electricity in Hazardous Areas** 2:00
 Panel Discussion.
52. **Proper Methods of Dust Control in Hazardous Locations** 2:40
 Panel Discussion.
53. **Proper Methods of Disposing of Waste Process Water from Vegetable Oil Plants** 3:20
 Panel Discussion.

TUESDAY AFTERNOON, OCTOBER 13, 1964

SESSION J—LINCOLN ROOM

REACTIONS

Chairman: R. A. Reek, Armour Industrial Chemical Company.

54. **Epoxidation of Methyl Linoleate. Isolation of the Second Isomer of Methyl 9,12-Diepoxysearate** 2:00
G. Maerker, E. T. Haeberer and S. F. Herb, USDA, Eastern Regional Research Laboratory.
55. **Studies of the Ozonization of Sterculene, cis- and trans-9-octadecene** 2:20
E. C. Nickell and O. S. Privett, The Hormel Institute.
56. **Autoxidation of Fatty Materials in Emulsion. III. Application of GLC and TLC to Studies of Catalytic Autoxidation of Methyl Oleate** 2:40
J. W. Hampson, S. F. Herb and P. Magidman, USDA, Eastern Regional Research Laboratory.
57. **Lipid Oxidation in Flour Doughs** 3:00
J. B. M. Coppock, N. W. R. Daniels and P. W. R. Eggitt, Spillers Limited, Cambridge, England.
58. **Kinetics of the Aminolysis of Hydrogenated Tallow by Allylamine and Other Primary Amines in Methanol** 3:20
E. F. Jordan, Jr., Bohdan Artymyshyn and A. N. Wrigley, USDA, Eastern Regional Research Laboratory.
59. **Synthesis of Some Conjugated cis, cis-Octadecadienoic Acids** 3:40
S. G. Morris, USDA, Eastern Regional Research Laboratory.
60. **Production of Cyclic Fatty Acids: Water as a Reaction Solvent** 4:00
R. E. Beal, R. A. Eisenhauer and V. E. Sohns, USDA, Northern Regional Research Laboratory.
61. **Cocoa Butter-Like Fats by Direct Esterification** 4:20
Betty B. Gajee, N. V. Lovgren and R. O. Feuge, USDA, Southern Regional Research Laboratory.

WEDNESDAY MORNING, OCTOBER 14, 1964

SESSION K—LINCOLN ROOM

REACTIONS

Chairman: R. S. Klonowski, Swift & Company.

62. **Free Radical Addition to Esters of Unsaturated Fatty Acids. Preparation of Dicarboxylic Acids and Other Polyfunctional Products** 9:00
E. T. Roe, Dolores A. Komen, and Daniel Swern, USDA, Eastern Regional Research Laboratory.
63. **Homogeneous Hydrogenation of Methyl Linoleate Catalyzed by Iron Pentacarbonyl** 9:20
E. N. Frankel, E. A. Emken and V. L. Davison, USDA, Northern Regional Research Laboratory.
64. **Homogeneous Hydrogenation of Unsaturated Fats: Metal Acetylacetonates** 9:40
E. A. Emken, E. N. Frankel and R. O. Butterfield, USDA, Northern Regional Research Laboratory.

65. Urethane Foams from Animal Fats. I. Oxyethylated 9,10-Dihydroxystearic Acid 10:00
E. J. Saggese, Marta Zubillaga, A. N. Wrigley and W. C. Ault, USDA, Eastern Regional Research Laboratory.
66. Amines from Aldehydes Derived from the Ozonization of Soybean Oil Products 10:20
D. E. Anders, E. H. Pryde and J. C. Cowan, USDA, Northern Regional Research Laboratory.
67. Nitrosyl Chloride Adducts of Unsaturated Fatty Acid Derivatives 10:40
W. R. Miller, E. H. Pryde, J. C. Cowan and H. M. Teeter, USDA, Northern Regional Research Laboratory.
68. Preparation of N-2-Mercaptoethyl Amides of Fatty Acids—A New Class of Derivatives 11:00
A. W. Schwab, J. A. Stolp, L. E. Gast and J. C. Cowan, USDA, Northern Regional Research Laboratory.
69. Quaternary Pyridinium Salts from Olefins, Pyridine and Chlorine or Bromine 11:20
D. H. Wheeler and J. Gross, General Mills, Incorporated.

WEDNESDAY MORNING, OCTOBER 14, 1964

SESSION L—PLAZA ROOM

PROCESSING PROBLEMS

Chairman: W. J. Lehmann, Swift & Company.

A series of open discussions on practical problems including alkali refining, bleaching, deodorization and other unit processes, has been organized by W. J. Lehman, Swift & Company. Each of these discussions will be led by an individual of wide practical experience on the unit operations involved in the preparation of finished oil from crude. Details will appear in the Official Program.

WEDNESDAY MORNING, OCTOBER 14, 1964

SESSION M—FLORENTINE ROOM

ANALYTICAL METHODS

Chairman: L. D. Metcalfe, Armour Industrial Chemical Company.

70. Polarized Infrared Spectra and Structure of Long Chain Methyl Carboxylates and Methyl Sulfonates 9:00
H. Susi, USDA, Eastern Regional Research Laboratory.
71. Separations by Dielectric Distribution: Theory 9:20
B. C. Black and E. G. Hammond, Iowa State University.
72. Separations by Dielectric Distribution: Application to the Isolation and Purification of Soybean Phosphatides and Bacterial Spores 9:40
B. C. Black and E. G. Hammond, Iowa State University.
73. Determination of Triglyceride Structure via Silver Nitrate-TLC 10:00
M. L. Blank, B. Verdino and O. S. Privett, The Hormel Institute.
- 73a. Paper Chromatography of Higher Esters of Fatty Acids of Sucrose 10:20
Jiri Zajic and Milan Bares, Institute of Chemical Technology, Prague, Czechoslovakia. To be presented by E. A. Reck, Armour Industrial Chemical Company.
74. Simplified Method of Lipase Hydrolysis 10:40
C. D. Evans, E. Panek and D. McConnell, USDA, Northern Regional Research Laboratory.
75. Quantitative Estimation of Isomeric Monoglycerides by Thin-Layer Chromatography 11:00
A. E. Thomas III, J. E. Scharoun and Helma Ralston, Durkee Famous Foods Division, The Glidden Company.
76. The Quantitative Determination of Emulsifiers in Shortening by Gas Chromatography 11:20
W. M. Schwecke and J. H. Nelson, General Mills, Incorporated.
77. Observations of the Response Factors for Thermal Conductivity Detectors in GLC Analysis of Fatty Acids 11:40
S. F. Herb, Paul Magidman and R. W. Riemschneider, USDA, Eastern Regional Research Laboratory.

78. Polarographic Reduction of Unsaturated Conjugated Lipids 12:00
Edwin Kuta, Cornell University.

WEDNESDAY AFTERNOON, OCTOBER 14, 1964

SESSION N—FLORENTINE ROOM

ANALYTICAL METHODS

Chairman: C. W. Hoerr, Durkee Famous Foods.

79. A Rapid Low-Temperature Method for Preparation of Methyl Esters of Fatty Acids 2:00
Gertrude W. McGinnis and L. R. Dugan, Jr., Michigan State University.
80. Direct Conversion to Methyl Esters of Fatty Acids in Biological Materials 2:20
L. R. Dugan, Jr. and Gertrude W. McGinnis, Michigan State University.
81. Properties of Frying Fats. I. The Relationship of Viscosity to the Concentration of NAF 2:40
S. P. Rock and H. Roth, DCA Food Industries, Incorporated.
82. Reactions of Diethylcyclopropene with Silver Nitrate 3:00
H. W. Kircher, University of Arizona.
83. Gas-Liquid Chromatographic Analysis of Cyclopropene Fatty Acids 3:20
P. K. Raju and Raymond Reiser, Texas A & M University.
84. Determination of Aflatoxins in Cottonseed Products 3:40
W. A. Pons, Jr. and L. A. Goldblatt, USDA, Southern Regional Research Laboratory.
85. Assay of Aflatoxin in Peanuts and in Peanut Products Using Acetone-Hexane-Water for Extraction 4:00
J. A. Robertson, Jr., Louise S. Lee, Alva F. Cucullu and L. A. Goldblatt, USDA, Southern Regional Research Laboratory.

WEDNESDAY AFTERNOON, OCTOBER 14, 1964

SESSION O—LINCOLN ROOM

SURFACTANTS

Chairman: E. Jungermann, Armour & Company.

86. Detergent Alcohols. I. The Effect of Alcohol Structure and Molecular Weight on Surfactant Properties 2:00
B. M. Finger, G. A. Gillies, G. M. Hartwig, E. E. Ryder, Jr., and W. M. Sawyer, Shell Development Company. To be presented by Helmut Stupel, Shell International Chemical Company, London, England.
87. The Synthesis and Some Surface Active Properties of Alkylthioalkyl and Alkoxyalkyl Sulfates 2:20
J. R. Livingston, Jr. and Robert Drogin, Esso Research and Engineering Company.
88. The Effect of Surfactants on Germicides and Preservatives 2:40
W. P. Evans, Unilever Research Laboratory, Port Sunlight, England.
89. The Effect of Tallow-Based Detergents on Anaerobic Digestion 3:00
E. W. Maurer, T. C. Cordon, J. K. Weil, M. V. Nuñez-Ponzoa, W. C. Ault and A. J. Stirton, USDA, Eastern Regional Research Laboratory.
90. A Colorimetric Method for the Determination of Parts Per Million of Nonionic Surfactants 3:20
R. A. Greff, E. A. Setzkorn and W. D. Leslie, Continental Oil Company.
91. A Natural Soil and Mechanism of Removal 3:40
Shinichi Tomiyama and Masahide Imori, Lion Fat and Oil Company, Ltd., Tokyo, Japan.
92. Soil Redeposition vs. Deposition Tests in Evaluation of Laundry Detergents 4:00
J. W. Hensley, Wyandotte Chemicals Corporation.
93. A Laboratory Method for Testing Laundry Products for Detergency 4:20
W. G. Spangler, H. D. Cross III and B. R. Schaafsma, Colgate Palmolive Company.
94. Consumer Testing Liquid Syndets. III. Effect of Color and Odor 4:40
K. L. Johnson and H. P. Andrews, Swift and Company.