



# AOCS Annual Meeting Toronto

Sheraton Centre May 2-6, 1982

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## 375 papers to be presented

The technical program for the AOCS 73rd Annual Meeting to be held May 2-6, 1982, in Toronto will feature 56 technical sessions—including three dozen symposia—with approximately 375 presentations by speakers from North America, Latin America, Europe, Asia and Africa.

The tentative schedule from program chairman J.B. Rattray of the University of Guelph includes 10 processing symposia, six on analysis, six on membranes, five on soaps and detergents, five on biochemistry, four on biotechnology, three on proteins, and many others.

The tentative schedule follows this article. Abstracts will be published in the April 1982 *JAOCs*, which will be distributed to all registrants at the Toronto meeting and will serve as the abstracts booklet for the meeting.

The technical program will begin Monday morning with two concurrent introductory sessions, one of which will focus on processing and the other on biochemistry and membranes.

Speakers and topics for the processing session will be: B.F. Brooks, Anderson Clayton Foods, Energy Conserva-

tion and the Fats and Oils Industry; A.T. James, Unilever Research, Biotechnology of Fats and Oils; A.R. Baldwin and R.R. Regutti, Cargill Inc., Vegetable Oils—Production and Processing—Innovations, Current and Future; and L.H. Wiedermann, American Soybean Association consultant, Edible Oils of the Future.

The other introductory session speakers and topics: A. Kuksis, University of Toronto, Lipids Methodology—Chromatography and Beyond; E.A. Emken, USDA Northern Regional Research Center, Biochemistry of Unsaturated Fatty Acid Isomers; D.F.H. Wallach, Tufts University School of Medicine, Membranous Systems and Their Activity—an Overview; and J.J. Kabara, Michigan State University, Biological Role of Fats and Oils.

This program is tentative and there may be some cancellations before the Toronto meeting. Dr. Rattray said persons submitting abstracts after the Nov. 15 deadline were being given the opportunity to present their papers in additional poster sessions. The tentative program includes poster sessions Wednesday morning and afternoon. □

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## Exhibitors listed

Nearly four dozen organizations will participate in the exposition at the AOCS' 73rd Annual Meeting beginning May 2 in Toronto's Sheraton Centre. The firms will occupy more than 60 exhibit booths, providing meeting registrants with the chance to visit with representatives of many of the main suppliers to the fats and oils industries and to see what new equipment and services are available. Participating firms and organizations include:

Applied Science Division of Milton Roy; Artisan Industries; Berico Industries Inc.; Brinkman Instruments; Cambrian Engineering Group Ltd.; Canola Council of Canada; Chemapac Inc.; The Chemithon Corporation; Crown Iron Works Company; CVC Products Inc.

DeSmet USA; Dickey-john Corp.; Duriron Co. Inc.; Eastman Chemical Products; Elliott Automation Co. Inc.; EMI Corporation; Filtrol Corporation; Firing Industries Ltd.; French Oil Mill Machinery Co.; The Foxboro Co.

Groen Division/Dover Corp.; IBM Instruments Inc.; Idrex Inc.; Industrial Filter & Pump Mfg. Co.; Krupp Industri und Stahlbau; National Sunflower Association; Neumunz Inc.; Newman-Howells Associates Ltd.; Novo Laboratories; Nu-Chek-Prep Inc.

Oxford Analytical Instruments Ltd.; Palm Oil Research Institute of Malaysia; Photovac Inc.; POS Pilot Plant Corporation; The Praxis Corporation; Roskamp Mfg. Inc.; L.A. Salomon & Bro. Inc.; Technicon Industrial Systems; The Tintometer Company.

Tramco Metal Products Inc.; Unichema International; UOP Process Division; Wurster & Sanger Inc.; and Zone Devices Company.

As of early December, two booth spaces were still available. AOCS Advertising Director Patrick Graham also was

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# CALL FOR NOMINATIONS

## Ralph H. Potts Memorial Fellowship

The American Oil Chemists' Society is soliciting nominations for the Ralph H. Potts Memorial Fellowship Award, sponsored by Armak. The first annual award is to be presented at the 1982 annual meeting of the American Oil Chemists' Society in Toronto. The award consists of a \$1,000 honorarium and a scroll.

The award is to be presented to a graduate student working in the chemistry of fats and oils or their derivatives. The recipient should be a student in a North American University (USA, Canada, or Mexico). The type of research that will qualify for the award should involve fatty acids and their derivatives, such as long chain alcohols, amines, and other nitrogen compounds.

The research should fall within one of the following categories:

- I. Synthesis
- II. Processing
- III. Utilization
- IV. Characterization

A nomination may be made by any individual; however, it is expected that the nomination will most likely be made by the student's major professor. The nomination must include:

- I. A biographical sketch
- II. A list of patents and publications
- III. Specific identification and evaluation of the work on which the nomination is based
- IV. The name of the school and the major professor

Nominations and inquiries concerning the award should be directed to the Ralph H. Potts Memorial Fellowship Award Committee, American Oil Chemists' Society, 508 South Sixth Street, Champaign, IL 61820.

Five copies of the complete nomination document, including reprints and supplementary material, must be furnished to the Award Committee. **Deadline for nominations: March 31, 1982.**

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accepting applications for any space that might become available through cancellation.

The exhibit will include complimentary coffee services provided by Air Products and Chemicals Inc. A book exhibit also will be held.

The exposition will take place in the Sheraton Centre's Exhibit Hall.

## Six honored students selected

Six graduate students from the United States and Canada have been chosen as AOCS Honored Students for 1982. The Honored Students receive financial support to attend the Toronto meeting to present their papers.

Recipients for 1982, and their topics, will be:

- David E. Agwu, University of Guelph, "The Enhanced Incorporation of Exogenous Arachidonic Acid into Phosphatidylinositol and Phosphatidylcholine of Gerbil Platelets Stimulated with Thrombin." Nominated by B.J. Holub.
- F.J. Bunick, University of Massachusetts, "Oxidative Decomposition Products of Erythrocyte Membrane Lipids." Nominated by W.W. Nawar.
- R.A. Frank, University of Tennessee, "Thyroidal Influence of Hepatic Output and Serum Levels of Rat Apolipoproteins A<sub>I</sub> (Apo A<sub>I</sub>) and E (Apo E)." Nominated by M. Heimberg.

R.O. Ryan, University of Nevada-Reno, "Control of Fatty Acid Chain Length in the Pea *A. Pisum*." Nominated by G.J. Blomquist.

Young-sun Son, University of Maryland, "Phospholipid Composition and Sterol Efflux from L-929 Cells." Nominated by C.E. Holmlund.

R.A. Zoeller, Texas A&M University, "Stearoyl-CoA Desaturase and Fatty Acid Synthetase Activities in Morris Hepatoma 7288C." Nominated by R. Wood.

## Coming in MARCH

A report on the Conference on Dietary Fats and Health, sponsored by the American Oil Chemists' Society, December 6-11, 1981, in Chicago.

# Technical sessions

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## Monday, May 3

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### 9:00 a.m.—Theatre 2

#### SESSION 1—Introductory Session A

**Chairpersons:** K.K. Carroll, University of Western Ontario and E.G. Perkins, University of Illinois, Urbana, IL

- 9:00 1. LIPID METHODOLOGY—CHROMATOGRAPHY AND BEYOND. A. Kuksis, University of Toronto, Toronto, Ont.
- 9:45 2. BIOCHEMISTRY OF UNSATURATED FATTY ACID ISOMERS. E.A. Emken, Northern Regional Research Center, Peoria, IL.
- 10:30 3. MEMBRANOUS SYSTEMS AND THEIR ACTIVITY—AN OVERVIEW. D.F.H. Wallach, Tufts University School of Medicine, Boston, MA.
- 11:15 4. BIOLOGICAL ROLE OF FATS AND OILS. J.J. Kabara, Michigan State University, East Lansing, MI.

### 9:00 a.m.—Theatre 1

#### SESSION 2—Introductory Session B

**Chairpersons:** F.C. Naughton, N.L. Industries, Hightstown, NJ, and B.F. Teasdale, Canada Packers Inc., Toronto, Ont.

- 9:00 5. ENERGY CONSERVATION AND THE FATS AND OILS INDUSTRY. B.F. Brooks, Anderson Clayton Foods, Richardson, TX.
- 9:45 6. BIOTECHNOLOGY OF FATS AND OILS. A.T. James, Unilever Research, Sharnbrook, Bedford, United Kingdom.
- 10:30 7. VEGETABLE OILS—PRODUCTION AND PROCESSING—INNOVATIONS—CURRENT AND FUTURE. A.R. Baldwin and R.R. Regutti, Cargill Inc., Minneapolis, MN.
- 11:15 8. EDIBLE OILS OF THE FUTURE. L.H. Wiedermann, American Soybean Association, Singapore.

### 2:00 p.m.—Dufferin

#### SESSION 3—General: Biochemistry I—Enzyme Systems

**Chairperson:** To be named.

- 2:00 9. DETERMINATION OF LIPASE SPECIFICITIES. R.G. Jensen and F.A. Dejong, University of Connecticut, Storrs, CT.
- 2:30 10. ENZYMIC FAT SPLITTING WITH LIPASE FROM *CANDIDA CYLINDRACEA*. W. Linfield, Eastern Regional Research Center, Philadelphia, PA.
- 2:50 11. POSITION SPECIFICITY AND CONTROL OF LIPOLYSIS IN CASTOR BEAN. R.L. Ory and A.J. St. Angelo, Southern Regional Research Center, New Orleans, LA.
- 3:10 12. CONTROL OF FATTY ACID CHAIN LENGTH IN THE PEA APHID *A. PISUM*. R.O. Ryan, M. de Renobales and G.J. Blomquist, University of Nevada, Reno, NV.
- 3:30 13. STEAROYL-CoA DESATURASE AND FATTY ACID SYNTHETASE ACTIVITIES IN MORRIS HEPATOMA 7288C. R.A. Zoeller and R. Wood, Texas A&M University, College Station, TX.
- HONORED STUDENT PRESENTATION.**

- 3:50 14. EFFECT OF DIETARY SUCROSE AND GLUCOSE ON FATTY ACID ACYL DESATURASE ACTIVITIES IN THE RAT LIVER. R. De Schrijver, University of Ghent, Merelbeke, Belgium, and O.S. Privett, The Hormel Institute, Austin, MN.
- 4:10 15. N-ACYLATION OF ETHANOLAMINE PHOSPHOLIPIDS IN NORMAL AND INFARCTED CANINE MYOCARDIUM: A NEW PATHWAY OF MAMMALIAN PHOSPHOLIPID METABOLISM. P.V. Reddy, V. Natarajan, P.C. Schmid and H.H.O. Schmid\*, The Hormel Institute, Austin, MN.

### 2:00 p.m.—Civic Ballroom

#### SESSION 4—Symposium: Gas Chromatography: State of the Art in 1982

**Organizer:** R.G. Ackman, Technical University of Nova Scotia, Halifax, N.S.

**Chairpersons:** R.G. Ackman (presiding) and J. Joseph, National Marine Fisheries Service, Charleston, SC.

- 2:00 16. GAS LIQUID CHROMATOGRAPHY AS A REGULATORY TOOL IN THE LIPID AREA. A.J. Sheppard, T.S. Rudolf and C-S.J. Shen\*, Food and Drug Administration, Washington, DC.
- 2:30 17. USE OF GAS LIQUID CHROMATOGRAPHY FOR MONITORING THE FATTY ACID COMPOSITION OF CANADIAN RAPESEED. J.K. Daun and P.B. Mazur, Canadian Grain Research Laboratory, Winnipeg, Man.
- 3:00 18. RAPID FOOD ANALYSIS WITH CAPILLARY COLUMNS. H.T. Slover and R.H. Thompson, Jr., United States Department of Agriculture, Beltsville, MD.
- 3:30 19. FATTY ACIDS OF ENDANGERED MARINE TURTLES: A PROBLEM IN SPECIATION. J.D. Joseph and G.T. Seaborn, National Marine Fisheries Service, Charleston, SC.
- 4:00 20. GAS CHROMATOGRAPHY OF HALOGENATED LIPIDS. H.B.S. Conacher, J.F. Lawrence and R.K. Chadha, Health & Welfare Canada, Ottawa, Ont.
- 4:30 21. THE GAS CHROMATOGRAPHY OF COMMERCIAL FATTY ACID DERIVATIVES. L.D. Metcalfe, A.A. Schmitz\* and C.N. Wang, Arma Company, McCook, IL.
- 5:00 22. ADVANCES IN GAS LIQUID CHROMATOGRAPHY ON CAPILLARY COLUMNS. A.A. Spark, Fishing Industry Research Institute, Rondebosch, South Africa, and V. Pretorius, Institute for Chromatography, Pretoria, South Africa.

### 2:00 p.m.—Algoma

#### SESSION 5—Symposium: Structure of Membranous Systems

**Organizer:** D.O. Tinker, University of Toronto, Toronto, Ont.

**Chairpersons:** D.O. Tinker (presiding) and R.P. Rand, Brock University, St. Catharines, Ont.

- 2:00 23. X-RAY DIFFRACTION AND CALORIMETRIC STUDIES OF LIPIDS AND MEMBRANES. G. Graham Shipley, Boston University School of Medi-

- cine, Boston, MA.
- 2:30 24. LIPID POLYMORPHISM AND MEMBRANE FUNCTION. P.R. Cullis, University of British Columbia, Vancouver, B.C.
- 3:00 25. THE EFFECT OF BILAYER CURVATURE ON SYSTEM PROPERTIES. T.E. Thompson, University of Virginia, Charlottesville, VA.
- 3:30 26. MODELS OF BILAYER PHASE TRANSITION IN RELATION TO THERMODYNAMIC AND STRUCTURAL MEASUREMENTS. V.A. Parsegian, National Institutes of Health, Bethesda, MD, and R.P. Rand, Brock University, St. Catharines, Ont.
- 4:00 27. THE RELATIONSHIP BETWEEN MEMBRANE LIPID FLUIDITY AND PHASE STATE AND ATPase ACTIVITY IN *ACHOLEPLASMA LAIDLAWII*. B. J.R. Silvius and R.N. McElhaney, University of Alberta, Edmonton, Alta.
- 4:30 28. THERMOTROPIC PHASE TRANSITIONS OBSERVED IN NORMAL HUMAN MYELIN BY MICROCALORIMETRY. M.A. Moscarello, Hospital for Sick Children, Toronto, Ont.

**2:00 p.m.—Grand Ballroom East**

**SESSION 6—Symposium: The Chemistry of Flavor Stability**

**Organizer: W.W. Nawar, University of Massachusetts, Amherst, MA.**

**Chairpersons: W.W. Nawar (presiding) and T.H. Smouse, Ralston Purina Co., St. Louis, MO.**

- 2:00 29. OBJECTIVE INSTRUMENTAL ANALYSES OF FLAVOR STABILITY IN OIL. D.B. Min, Ohio State University, Columbus, OH.
- 2:30 30. VOLATILE LIPID OXIDATION PRODUCTS. E.N. Frankel, Northern Regional Research Center, Peoria, IL.
- 3:00 31. MECHANISM FOR THE DEVELOPMENT OF REVERSION FLAVOR IN SOYBEAN OIL. S.S. Chang and C.-T. Ho, Rutgers, The State University, New Brunswick, NJ.
- 3:30 32. LIPID DECOMPOSITION AND FLAVOR STABILITY OF IRRADIATED AND HEATED FOODS. A. Witchwood and W.W. Nawar, University of Massachusetts, Amherst, MA.
- 4:00 33. COMPARATIVE ANALYSIS OF COMMERCIAL SOY ISOLATES' VOLATILE FLAVOR COMPOSITIONS. S.S. Lin, Anderson Clayton Foods, Richardson, TX.
- 4:30 34. OLIVE OIL FLAVOR AND TECHNOLOGY. E. Fedeli, Stazione Sperimentale Oli e Grassi, Milan, Italy.

**2:00 p.m.—Dominion Ballroom North**

**SESSION 7—Symposium: Biotechnological Procedures**

**Organizer: P.S.S. Dawson, National Research Council Canada, Saskatoon, Sask.**

**Chairperson: P.S.S. Dawson.**

- 2:00 35. THE CULTIVATION OF CELLS—MOST CRUCIAL PROCEDURE IN BIOTECHNOLOGY. P.S.S. Dawson, National Research Council Canada, Saskatoon, Sask.
- 2:30 36. GENETICS AND BIOTECHNOLOGY. S.T. Kellogg, Bethesda Research Laboratories, Gaithersburg, MD.
- 3:00 37. IMMOBILIZED CELLS—A PROCESS IN BIOTECHNOLOGY. I.A. Veliky, National Research Council Canada, Ottawa, Ont.
- 3:30 38. RECENT ADVANCES IN DESIGNS OF BIOLOGICAL REACTORS. H.R. Bungay, Rensselaer Polytechnic Institute, Troy, NY.
- 4:00 39. THE DEVELOPMENT OF COMPUTERIZED PROCESS CONTROL FOR INDUSTRIAL SOLVENT BIOSYNTHESIS FROM RENEWABLE RESOURCES. R.J. Neufeld, B. Volesky, A. Mulchandani, D. St-Onge, L.J. Vrooman, Sr., and L. Vrooman, Jr., McGill University, Montreal, Que.

- 4:30 40. POSSIBLE INDUSTRIAL APPLICATIONS OF BIOTECHNOLOGY. N. Kosaric, University of Western Ontario, London, Ont.

**2:00 p.m.—Grand Ballroom Centre**

**SESSION 8—Symposium: Extraction Processes**

**Organizer: D.K. Loewen, CSP Foods Ltd., Saskatoon, Sask.**

**Chairperson: D.K. Loewen.**

- 2:00 41. PHILOSOPHY AND CONCEPT OF DESIGN OF OIL MILLS FROM AN OPERATING PERSPECTIVE. D.S. Hopkins, CSP Foods Ltd., Saskatoon, Sask.
- 2:30 42. THE PREPRESSING OF RAPESEED AND SUNFLOWER. J. Davie, Simon Rosedowns Limited, Hull, United Kingdom.
- 3:00 43. THE EFFECT OF RAPESEED FINES ON THE PROCESSING OF CANOLA OIL. M.D. Pickard, CSP Foods Ltd., Saskatoon, Sask.
- 3:30 44. VPEX—A NEW OIL EXTRACT PROCESS. W. Stein, Krupp Industrie, Hamburg, Germany.
- 4:00 45. SUPERCRITICAL EXTRACTION OF VEGETABLE OIL SEEDS. N.R. Bulley, M. Fattori and A. Meisen, University of British Columbia, Vancouver, B.C.
- 4:30 46. MEAL DESOLVENTIZING AND FINISHING. A. Lebrun, M. Knott and G.L. Posschelle\*, De Smet USA Corporation, Atlanta, GA.

**2:00 p.m.—Grand Ballroom West**

**SESSION 9—Symposium: Instrumentation and the Fats and Oils Industry**

**Organizer: J.B. Yeates, Archer Daniels Midland Company, Lincoln, NE.**

**Chairperson: J.B. Yeates.**

- 2:00 47. AUTOMATED SOLID FAT CONTENT MEASUREMENT. M. Matlock, Archer Daniels Midland Co., Decatur, IL.
- 2:30 48. FLOW MEASUREMENT AND METERING IN THE FATS AND OILS INDUSTRY. M.R. Conran, Conran & Co., Bloomington, IL.
- 3:00 49. HYDROGEN PLANT INSTRUMENTATION. R.G. Daniel, Technical Services Hydrogen, Inc., Doraville, GA.
- 3:30 50. BOILER INSTRUMENTATION AND CONTROL TODAY MUST SAVE FUEL. H. Buntzel, Jr., and J. Pridmore, The Syconex Corporation, Houston, TX.
- 4:00 51. INSTRUMENTATION IN VEGETABLE OIL PROCESSING. W.E. Farr, Anderson Clayton & Company, Houston, TX.
- 4:30 52. PROCESS MANAGEMENT AND CONTROL TRENDS IN THE VEGETABLE OIL INDUSTRY. J.E. Blanchard, The Foxboro Company, Foxboro, MA.

**2:00 p.m.—Dominion Ballroom South**

**SESSION 10—General: Processing**

**Chairperson: J.-P. Helme, Lesieur Cotelle et Associes, Boulogne Billancourt, France.**

- 2:00 53. RAPESEED OIL EXTRACTION BY WET MILLING. L.L. Diosady, L.J. Rubin, N. Ting and O. Trass, University of Toronto, Toronto, Ont.
- 2:20 54. NEW LOOK AT ISOPROPYL ALCOHOL AS AN OILSEED EXTRACTION SOLVENT. D.A. Sullivan, Shell Development Company, Houston, TX, and L.A. Johnson, Texas A&M University, College Station, TX, and L.R. Watkins, Anderson Clayton and Co., Houston, TX.
- 2:40 55. DEVELOPMENT OF A PILOT-PLANT PROCESS FOR THE EXTRACTION OF SOY FLAKES WITH AQUEOUS ISOPROPYL ALCOHOL. E.C. Baker,

- Northern Regional Research Center, Peoria, IL.
- 3:00 56. VIBRATION IN THE FLAKING MILLS. J. Bauermeister, Hermann Bauermeister G.m.b.H., Hamburg, Germany.
- 3:20 57. PHYSICAL REFINING OF EDIBLE OIL. D.C. Tandy and W.J. McPherson, EMI Corporation, Des Plaines, IL.
- 3:40 58. AN UPDATE ON FOOD FATS FROM PALM OIL. P. Kalustian, Peter Kalustian Associates, Inc., Boonton, NJ.
- 4:00 59. FRACTIONATION OF PALM OIL BY DENSITY GRADIENTS. A.S.H. Ong, Palm Oil Research Institute of Malaysia, Kuala Lumpur, Malaysia, P.L. Boey, C.C. Chuah and C.M. Ng, Universiti Sains Malaysia.
- 4:20 60. FACTORS INFLUENCING THE INTERESTERIFICATION AND FRACTIONATION OF PALM OIL. Y. Kakuda and J. Huertas, University of Guelph, Ont.
- 4:40 61. PLANT STEROLS IN FATS AND OILS PROCESSED IN THE UNITED STATES. S.L. Melton and T. Plerksophon, University of Tennessee, Knoxville, TN.

2:00 p.m.—Essex

**SESSION 11—Special: Soaps and Detergents I—Surface Chemistry**

**Chairperson: D. Goddard, Union Carbide Company, Tarrytown, NY.**

- 2:00 62. REPULSIVE VAN DER WAALS INTERACTIONS AND THEIR POSSIBLE APPLICATION IN TECHNOLOGICAL PROCESSES. A.W. Neumann and D.R. Absolom, University of Toronto, Toronto, Ont., C.J. van Oss, State University of New York, Buffalo, NY, S.N. Omenyi and W. Zingg, University of Toronto, Toronto, Ont.
- 2:25 63. DIFFUSION OF AMPHIPHILES IN ORGANIC SOLIDS: I. THEORY FOR MEASURING DIFFUSION CONSTANT OF SURFACTANTS IN ORGANIC HOUSEHOLD SOILS. J.A. Wingrave, Conoco Inc., Ponca City, OK.
- 2:45 64. FACTORS AFFECTING THE INTERFACIAL TENSION OF MIXED SURFACTANT SYSTEMS. K.W. Dillan and G.C. Johnson, Union Carbide Corporation, Tarrytown, NY.
- 3:05 65. SYNERGISM IN BINARY MIXTURES OF SURFACTANTS. M.J. Rosen, City University of New York, Brooklyn, NY, and X.-Y. Hua, Ministry of Light Industries, People's Republic of China.
- 3:25 66. APPROACH TO A FUNDAMENTAL MEASUREMENT OF FOAM STABILITY OF SURFACTANT SOLUTIONS. S. Ross, Rensselaer Polytechnic Institute, Troy, NY, and G. Nishioka, Owens Corning Fiberglass, Granville, OH.
- 3:45 67. A RADIOCHEMICAL STUDY OF THE SELECTIVE SORPTION OF ETHOXYLATED SURFACTANTS TO SURFACES. L.S. Smith and W.T. Shebs, Shell Development Company, Houston, TX.
- 4:05 68. THERMODYNAMICS OF SURFACTANT SOLUTIONS. S. Ross, Rensselaer Polytechnic Institute, Troy, NY, and I.D. Morrison, Xerox Corporation, Webster, NY.
- 4:25 69. DEPENDENCE OF SUSPENSION STABILITY ON PARTICLE INTERACTION FORCES. D.R. Absolom, University of Toronto, Toronto, Ont., S.N. Omenyi and R.S. Snyder, NASA, Huntsville, AL, C.J. van Oss, SUNY, Buffalo, NY, and A.W. Neumann, University of Toronto, Ont.
- 4:45 70. THE TESTING OF SURFACE TENSION THEORIES. J.K. Spelt, D.R. Absolom, M.R. Soulard and A.W. Neumann, University of Toronto, Toronto, Ont.

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**Tuesday, May 4**

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9:00 a.m.—Dufferin

**SESSION 12—Special: Chemistry of Unsaturated Fatty Acids and Derivatives**

**Organizer: T.A. Foglia, Eastern Regional Research Center, Philadelphia, PA.**

**Chairperson: T.A. Foglia.**

- 9:00 71. SYNTHESIS AND ANALYSIS OF GEOMETRICAL AND POSITIONAL OCTADECENOATE ISOMERS. R. Wood, M. Ahmad, T. Lee and R. de Antueno, Texas A&M University, College Station, TX.
- 9:30 72. SYNTHESIS AND CHARACTERIZATION OF ALL THE GEOMETRICALLY ISOMERIC, METHYL 9, 12- AND 12,15-OCTADECADIENOATES AND 9,12,15-OCTADECATRIENOATES. H. Rakoff and E.A. Emken, Northern Regional Research Center, Peoria, IL.
- 10:00 73. THE ORGANIC SYNTHESIS OF RADIOACTIVE FATTY ACIDS AND THEIR CONVERSION TO PROSTAGLANDINS. H. Sprecher, Ohio State University, Columbus, OH.
- 10:30 74. OPPORTUNITIES IN FATTY ACID CHEMISTRY THROUGH DOUBLE AND TRIPLE BOND MIGRATIONS. L.S. Silbert, Eastern Regional Research Center, Philadelphia, PA.
- 11:00 75. ACID-CATALYZED DECOMPOSITION OF LINOLEIC ACID HYDROPEROXIDE. H.W. Gardner and E.C. Nelson, Northern Regional Research Center, Peoria, IL.
- 11:20 76. OXIDATIVE DEGRADATION OF (Z,Z)-3,13-OCTADECADIEN-1-YL ACETATE IN FIELD AND LABORATORY AGING EXPERIMENTS. M.A. Golub, N. Alves, C.E. Yonce and J. Weatherston, Albany International, Needham Heights, MA.

9:00 a.m.—Algoma

**SESSION 13—Symposium: Nuclear Magnetic Resonance of Lipids and Membranes**

**Organizer: I.C.P. Smith, National Research Council Canada, Ottawa, Ont.**

**Chairpersons: I.C.P. Smith (presiding) and T.F. Conway, Corn Products, Summit-Argo, IL.**

- 9:00 77. <sup>1</sup>H NMR OF MEMBRANES. A.L. MacKay, University of British Columbia, Vancouver, B.C.
- 9:30 78. DEUTERIUM NMR IN MEMBRANE RESEARCH. I.C.P. Smith, National Research Council Canada, Ottawa, Ont.
- 10:00 79. <sup>13</sup>C NMR OF MEMBRANES AND COMPLEX LIPIDS. J.H. Prestegard, Yale University, New Haven, CT.
- 10:30 80. CHARACTERIZATION OF MEMBRANE ORGANIZATION BY <sup>31</sup>P NMR. H.C. Jarrell, R.A. Byrd, R. Deslauriers and I.C.P. Smith, National Research Council Canada, Ottawa, Ont.
- 11:00 81. MORPHOLOGY OF NONLAMELLAR PHOSPHOLIPID STRUCTURES AND IMPLICATIONS FOR BIOLOGICAL MEMBRANE FUNCTION. P.L. Yeagle, A. Albert and K. Ferguson, State University of New York, Buffalo, NY, and S.W. Hui and T. Stewart, Rosewell Park Memorial Institute, Buffalo, NY.
- 11:30 ROUND TABLE DISCUSSION.

9:00 a.m.—Dominion Ballroom South

**SESSION 14—General: Biochemistry II—Lipoproteins and Membranes**

**Chairperson: To be named.**

- 9:00 82. LIPID-PROTEIN INTERACTIONS IN RECONSTITUTED MODEL LIPOPROTEINS. D.J. Vaughan,

- General Foods Ltd., Cobourg, Ont., W.C. Breckenridge, Dalhousie University, Halifax, N.S., and N.Z. Stanacev, University of Toronto, Toronto, Ont.
- 9:20 83. INTERACTIONS BETWEEN PHOSPHATIDYLCHOLINE VESICLES AND BASIC POLYPEPTIDES OR PROTEINS. I.M. Campbell and A.B. Pawagi, University of Toronto, Westhill, Ont.
- 9:40 84. THYROIDAL INFLUENCE OF HEPATIC OUTPUT AND SERUM LEVELS OF RAT APOLIPOPROTEINS A<sub>1</sub> (APO A<sub>1</sub>) and E (APO E). R.A. Frank, H.G. Wilcox and M. Heimberg, University of Tennessee, Memphis, TN.
- HONORED STUDENT PRESENTATION.**
- 10:00 85. INTERACTION OF LIPIDS WITH *E. COLI* MEMBRANES AND INTESTINAL BRUSH BORDER MEMBRANES. P. Proulx, University of Ottawa, Ottawa, Ont.
- 10:20 86. LOCAL ANESTHETIC EFFECTS ON CELL MEMBRANE. R.C. Aloia, Loma Linda University Medical Center, Loma Linda, CA, W. Mlekusch, University of Graz, Graz, Austria, and D.D. Gallo, Loma Linda University Medical Center.
- 10:40 87. OXIDATIVE DECOMPOSITION PRODUCTS OF ERYTHROCYTE MEMBRANE LIPIDS. F.J. Bunick and W.W. Nawar, University of Massachusetts, Amherst, MA.
- HONORED STUDENT PRESENTATION.**
- 11:00 88. THE ENHANCED INCORPORATION OF EXOGENOUS ARACHIDONIC ACID INTO PHOSPHATIDYLINOSITOL AND PHOSPHATIDYLCHOLINE OF GERBIL PLATELETS STIMULATED WITH THROMBIN. D.E. Agwu, B.J. Holub, I.B. Johnstone and S. Crane, University of Guelph, Ont.
- HONORED STUDENT PRESENTATION.**
- 11:20 89. ETHER-LINKED HOMOSERINE LIPID AS A CONSTITUENT OF THE PHOTOSYNTHETIC MEMBRANE IN THE GREEN PLANT CELL. D.R. Janero, Johns Hopkins University School of Medicine, Baltimore, MD.
- 11:40 90. POSSIBLE ROLE OF NEUTRAL LIPIDS IN COLD HARDENING OF CITRUS TREES. H.E. Nordby and G. Yelenosky, U.S. Citrus & Subtropical Products Laboratory, Winter Haven, FL.
- 12:00 91. LIPOGENESIS AND MEMBRANE BIOGENESIS IN THE EUKARYOTIC CELL CYCLE. D.R. Janero, Johns Hopkins University School of Medicine, Baltimore, MD.
- 12:20 92. SYNTHESIS AND PHYSICAL PROPERTIES OF CEREBROSIDE SULFATE CONTAINING  $\alpha$ -HYDROXY-PALMITIC ACID AND PALMITIC ACID. K.M. Koshy and J.M. Boggs, Hospital for Sick Children, Toronto, Ont.

**9:00 a.m.—Dominion Ballroom North**

**SESSION 15—Symposium: Lipophilic Xenobiotics**

**Organizer: R. Frank, Ontario Ministry of Agriculture and Food, Guelph, Ont.**

**Chairpersons: R. Frank (presiding) and S. Safe, Texas A&M University, College Station, TX.**

- 9:00 93. CHANGING PRACTICES AND CHANGING RESIDUES IN ANIMAL FATS AND PLANT OILS. R. Frank, Ontario Ministry of Agriculture and Food, Guelph, Ont.
- 9:30 94. DETERMINATION OF ORGANOHALOGEN PESTICIDES IN VEGETABLE OIL BY-PRODUCTS. S.J. Young, M. Clower, Jr., J.A.G. Roach and D. Firestone\*, Food and Drug Administration, Washington, DC.
- 10:00 95. LIPOPHILIC CONTAMINANTS IN THE GREAT LAKES ECOSYSTEM. R.L. Thomas, Canada Centre for Inland Waters, Burlington, Ont.
- 10:30 96. THE "PBB" EPISODE IN MICHIGAN. M.E. Zabik,

- Michigan State University, East Lansing, MI.
- 11:00 97. DYNAMICS OF DIOXINS AS IT PERTAINS TO INDICATORS OF POLLUTION. J.R. Roberts and M.J. Boddington, National Research Council Canada, Ottawa, Ont.
- 11:30 98. GLOBAL OVERVIEW OF LEGISLATION AIMED AT CONTROL OF CONTAMINANTS AND PESTICIDE RESIDUES IN FATS AND OILS. B.L. Smith, Health and Welfare Canada, Ottawa, Ont.

**9:00 a.m.—Grand Ballroom West**

**SESSION 16—Special: Degumming, Refining and Bleaching**

**Organizer: R.A. Carr, Canbra Foods Limited, Lethbridge, Alta.**

**Chairpersons: R.A. Carr (presiding) and E.G. Latondress, Davy McKee Corporation, Chicago, IL.**

- 9:00 99. ENERGY SAVING TECHNIQUES IN CONTINUOUS DEGUMMING AND REFINING. E.G. Latondress, Davy McKee Corporation, Chicago, IL.
- 9:30 100. CURRENT PRACTICES IN CONTINUOUS COTTONSEED MICELLA REFINING. W.B. Hendrix, Sullivan Systems Inc., Larkspur, CA.
- 10:00 101. FIELD EVALUATION OF EXTRACTION PERFORMANCE. E.D. Milligan and D.C. Tandy, EMI Corporation, Des Plaines, IL.
- 10:30 102. USE OF Y-ZEOLITE/CLAY BLENDS IN THE BLEACHING OF VEGETABLE OILS. D.R. Taylor, C.B. Ungermann and Z. Demidowicz, Filtrol Corp., Los Angeles, CA.
- 11:00 103. CANOLA OIL DEGUMMING. L.L. Diosaday, University of Toronto, Toronto, Ont., P. Sleggs and T. Kaji, The Cambrian Engineering Group Ltd., Mississauga, Ont.
- 11:30 ROUND TABLE DISCUSSION.

**9:00 a.m.—Grand Ballroom East**

**SESSION 17—Symposium: Energy Conservation and the Fats and Oils Industry**

**Organizer: B.F. Brooks, Anderson Clayton Foods, Richardson, TX.**

**Chairperson: B.F. Brooks.**

- 9:00 104. PRACTICAL PROCEDURES FOR AUDITING INDUSTRIAL BOILER PLANTS. K. Allison, Nabisco Inc., East Hanover, NJ.
- 9:30 105. MAKING YOUR STEAM SYSTEM MORE EFFICIENT. J.A. Kremers, Armstrong Machine Works, Three Rivers, MI.
- 10:00 106. IN-USE ENERGY EFFICIENT MOTOR OPERATION. G.W. Willis and B.K. Colburn, Entek Associates Inc., College Station, TX.
- 10:30 107. ADJUSTABLE SPEED DRIVES AS APPLIED TO CENTRIFUGAL PUMPS. J.C. Conzett, J.D. Robcheck and R.L. Mervis\*, Reliance Electric Co., Cleveland, OH.
- 11:00 108. COOLING TOWERS AND ENERGY CONSERVATION: PRACTICAL APPLICATIONS. R. Burger, Burger Associates Inc., Dallas, TX.
- 11:30 109. A NEW DEODORIZER CONCEPT OPTIMIZING ENERGY RECOVERY AND FLEXIBILITY. W.R. Raes, Extraction De Smet NV, Antwerp, Belgium.

**9:00 a.m.—Grand Ballroom Centre**

**SESSION 18—Special: Rheology of Food Products**

**Organizer: J.M. deMan, University of Guelph, Guelph, Ont.**

**Chairperson: J.M. deMan.**

- 9:00 110. CONSISTENCY OF FATS. J.M. deMan, University of Guelph, Guelph, Ont.
- 9:30 111. RHEOLOGY AND MICROSTRUCTURE OF MAYONNAISE. M.A. Christman, J.H. Guth, D.N. Holcomb\*, W.M. Loris and F.J. Sasevich, Kraft Inc., Glenview, IL.
- 10:00 112. MELTING POINT DETERMINATION OF FATS.

- J.M. deMan, University of Guelph, Guelph, Ont., and L. deMan, Food Specialties Co. Ltd., Ajax, Ont.
- 10:30 113. ASSESSMENT OF SELECTED TEXTURAL CHARACTERISTICS OF TABLE SPREADS. B. Vane and M. Vaisey-Genser, University of Manitoba, Winnipeg, Man.
- 10:50 114. TEXTURIZATION AND OPTIMIZATION OF SOY CHEESE. A.H. Chen, Anderson Clayton Foods, Richardson, TX, J.W. Larkins, Michigan State University, East Lansing, MI, and Y.C. Jao, Miles Laboratories, Inc., Elkhart, IN.

**9:00 a.m.—Civic Ballroom**

**SESSION 19—Symposium: Sunflower Seed and Products I**  
**Organizer: W.E. Sackston, McGill University, Montreal, Que., and A. Uzzan, Institut des Corps Gras, Paris, France.**  
**Chairpersons: W.E. Sackston (presiding) and A. Uzzan.**

- 9:00 115. SUNFLOWER PERFORMANCE—AGRONOMIC ASPECTS. A.J. Jarvi, Cargill Inc., Fargo, ND.
- 9:30 116. DISEASE PROBLEMS OF SUNFLOWER. W.E. Sackston, McGill University, Montreal, Que.
- 10:00 117. GENETICS AND BREEDING OF SUNFLOWER. G.N. Fick, Sigco Research, Breckenridge, MN.
- 10:30 118. INSECT PROBLEMS OF SUNFLOWER. A. Arthur, Agriculture Canada, Saskatoon, Sask.
- 11:00 119. SUNFLOWER MEAL AND HULLS UTILIZATION. E.W. Lusas, Texas A&M University, College Station, TX.
- 11:30 120. THE NUTRITIONAL, FUNCTIONAL AND ORGANOLEPTIC PROPERTIES OF SUNFLOWER PROTEINS. F.W. Sosulski, University of Saskatchewan, Saskatoon, Sask.

**9:00 a.m.—Essex**

**SESSION 20—General: Soaps and Detergents II—Performance and Evaluation**

**Chairperson: J. Hockey, Lever Brothers Company, Edgewater, NJ.**

- 9:00 121. EFFECTS OF CARBON CHAIN AND PHENYL ISOMER DISTRIBUTION ON THE USE PROPERTIES OF LINEAR ALKYL BENZENE SULFONATE—A COMPARISON STUDY OF "HIGH" AND "LOW" 2-PHENYL LAS HOMOLOGS. K.L. Matheson and T.P. Matson, Conoco Inc., Ponca City, OK.
- 9:20 122. AN INTELLIGENT WASHING MACHINE FOR THE EVALUATION OF LAUNDRY DETERGENTS. J.R. Trowbridge, Colgate-Palmolive Company, Piscataway, NJ.
- 9:40 123. RELATIONSHIP OF NONPOLAR SOIL DETERGENCY WITH CLOUD POINTS AND SOLUBILIZATION RATES FOR ALCOHOL ETHOXYLATE SURFACTANTS. H.L. Benson, Shell Development Company, Houston, TX.
- 10:00 124. HEAVY-DUTY LIQUID DETERGENTS. J. Palicka, Nordtend AB, Stockholm, Sweden.
- 10:20 125. IMPROVED PRODUCTIVITY OF A RADIO-TRACER DETERGENCY METHOD BY INCREASED AUTOMATION. W.T. Shebs, J.G. Rankin, C.F. Incaprera and K.H. Herndon, Shell Development Company, Houston, TX.
- 10:40 126. CORRELATION BETWEEN THE COLORIMETRIC TRISTIMULUS METHOD (LAB) AND A METHOD USING RADIOTRACERS TO DETERMINE DETERGENCY. H.J. Sepúlveda and R. Castanedo, Fábrica de Jabón La Corona, SA, Mexico, Mexico.
- 11:00 127. DEVELOPMENT OF A DUAL SWATCH FOR EVALUATING LAUNDRY DETERGENCY BY RADIOTRACER AND REFLECTANCE MEASUREMENTS. L. Kravetz and W.T. Shebs, Shell Development Company, Houston, TX.
- 11:20 128. BLEACHING AT COLD TEMPERATURES WITH SODIUM HYPOCHLORITE: INTERACTIONS OF

CONCENTRATION, TIME, pH AND TEMPERATURE WITH STAIN REMOVAL AND FABRIC STRENGTH. L. Palmer and C. Riggs, Texas Woman's University, Denton, TX.

- 11:40 129. PERFORMANCE OF AND SKIN IRRITATION DUE TO SURFACTANTS CONTAINING ANIONICS IN COMBINATION WITH CATIONICS OR NONIONICS. T. Satsuki, S. Ohta, O. Okumura and D. Saika, Lion Corporation, Tokyo, Japan.
- 12:00 130. STUDIES ON THE ADSORPTION OF DIALKYL DIMETHYL AMMONIUM CHLORIDE. K. Yamada, K. Yokoi, O. Okumura\* and D. Saika, Lion Corporation, Tokyo, Japan.

**2:00 p.m.—Essex**

**SESSION 21—Symposium: Leukotrienes and Other Lipoxigenase Products**

**Organizers: P. Borgeat, Laval University, Quebec, PQ, and D.G. Cornwell, Ohio State University, Columbus, OH.**  
**Chairpersons: P. Borgeat and D.G. Cornwell.**

- 2:00 131. THE CHEMISTRY OF LIPID HYDROPEROXIDES: DOES THE CHEMICAL DECOMPOSITION OF LIPID HYDROPEROXIDES ACT AS A MODEL FOR BIOCHEMICAL DEGRADATION? H.W. Gardner, Northern Regional Research Center, Peoria, IL.
- 2:30 132. RECENT DEVELOPMENTS IN THE SYNTHETIC APPROACHES TO LEUKOTRIENES. Y. Guindon, J. Rokach, R. Zamboni and C.K. Lau, Merck Frosst Laboratories, Pointe-Claire/Dorval, Que.
- 3:00 133. BIOCHEMISTRY OF THE LEUKOTRIENE PATHWAY OF ARACHIDONIC ACID. P. Borgeat and F. de Laclous, Laval University, Que.
- 3:30 134. ACETYLENIC ACIDS AS INHIBITORS OF VARIOUS PATHWAYS OF ARACHIDONIC ACID METABOLISM. B.A. Jakschik, P. Needleman, Washington University Medical School, St. Louis, MO, and H. Sprecher, Ohio State University, Columbus, OH.
- 4:00 135. PHARMACOLOGICAL ACTIONS OF LEUKOTRIENES. P. Sirois, University of Sherbrooke, Sherbrooke, Que.
- 4:30 136. LIPOXYGENASE, LIPID PEROXIDATION AND CELL PROLIFERATION. D.G. Cornwell, N. Morisaki and R.V. Panganamala, Ohio State University, Columbus, OH.

**2:00 p.m.—Algoma**

**SESSION 22—Symposium: Practical NMR Spectroscopy**  
**Organizer: T.F. Conway, Corn Products, Summit-Argo, IL.**  
**Chairpersons: T.F. Conway (presiding) and I.C.P. Smith, National Research Council Canada, Ottawa, Ont.**

- 2:00 137. THE USE OF WIDE-LINE NMR IN BREEDING HIGH-OIL CORN. D.E. Alexander, University of Illinois, Urbana, IL.
- 2:30 138. PRACTICAL APPLICATION OF NMR SPECTROSCOPY IN THE DEVELOPMENT OF HIGH OIL HYBRIDS OF SUNFLOWER, *HELIANTHUS* SPP. W.S. Harada, Dahlgren and Company, Crookston, MN.
- 3:00 139. DETERMINATION OF PERCENTAGE FAT IN CHOCOLATE AND CONFECTIONERY PRODUCTS BY WIDE-LINE NUCLEAR MAGNETIC RESONANCE. D. Turato, Hershey Chocolate Company, Hershey, PA.
- 3:30 140. THE DETERMINATION OF OIL IN A DRY FOOD MIX BY WIDE-LINE NMR. H.F. Lewis and E. de la Teja, Thomas J. Lipton Inc., Englewood Cliffs, NJ.
- 4:00 141. PRAXIS PULSED NMR: A SOUND OPTION FOR FULLY INTEGRATED SOLID FAT CONTENT MEASUREMENT. J.H. Mellema, Kraft Inc., Glenview, IL, B.L. Madison, The Procter & Gamble Co., Cincinnati, OH, R. Manning, Glidden Durkee Foods,

Strongsville, OH, and J. Witt, The Praxis Corporation.

4:30 ROUND TABLE DISCUSSION.

**2:00 p.m.—Dominion Ballroom South**

**SESSION 23—Symposium: Membrane Lipids of the Unicellular Organisms**

**Organizer: M. Kates, University of Ottawa, Ottawa, Ont. Chairpersons: M. Kates (presiding).**

- 2:00 142. LIPIDS OF ARCHAEABACTERIA: EXTREME HALOPHILES, METHANOGENS, THERMOACIDOPHILES. T.A. Langworthy, University of South Dakota, Vermillion, SD.
- 2:30 143. ETHER LIPIDS OF ANAEROBIC BACTERIA. H. Goldfine, University of Pennsylvania, Philadelphia, PA.
- 3:00 144. MEMBRANE LIPIDS OF YEAST AND FUNGI. J.B.M. Rattray, University of Guelph, Guelph, Ont.
- 3:30 145. ARSENOLIPIDS OF ALGAE. A.A. Benson and R.V. Cooney, Scripps Institution of Oceanography, La Jolla, CA.
- 4:00 146. LIPIDS OF DIATOMS. M. Kates, University of Ottawa, Ottawa, Ont.
- 4:30 147. MEMBRANE LIPIDS OF PROTOZOA. G.A. Thompson, Jr., University of Texas, Austin, TX.

**2:00 p.m.—Dominion Ballroom North**

**SESSION 24—Symposium: Biological and Toxic Effects of Lipophilic Xenobiotics**

**Organizer: S. Safe, Texas A&M University, College Station, TX.**

**Chairpersons: S. Safe (presiding) and R. Frank, Ontario Ministry of Agriculture and Food, Guelph, Ont.**

- 2:00 148. TOXICOLOGICAL ACTIVITIES OF MYCOTOXINS. T.D. Phillips, Texas A&M University, College Station, TX.
- 2:30 149. HALOGENATED HYDROCARBONS IN HUMAN TISSUE—BIOLOGIC AND TOXIC EFFECTS. S. Safe, L. Safe, L. Robertson, A. Parkinson, J. Gyorkos, M.A. Campbell and S. Bandiera, Texas A&M University, College Station, TX.
- 3:00 150. EFFECTS OF STRUCTURE ON THE ACTIVITY OF POLYBROMINATED BIPHENYLS (PBB) AS MICROSOMAL ENZYME INDUCERS. L.W. Robertson, A. Parkinson and S. Safe, Texas A&M University, College Station, TX.
- 3:30 151. POTENTIATION OF HALOALKANE-INDUCED HEPATOTOXICITY BY KETONES AND KETOGENIC CHEMICALS. G.L. Plaa, Université de Montréal, Montreal, Que.
- 4:00 152. COMPARATIVE TOXICITY AND PHARMACOKINETIC BEHAVIOR OF 3 TETRACHLOROBENZENE ISOMERS IN THE RAT. D.C. Villeneuve, I. Chu, Environmental Health Centre, Ottawa, Ont., V.E. Valli, University of Guelph, Guelph, Ont., V.E. Secours and G.C. Becking, Environmental Health Centre, Ottawa, Ont.
- 4:30 153. THE Ah RECEPTOR: AN INTRACELLULAR SITE MEDIATING THE BIOLOGICAL EFFECTS OF SMALL LIPOPHILIC XENOBIOTICS. A.B. Okey, Hospital for Sick Children, Toronto, Ont.

**2:00 p.m.—Grand Ballroom West**

**SESSION 25—Symposium: Natural Fats and Oils as Petrochemical Substitutes**

**Organizer: E.C. Leonard, Humko Chemical, Memphis, TN. Chairperson: E.C. Leonard.**

- 2:00 154. THE LONG-RUN PRICE OUTLOOK FOR FATS AND OILS. E. Fryar, United States Department of Agriculture, Washington, DC.
- 2:30 155. SYNTHETIC FATTY CHEMICALS IN THE 1980s: THE OUTLOOK FOR OLEFIN FEEDSTOCKS. T.

Gibson, SRI International, Menlo Park, CA.

- 3:00 156. FATTY ALCOHOLS: NATURAL OR PETROCHEMICAL FEEDSTOCK IN THE 1980s? E.C. Leonard, Humko Chemical, Memphis, TN.
- 3:30 157. CRAMBE—POTENTIAL SOURCE OF INDUSTRIAL CHEMICALS. J.L. Fowler, New Mexico State University and K.J. Lessman, New Mexico Agricultural Experimental Station, Las Cruces, NM.
- 4:00 158. HIGH MOLECULAR WEIGHT AMINES: NATURALLY OR PETROCHEMICALLY DERIVED. R.A. Reck, ArmaK Company, Chicago, IL.

**1:25 p.m.—Grand Ballroom Centre**

**SESSION 26—Symposium: Food Fat Systems**

**Organizer: L.H. Wiedermann, American Soybean Association, Singapore.**

**Chairpersons: L.H. Wiedermann (presiding) and R.G. Krishnamurthy, Kraft Inc., Glenview, IL.**

- 1:25 159. INTRODUCTION. L.H. Wiedermann, American Soybean Association, Singapore.
- 1:45 160. FAT AND OIL SYSTEMS PROVIDING LUBRICITY. T.R. Bessler and F.T. Orthoefer, A.E. Staley Manufacturing Company, Decatur, IL.
- 2:15 161. FAT AND OIL SYSTEMS PROVIDING LUBRICITY AND STRUCTURE. F.R. Kincs, Bunge Edible Oil Corp., Kankakee, IL.
- 2:45 162. FAT AND OIL SYSTEMS PROVIDING LUBRICITY AND AERATION. E.J. Campbell, ADM Refined Oils, Decatur, IL.
- 3:15 163. FAT AND OIL SYSTEMS PROVIDING LUBRICITY, STRUCTURE AND AERATION. A.E. Thomas III, Durkee Foods-SCM, Strongsville, OH.
- 3:45 164. FAT AND OIL SYSTEMS PROVIDING LUBRICITY, STRUCTURE AND MOISTURE BARRIER. F.R. Paulicka, Durkee Foods-SCM, Strongsville, OH.
- 4:15 ROUND TABLE DISCUSSION.

**2:00 p.m.—Civic Ballroom**

**SESSION 27—Special: Sunflower Seeds and Products II**

**Organizer: A. Uzzan, Institut des Corps Gras, Paris, France.**

**Chairpersons: A. Uzzan (presiding) and J.-P. Helme, Lesieur Cotelle & Associes, Boulogne, Billancourt, France.**

- 2:00 165. SUNFLOWER DEVELOPMENT IN FRANCE. E. Chone and G. de la Taille, CETIOM, Paris, France.
- 2:20 166. APPLICATIONS OF SUNFLOWER OIL. R.H. Purdy, Consultant, Novato, CA.
- 2:50 167. THE INCREASING CONSUMPTION OF SUNFLOWER EDIBLE OILS AND MARGARINES IN FRANCE: ITS ECONOMICAL, INDUSTRIAL AND NUTRITIONAL REASONS. J.-P. Helme, Lesieur Cotelle & Associes, Boulogne, Billancourt, France.
- 3:20 168. EVALUATION OF EXTRACTIVE UNITS. L. Tranchino and F. Melle, ASSORENI, Rome, Italy.
- 3:40 169. ALMOST COMPLETE DEHULLING OF HIGH-OIL SUNFLOWER SEEDS. L. Tranchino, F. Melle and G. Sodini, ASSORENI, Rome, Italy.
- 4:00 170. WINTERIZATION OF SUNFLOWER OIL. Z. Leibovitz and C. Ruckenstein, H.L.S. Ltd., Petah Tikva, Israel.
- 4:20 171. CONSIDERATIONS REGARDING STORAGE AND DECORTICATION OF SUNFLOWER SEED. PRACTICAL METHODS EXECUTED IN A MODERN SUNFLOWER FACTORY. Z. Leibovitz and C. Ruckenstein, H.L.S. Ltd., Petah Tikva, Israel.
- 4:40 172. THE NEW FACILITIES AND EQUIPMENT OF THE ITERG-CETIOM PILOT-PLANTS: FIRST RESULTS IN THE EXPERIMENTS ON OILSEED PROCESSING AND VEGETABLE OIL TREATMENT. A. Uzzan, Institut des Corps Gras, Paris, France.



2:00 p.m.—Grand Ballroom East  
**SESSION 28—Panel Discussion: Soaps and Detergents III—Energy and the Detergent Industry**  
Panel Moderator: T.P. Matson, Conoco Inc., Ponca City, OK.  
Panelists: G.D. Smith, Conoco Chemicals, Houston, TX, and J. Cooper, The Maytag Company, Newton, IA.

2:00 p.m.—Dufferin  
**SESSION 29—Special: Computers and the Industry**  
Chairperson: N. Witte, Central Soya Co. Inc., Fort Wayne, IN.

- 2:00 173. COMPUTER PROCESS SIMULATION. S. Duket and A.A.B. Pritsker, Pritsker & Associates, West Lafayette, IN.
- 2:30 174. BETTER PROCESS OPERATION AND INFORMATION WITH A PROCESS CONTROL COMPUTER. W.R. Biles, Biles and Associates, Houston, TX.
- 3:00 175. APPLICATION OF COMPUTER CONTROL TO A PILOT PLANT. S.T. Schlager, A.J. Schwartz, S.G. Bendzunas and J.J. Furjanic, Miles Laboratories Inc., Elkhart, IN.
- 3:30 ROUND TABLE DISCUSSION.

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### Wednesday, May 5

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9:00 a.m.—Civic Ballroom  
**SESSION 30—Symposium: Biochemistry of Linolenic Acid**  
Organizers: J.L. Beare-Rogers, National Health and Welfare, Ottawa, Ont., and J.K.G. Kramer, Agriculture Canada, Ottawa, Ont.

- Chairpersons: J.L. Beare-Rogers and J.K.G. Kramer.
- 9:00 176. LINOLENIC ACID AS AN ESSENTIAL FATTY ACID AND ITS INTERACTION WITH LINOLEIC ACID. R.T. Holman, The Hormel Institute, Austin, MN.
- 9:30 177. THE POSSIBLE INVOLVEMENT OF DIETARY LINOLENIC ACID IN THE DEVELOPMENT OF MYOCARDIAL NECROSIS IN RATS. J.K.G. Kramer, E.R. Farnworth, B.K. Thompson and A.H. Corner, Agriculture Canada, Ottawa, Ont.
- 10:00 178. POLYUNSATURATED FATTY ACIDS AND THE DEVELOPING BRAIN. B.L. Walker, M.S. Lamptey and M.A. Samulski, University of Guelph, Guelph, Ont.
- 10:30 179. RETENTION OF POLYUNSATURATED FATTY ACIDS IN BRAIN AND RETINA LIPIDS FROM LINOLENIC-ACID-DEFICIENT OR CONTROL RATS TRANSFERRED TO A FAT-FREE DIET FOR ONE YEAR. J. Tinoco, B. Medwadowski, P. Miljanich, I. Hincenbergs and M.A. Williams, University of California, Berkeley, CA.
- 11:00 180. POLYUNSATURATED FATTY ACIDS, PROSTAGLANDINS AND THE IMMUNE RESPONSE. P.V. Johnston, G.A. Boissonneault, L.J. Magrum and L.A. Marshall, University of Illinois, Urbana, IL.
- 11:30 181. DIETARY REQUIREMENTS OF LINOLENIC ACID. M.A. Crawford, Zoological Society of London, London, United Kingdom.
- 12:00 182. LINOLENIC ACID IN LOW-FAT FOODS. J.L. Beare-Rogers, R. Hollywood and E. O'Grady, National Health and Welfare, Ottawa, Ont.

9:00 a.m.—Grand Ballroom West  
**SESSION 31—Symposium: Quality Control in Fats, Oils and Oilseeds I**  
Organizer: J.K. Daun, Canadian Grain Commission, Winnipeg, Man.  
Chairpersons: J.K. Daun (presiding) and J.A. Blake, POS Pilot Plant Corp., Saskatoon, Sask.

- 9:00 183. POS CANOLA CHECK SERIES. M. Marianchuk and J. Blake, POS Pilot Plant Corp., Saskatoon, Sask.
- 9:30 184. ROLE OF AOCS SMALLEY PROGRAM IN QC IN OILS AND OIL PRODUCTS. J. McEwan, Central Soya Co., Inc., Decatur, IN.
- 9:50 185. EFFECT OF METHODOLOGY ON THE RESULTS OF FATTY ACID METHYL ESTER CHECK SAMPLE RESULTS. C.W. Fritsch, General Mills Inc., Minneapolis, MN.
- 10:20 186. OILSEEDS GRADING—QUALITY CONTROL IN OILSEEDS MARKETING. J.K. Daun and L.D. Davidson, Canadian Grain Commission, Winnipeg, Man.
- 10:50 187. QUALITY CONTROL IN AN OILSEED CRUSHING PLANT. S.J. Campbell, United Oilseed Products Ltd., Lloydminster, Alta.
- 11:20 188. QUALITY CONTROL IN EDIBLE OIL PRODUCTION FROM CRUDE DEGUMMED OIL TO FINISHED PRODUCTS. A. Roden and G. Ulliyot, CSP Foods Ltd., Dundas, Ont.

9:00 a.m.—Dufferin  
**SESSION 32—Symposium: Membrane Damage and Repair**  
Organizer: J.F. Mead, University of California, Los Angeles, CA.

Chairpersons: J.F. Mead (presiding) and P. Hochstein, University of Southern California, Los Angeles, CA.

- 9:00 189. INTRODUCTION. J.F. Mead, University of California, Los Angeles, CA.
- 9:10 190. TOPOGRAPHY OF LIPID SYNTHETIC AND DEGRADATIVE ENZYMES. R.A. Coleman, Duke University Medical Center, Durham, NC.
- 9:40 191. RAPID TURNOVER OF INTRACELLULAR MEMBRANES IN SECRETORY CELLS. A.H. Phillips, University of Connecticut, Storrs, CT.
- 10:10 192. ORGANIZATIONAL CHANGES IN RAT LIVER MICROSOMES INDUCED BY LYSOPHOSPHATIDYLCHOLINE. S. Parthasarathy, R. Murari and W.J. Baumann, The Hormel Institute, Austin, MN.
- 10:40 193. THE RELATIONSHIP BETWEEN  $Ca^{2+}$  FLUX AND PERMEABILITY MODULATION IN THE INNER MITOCHONDRIAL MEMBRANE. D.R. Pfeiffer, The Hormel Institute, Austin, MN.
- 11:10 194. OXIDANT-INDUCED ALTERATIONS IN ERYTHROCYTE MEMBRANES. P. Hochstein, University of Southern California, Los Angeles, CA.
- 11:40 195. PHOTODAMAGE TO MITOCHONDRIAL MEMBRANES. R.J. Mehlhorn, University of California, Berkeley, CA.
- 12:10 196. INFLUENCE OF PHOSPHOLIPASES ON MEMBRANE LIPID PEROXIDATION. A. Sevanian and S. Muakkassah-Kelly, University of Southern California, Los Angeles, CA.

9:00 a.m.—Dominion Ballroom North  
**SESSION 33—Special: Meal Proteins and Bioengineering in Protein Production I**

Organizer: C.D. Myers, General Foods Ltd., Cobourg, Ont.  
Chairpersons: C.D. Myers (presiding) and E. McCabe, Westreco, Inc., Marysville, OH.

- 9:00 197. PROTEIN CONFORMATIONS AND THEIR STABILITY. C.N. Pace, Texas A&M University, College Station, TX.
- 9:30 198. SEED PROTEIN STRUCTURE, BIOSYNTHESIS AND PROSPECTS FOR GENETIC ENGINEERING. T.C. Hall, Agrigenetics Corp., Madison, WI.
- 10:00 199. GLYCOPROTEINS: SWEET, SLIPPERY AND SEXY. D.T.A. Lamport, Michigan State University, East Lansing, MI.
- 10:30 200. AGGLUTINATING FACTORS IN GRAIN SORGHUM (*SORGHUM BICOLOR* [L.] MOENCH). J.N. Neucere, Southern Regional Research Center,

- New Orleans, LA.
- 10:50 201. SOY PROTEIN HYDROLYSIS IN MEMBRANE REACTORS. M. Cheryan and W.D. Deeslie, University of Illinois, Urbana, IL.
- 11:10 202. PIGMENT REMOVAL BY FRACTIONATION OF DEFATTED GLANDLESS COTTONSEED PROTEIN BY ULTRAFILTRATION MEMBRANES. Y.R. Choi, J.T. Lawhon and E.W. Lusas, Texas A&M University, College Station, TX.
- 11:30 203. PRODUCTION OF LOW-PHYTATE AND LIGHT-COLORED PROTEIN ISOLATE FROM DEFATTED SUNFLOWER FLOUR. Y.R. Choi, K.C. Rhee and E.W. Lusas, Texas A&M University, College Station, TX.
- 11:50 204. CHARACTERISTICS AND UTILIZATION OF DRY ROASTED NAVY BEAN PROTEIN FRACTION. M.E. Zabik, M.A. Uebersax and J.P. Lee, Michigan State University, East Lansing, MI.

9:00 a.m.—Algoma

**SESSION 34—Symposium: Biotechnology of Microorganisms in the Production of Fats and Oils**

**Organizer: C. Ratledge, University of Hull, Hull, United Kingdom.**

**Chairperson: C. Ratledge.**

- 9:00 205. MICROBIAL OILS AND FATS: AN OVERVIEW. C. Ratledge, University of Hull, Hull, United Kingdom.
- 9:20 206. BACTERIAL PRODUCTION OF FATS AND OILS. M. Wayman and A.C. Kormendy, University of Toronto, Toronto, Ont.
- 9:50 207. POTENTIAL FOR OIL PRODUCTS FROM ALGAE. N.S. Shifrin, JBF Scientific Corporation, Wilmington, MA.
- 10:20 208. PRODUCTION OF FATS AND OILS BY MICROORGANISMS. E.G. Hammond and B.A. Glatz, Iowa State University, Ames, IA.
- 10:50 209. STEROLS OF YEASTS: A MODEL FOR BIOTECHNOLOGY IN THE PRODUCTION OF FATS AND OILS. L.W. Parks, R.J. Rodriguez and M.T. McCammon, Oregon State University, Corvallis, OR.
- 11:20 210. MICROBIAL LIPASES AS CATALYSTS FOR THE INTERESTERIFICATION OF OILS AND FATS. A.R. Macrae, Unilever Research, Sharnbrook, Bedford, United Kingdom.
- 11:50 211. THE APPLICATION OF HYDROCARBON-OXIDIZING MICROORGANISMS TO LIPID PRODUCTION. W.R. Finnerty, University of Georgia, Athens, GA.

9:00 a.m.—Grand Ballroom Centre

**SESSION 35—Special: Hydrogenation**

**Organizer: A.H. Chen, Anderson Clayton Foods, Richardson, TX.**

**Chairpersons: A.H. Chen (presiding) and R.H. Becker, Mallinckrodt Inc., Erie, PA.**

- 9:00 212. CRITICAL REVIEW OF STATE-OF-THE-ART OF PARTIAL HYDROGENATION. L.F. Albright, Purdue University, West Lafayette, IN, and A.H. Chen, Anderson Clayton Foods, Richardson, TX.
- 9:30 213. RATE FACTORS IN LIQUID-PHASE HYDROGENATION. B. Andersson, Chalmers University of Technology, T. Berglin, EKA-KEMI AB, and V. Hatziantoniou, R. de Vos and N.-H. Schön\*, Chalmers University of Technology, Gothenburg, Sweden.
- 10:00 214. SELECTIVITY OF NICKEL CATALYST FOR THE HYDROGENATION OF HIGHLY UNSATURATED MARINE OILS. J.-L. Sebedio, G. Finke and R.G. Ackman, Technical University of Nova Scotia, Halifax, N.S.
- 10:20 215. EFFECT OF THE PRESENCE OF SULFUR DUR-

ING THE HYDROGENATION OF CANOLA OIL. J.M. deMan and E. Pogorzelska, University of Guelph, Guelph, Ont., and L. deMan, Food Specialties Co. Ltd., Ajax, Ont.

- 10:40 216. VAPOR-PHASE HYDROGENATION OF METHYL ESTERS OF FATTY ACIDS: A POSSIBLE WAY TO STUDY FUNDAMENTAL REACTION PROPERTIES OF FAT HYDROGENATION. J.-O. Lidefelt, Karlshamns Oljefabriker AB, J. Magnusson and N.-H. Schön\*, Chalmers University of Technology, Gothenburg, Sweden.
- 11:10 217. PLATINUM GROUP METAL CATALYSTS IN THE HYDROGENATION OF NATURAL OILS. P.N. Rylander, Engelhard Industries, Newark, NJ.
- 11:40 218. THE SPECIFIC ASPECTS OF FATTY ACID HYDROGENATION WITH Ni-CATALYSTS. H. Klimmek, UNICHEMA International, Emmerich, Germany.
- 12:00 219. DISCUSSION OF PROBLEMS ENCOUNTERED IN STARTING UP LABORATORY-SCALE HYDROGENATION. F.V. Lee-Poy, The Cambrian Engineering Group Ltd., Mississauga, Ont., L.L. Diosady, University of Toronto, Toronto, Ont., and P.W. Sleggs, The Cambrian Engineering Group Ltd., Mississauga, Ont.

9:00 a.m.—Dominion Ballroom South

**SESSION 36—Symposium: Vegetable Oils as Diesel Fuels**

**Organizer: E.H. Pryde, Northern Regional Research Center, Peoria, IL.**

**Chairpersons: E.H. Pryde (presiding) and R.C. Strayer, University of Saskatchewan, Saskatoon, Sask.**

- 9:00 220. METHODS AND EQUIPMENT FOR ON-FARM RECOVERY AND PROCESSING OF SUNFLOWER OIL FOR USE IN DIESEL ENGINES. L.F. Backer, L. Jacobson and J.C. Olson, North Dakota State University, Fargo, ND.
- 9:30 221. ECONOMIC ANALYSES OF SUN OIL FUEL. D.L. Helgeson and L.W. Schaffner, North Dakota State University, Fargo, ND.
- 10:00 222. ENDURANCE TEST OF SUNFLOWER OIL AS A DIESEL FUEL. M. Ziejewski and K. Kaufman, North Dakota State University, Fargo, ND.
- 10:30 223. INVESTIGATION OF PLANT OIL (SOYBEAN) AS A DIESEL FUEL EXTENDER. J.F. Peters, B.J. Schroer, M. Rand, C. Adams and M.C. Ziemke, University of Alabama, Huntsville, AL.
- 11:00 224. EXTRACTION AND UTILIZATION OF WINTER RAPE OIL AS A DIESEL FUEL EXTENDER. C.L. Peterson, G.L. Wagner, J.C. Thompson, D.L. Auld and R.A. Korus, University of Idaho, Moscow, ID.
- 11:30 225. SUMMARY OF WORK WITH VEGETABLE OIL AS A SUBSTITUTE FOR DIESEL FUEL AT THE UNIVERSITY OF SASKATCHEWAN. R.C. Strayer, University of Saskatchewan, Saskatoon, Sask.
- 12:00 226. EFFECTS OF PROCESSING AND CHEMICAL CHARACTERISTICS OF PLANT AND ANIMAL OILS ON DIESEL ENGINE PERFORMANCE. C.R. Engler, L.A. Johnson, W.A. Le Pori and C.M. Yarbrough, Texas A&M University, College Station, TX.

9:00 a.m.—Essex

**SESSION 37—General: Soaps and Detergents IV—Surface Chemistry, Analysis and Preparation**

**Chairperson: M. Schick, Diamond Shamrock Corporation, Morristown, NJ.**

- 9:00 227. FLUOROCARBON-HYDROCARBON INTERACTIONS IN INTERFACIAL AND MICELLAR SYSTEMS. P. Mukerjee, University of Wisconsin, Madison, WI.

- 9:20 228. DETERMINATION OF SURFACE TENSIONS AND CONTACT ANGLES FROM THE SHAPE OF AXISYMMETRIC INTERFACES. Y. Rotenberg, L. Boruvka and A.W. Neumann, University of Toronto, Toronto, Ont.
- 9:40 229. EFFECT OF PARTICLE SHAPE ON PARTICLE ENGLUFMENT BY SOLIDIFICATION FRONTS. R.P. Smith, D.W. Francis, S.K. Li, Z. Policova, D.R. Absolom and A.W. Neumann, University of Toronto, Ont.
- 10:00 230. SURFACE TENSION OF BITUMEN EXTRACTED FROM OIL SANDS. A.M. Potoczny, E.I. Vargha-Butler and A.W. Neumann, University of Toronto, Toronto, Ont.
- 10:20 231. THE QUANTITATIVE DETERMINATION OF BHT IN SOAP PRODUCTS BY CAPILLARY GAS CHROMATOGRAPHY. M.M. Goldstein, K.S. Molver, W.P. Lok and A.F. Miller, Armour-Dial Company, Scottsdale, AZ.
- 10:40 232. THE USE OF IMAGE ANALYSIS FOR THE QUANTIFICATION OF THE SIZE DISTRIBUTION OF DISPERSE SYSTEMS. D.R. Absolom, Hospital for Sick Children, Toronto, Ont., D.G. Wicks and C.D. Myers, General Foods Ltd., Cobourg, Ont., and A.W. Neumann, University of Toronto, Toronto, Ont.
- 11:00 233. PURITY ASPECTS OF HIGHER  $\alpha$ -OLEFINS. A.H. Turner, Shell-International Chemical Co. Ltd., London, United Kingdom.
- 11:20 234. FATS AND OILS FOR LEATHER FIBER LUBRICATION—CURRENT PRACTICES. F. Scholnick and W. Linfield\*, Eastern Regional Research Center, Philadelphia, PA.
- 11:40 235. SELECTIVE AMIDATION OF FATTY METHYL ESTERS WITH N-(2-AMINOETHYL)-ETHANOLAMINE UNDER BASE CATALYSIS. R. Gabriel, Stepan Chemical Company, Northfield, IL.
- 12:00 236. C<sub>19</sub> DIACID-BASED POLYAMIDES. N.E. Lawson and T.T. Cheng, Union Camp Corporation, Princeton, NJ.

**9:00 a.m.—Grand Ballroom Lobby**  
**SESSION 38—Poster Session**

- P1. DETERGENT SPRAY TOWER EFFLUENT RECYCLE SYSTEMS. N. Foster and B. Brooks, Chemithon Corporation, Seattle, WA.
- P2. EFFECT OF POLYUNSATURATED ALCOHOLS ON BACTERIAL GROWTH. J.R. Gilbertson, University of Pittsburgh, Pittsburgh, PA, R.J. Crout, University of West Virginia, R.H. Connacher, D. Platt and H. Langkamp, University of Pittsburgh.
- P3. LIPID-DEGRADING ENZYMES IN LEGUMES: AN OVERVIEW. H.M. Henderson, University of Manitoba, Winnipeg, Man.
- P4. FATTY ACID PROFILING FROM MULTIPLE TISSUE SAMPLES: I. SYSTEMATIC TISSUE HANDLING, LIPID EXTRACTION AND CLASS SEPARATION, AND GC ANALYSIS. R.J. Maxwell and W.N. Marmer, Eastern Regional Research Center, Philadelphia, PA.
- P5. FATTY ACID PROFILING FROM MULTIPLE TISSUE SAMPLES: II. SYSTEMATIC DATA HANDLING AND INTERPRETATION: COMPARISON OF BOVINE LIPID COMPOSITION VS DIETARY REGIMEN. W.N. Marmer, R.J. Maxwell and J.C. Phillips, Eastern Regional Research Center, Philadelphia, PA.
- P6. HYDROCARBONS, STERYL ESTERS, AND FREE STEROLS OF PEANUT AND CORN OIL. R.E. Worthington, University of Georgia Agricultural Experiment Station, Experiment, GA.
- P7. CHOLESTEROL AND CHOLESTERYL ESTER

- CONTENTS OF HUMAN MILK DURING 16 WEEKS OF LACTATION. R.G. Jensen, R.M. Clark, A.M. Ferris, M.B. Fey and P.B. Brown, University of Connecticut, Storrs, CT.
- P8. THE LECITHIN (PHOSPHOLIPID) CONTENT OF FOODS. J.L. Weihrauch, N. Narasimhan and Y.-S. Son, United States Department of Agriculture, Hyattsville, MD.
- P9. BOVINE PULMONARY SURFACTANT. F. Possmayer, N. Smith and S.F. Yu, University of Western Ontario, London, Ont.
- P10. THE SYNTHESIS OF PHOSPHATIDYLCHOLINE FROM EXOGENOUS 1-[<sup>14</sup>C]PALMITOYL-SM-GLYCEROPHOSPHORYLCHOLINE AND [<sup>14</sup>C]-ARACHIDONIC ACID IN UNSTIMULATED AND AGGREGATING HUMAN PLATELETS. B.J. Holub, D.E. Agwu and V.G. Mahadevappa, University of Guelph, Guelph, Ont.
- P11. PENTOBARBITAL SLEEPING TIME AND MEMBRANE LIPIDS. R.C. Aloia, Loma Linda University Medical Center, Loma Linda, CA, W. Mlekusch, University of Graz, Graz, Austria, B.J. Brandstater and J.A. Meyer, Loma Linda University Medical Center.
- P12. SOME CHARACTERISTICS OF RAPESEED OIL AND MEAL. Y.G. Moharram, Alexandria University, Alexandria, Egypt, M.M. Mostafa and E.H. Rahma, Monoufeia University, Shebin El-Kom, Egypt.

**2:00 p.m.—Dominion Ballroom South**  
**SESSION 39—General: Noxious Factors**  
**Chairperson: J.C. Alexander, University of Guelph, Guelph, Ont.**

- 2:00 237. METHOD OF ANALYSIS FOR DEOXYNIVAL-ENOL PRODUCTION BY *FUSARIUM ROSEUM* ON CORN, WHEAT, RICE AND BARLEY. G.A. Bennett, S.E. Megalla and O.L. Shotwell, Northern Regional Research Center, Peoria, IL.
- 2:20 238. MODIFIED GOSSYPOL ASSAY PROCEDURES FOR ACID HYDROLYZED, GLANDED COTTON-SEED KERNELS, K.C. Rhee, Y.R. Choi, E.W. Lusas, Texas A&M University, College Station, TX, and R.W. Glass, Frito-Lay Co.
- 2:40 239. VARIATIONS IN CYCLOPROPENOID FATTY ACIDS COMPOSITION ON COTTON SEEDS. G.S. Fisher and J.P. Cherry, Southern Regional Research Center, New Orleans, LA.
- 3:00 240. THIN LAYER CHROMATOGRAPHIC AND SPECTRAL ANALYSES OF POSSIBLE AFLATOXINS WITHIN GRAIN DUSTS. W.V. Dashek, West Virginia University, T. Eadie, G.C. Llewellyn, Virginia Commonwealth University, Richmond, VA, S.A. Olenchock and G.H. Wirtz, West Virginia University.
- 3:20 241. ALTERED LIPID METABOLISM IN HEXAFLUOROACETONE (HFA)-INDUCED TESTICULAR ATROPHY. P.J. Gillies and K.-P. Lee, E.I. du Pont de Nemours & Company, Newark, DE.
- 3:40 242. RESIDUAL TOXIC EFFECTS FROM HEATED FAT AFTER FEEDING FRESH CORN OIL. H.G. Gabriel, J.C. Alexander and V.E. Valli, University of Guelph, Guelph, Ont.
- 4:00 243. DIETARY METHIONINE AND CHOLINE AND THEIR EFFECT ON MYOCARDIAL LESIONS. E.R. Farnworth, J.K.G. Kramer, A.H. Corner and B.K. Thompson, Agriculture Canada, Ottawa, Ont.

**2:00 p.m.—Grand Ballroom West**  
**SESSION 40—Symposium: Quality Control in Fats, Oils and Oilseeds II**  
**Organizer: J.K. Daun, Canadian Grain Commission, Winnipeg, Man.**  
**Chairpersons: J.K. Daun (presiding) and J.A. Blake, POS**

**Pilot Plant Corp., Saskatoon, Sask.**

- 2:00 244. QUALITY CONTROL IN PROCESSING DRYING OILS. B. Pierce, Honeymead Products Co., Minneapolis, MN.
- 2:30 245. QUALITY CONTROL IN PROCESSING INDUSTRIAL OILS AND FATTY ACIDS. D.J. Kriege, Emery Industries, Inc., Cincinnati, OH.
- 3:00 246. QUALITY OF COMMERCIAL OIL AND OILSEED PRODUCTS. W.B. Sizer, SGS Supervision Services Inc., Vancouver, B.C.
- 3:30 247. QUALITY CONTROL IN THE USE OF DEEP FRYING OILS. S.G. Stevenson, M. Vaisey-Genser and N.A.M. Eskin, University of Manitoba, Winnipeg, Man.
- 4:00 248. THE ROLE OF THE RESEARCH LABORATORY IN THE DEVELOPMENT OF QUALITY CONTROL PROCEDURES. G.R. List, Northern Regional Research Center, Peoria, IL.
- 4:30 ROUND TABLE DISCUSSION.

**2:00 p.m.—Dufferin**

**SESSION 41—Symposium: Immunological Activity of Membranous Systems.**

**Organizer: A. Kuksis, University of Toronto, Toronto, Ont.**

**Chairperson: A. Kuksis (presiding) and R.T.C. Huang, Justus Liebig-Universität, Giessen, Germany.**

- 2:00 249. DIETARY LIPID MODULATION OF IMMUNE RESPONSIVENESS IN MICE. K.L. Erickson, University of California School of Medicine, Davis, CA.
- 2:30 250. SOYBEAN OIL EMULSION DECREASES THE CAPACITY OF MONONUCLEAR PHAGOCYTES TO PRODUCE COMPLEMENT. R.C. Strunk and K. Kunke, National Jewish Hospital, Denver, CO.
- 3:00 251. LIPOSOMES AS VEHICLES FOR VACCINES: ADJUVANTICITY AND EFFICACY AS PROTEIN CARRIERS. R.L. Richards, Walter Reed Army Institute of Research, Washington, DC, L.I. Alving, California Institute of Technology, J. Moss, National Institutes of Health, B. Banerji, Medical University of South Carolina, and C.R. Alving, Walter Reed Army Institute of Research.
- 3:30 252. ROLE OF MEMBRANE LIPIDS IN THE IMMUNOLOGICAL KILLING OF TUMOR CELLS: I. TARGET CELL LIPIDS. S.I. Schlager, University of Notre Dame, Notre Dame, IN, and S.H. Ohanian, National Cancer Institute.
- 4:00 253. ROLE OF MEMBRANE LIPIDS IN THE IMMUNOLOGICAL KILLING OF TUMOR CELLS: I. EFFECTOR CELL LIPIDS. S.I. Schlager, University of Notre Dame, Notre Dame, IN, and M.S. Meltzer, National Cancer Institute.
- 4:30 254. THE SPECIFIC ROLE OF PHOSPHOLIPIDS AND NEUTRAL GLYCOLIPIDS IN MYXOVIRUS-INDUCED MEMBRANE FUSION. R.T.C. Huang, Justus-Liebig-Universität, Giessen, Germany.

**2:00 p.m.—Dominion Ballroom North**

**SESSION 42—Special: Meal Proteins and Bioengineering in Protein Production II**

**Organizer: D. Jones, POS Pilot Plant Corporation, Saskatoon, Sask.**

**Chairpersons: D. Jones (presiding) and L.A. Johnson, Texas A&M University, College Station, TX.**

- 2:00 255. INCREASING UTILIZATION EFFICIENCY OF WORLD PROTEIN RESOURCES. M. Satin, Industrial Grain Products, Montreal, Que.
- 2:30 256. THE NECESSITY FOR FUTURE OILSEED PROCESSING TECHNOLOGY TO YIELD NONDENATURED PROTEINS. E.D. Murray and E.D. Arntfield, University of Manitoba, Winnipeg, Man.

- 3:00 257. BIOENGINEERING AND OILSEED PROTEINS. C.A. Bock, POS Pilot Plant Corporation, Saskatoon, Sask.
- 3:30 258. RHEOLOGICAL ASSESSMENT OF FUNCTIONAL PROPERTIES OF OILSEED MEAL PROTEINS. M.A. Tung and B.D. Ladbroke, University of British Columbia, Vancouver, B.C.
- 4:00 259. EFFECT OF RECOVERY METHODS ON THE FUNCTIONALITY OF VEGETABLE PROTEINS. D. Knorr, University of Delaware, Newark, DE.
- 4:20 260. CORRELATION BETWEEN APPARENT VISCOSITY OF EXTRUDED DEFATTED SOY FLOUR AND DIE SHEAR RATE. B.-W. Huang and H.G. Schwartzberg, University of Massachusetts, Amherst, MA.
- 4:40 261. CORN PROTEIN CONCENTRATE: EXTRUSION STUDY. Y.C. Jao and W.E. Goldstein, Miles Laboratories, Inc., Elkhart, IN.

**1:30 p.m.—Algoma**

**SESSION 43—General: Biochemistry III—Lipid Composition**

**Chairpersons: To be named.**

- 1:30 262. UNUSUAL LIPID COMPOSITION OF AN OBLIGATE PSYCHROPHILIC BACTERIUM. T. Kaneda, Alberta Research Council, Edmonton, Alta.
- 1:50 263. SATURATED, CYCLOPROPANE, MONOETHYLENIC AND POLYETHYLENIC BRANCHED-CHAIN FATTY ACIDS OF INSECT GUT-DWELLING FLAGELLATED PROTOZOANS. W.R. Fish, G.G. Holz, Jr., and D.H. Beach, Upstate Medical Center, Syracuse, NY.
- 2:10 264. LIPID AND FATTY ACID COMPOSITION IN LARVAE OF *CRASSOSTREA VIRGINICA* DURING DEVELOPMENT. F.-L.E. Chu, K.L. Webb and B.B. Casey, Virginia Institute of Marine Science, Gloucester Point, VA.
- 2:30 265. BIOCHEMICAL CHARACTERIZATION OF THE MICROSOMAL LIPIDS OF *CARCHARIAS TAURUS*. A.O. Emokpae and G.E. Anekwe, University of Lagos, Lagos, Nigeria.
- 2:50 266. EFFECTS OF VITAMIN B<sub>12</sub> DEFICIENCY ON FATTY ACID PATTERNS ON LUNG PHOSPHATIDYLCHOLINE. J.J. Peifer, University of Georgia, Athens, GA.
- 3:10 267. USE OF UNSAPONIFIABLE MATTER FOR DETECTION OF GHEE ADULTERATION WITH OTHER FATS. R.S. Farag and F.A. Ahmed, Cairo University, Giza, Egypt, A.A. Shihata, Helwan University, S.H. Abo-rya and A.F. Abdalla, Cairo University.
- 3:30 268. LIPID COMPOSITION OF MILK OF MOTHERS OF PREMATURE AND FULL-TERM INFANTS. J. Bitman and D.L. Wood, Beltsville Agricultural Research Center, Beltsville, MD, M. Hamosh, P. Hamosh and N.R. Mehta, Georgetown Medical School, Washington, DC.
- 3:50 269. PHOSPHOLIPID COMPOSITION AND STEROL EFFLUX FROM L-929 CELLS. Y. Son and C.E. Holmlund, University of Maryland, College Park, MD.
- HONORED STUDENT PRESENTATION**
- 4:10 270. COMPOSITIONAL CHANGES OF PERIPHERAL NERVE GLYCOLIPIDS WITH DEVELOPMENT AND WALLERIAN DEGENERATION. J.K. Yao and P.J. Dyck, Mayo Clinic, Rochester, MN.
- 4:30 271. EFFECT OF DIETARY FATTY ACIDS ON LIPID COMPOSITION AND DESATURASE ACTIVITY IN CHICKEN LIVER MICROSOMES. B.H.S. Cho, Moore Heart Research Foundation, Champaign, IL.
- 4:50 272. THE EFFECT OF LOCAL ANESTHETICS ON CHOLESTEROL ESTERIFICATION AND ACCUM-

ULATION IN CULTURED CELLS. F.P. Bell, The Upjohn Company, Kalamazoo, MI, G.H. Rothblat and M. Bamberger, Medical College of Pennsylvania.

2:00 p.m.—Civic Ballroom

**SESSION 44—Symposium: Control of Linolenic Acid in Edible Oils**

**Organizer: R. Kleiman, Northern Regional Research Center, Peoria, IL.**

**Chairperson: R. Kleiman.**

- 2:00 273. GENETIC IMPROVEMENT OF SOYBEAN OIL. K.J. Smith, American Soybean Association, St. Louis, MO.
- 2:30 274. THE POTENTIAL FOR MODIFICATION AND STABILIZATION OF SOYBEAN OIL USING SUBSTITUTED PYRIDAZINONES. D.E. Terlizzi, J.B. St. John and M.N. Christiansen, Beltsville Agricultural Research Center, Beltsville, MD.
- 3:00 275. PROGRESS IN BREEDING FOR SOYBEAN OIL WITH LOW LINOLENIC ACID. E.G. Hammond and W.R. Fehr, Iowa State University, Ames, IA.
- 3:30 276. EFFECT OF GENETIC SELECTION ON LIPID METABOLISM IN SOYBEANS. R.F. Wilson, North Carolina State University, Raleigh, NC.
- 4:00 277. SOYBEAN GERMLASM EVALUATION—SEARCH FOR LOW LINOLENIC LINES. R. Kleiman and J.F. Cavins, Northern Regional Research Center, Peoria, IL.
- 4:30 277A. CHANGES AND LIMITATIONS OF BREEDING FOR IMPROVED POLYENOIC FATTY ACIDS CONTENT IN RAPESEED. G. Röbbelen, University of Göttingen, Göttingen, Germany.

2:00 p.m.—Grand Ballroom Centre

**SESSION 45—Question and Answer: The Hardening Plant**

**Organizer: R.C. Hastert, Harshaw Chemical Company, Cleveland, OH.**

**Moderator: R.C. Hastert.**

- Panel: H. Gil A., Gamesa S.A., Obregon, Sonora, Mexico.  
E.G. Latondress, Davy McKee Corporation, Chicago, IL.  
J.V. Thompson, Durkee Foods-SCM, Louisville, KY.  
J.B. Yeates, Archer Daniels Midland Co., Lincoln, NE.  
G.S. Farmer, Anderson Clayton Foods Inc., Dallas, TX.  
J.R. Carroll, A.E. Staley Manufacturing Co., Decatur, IL.  
W.H. Walker, Humko Products, Memphis, TN.  
J.O. Wheeler, Hunt-Wesson Foods, Savannah, GA.  
J.H. Ritchie, Canada Packers Inc., Montreal, Que.

2:00 p.m.—Essex

**SESSION 46—Symposium: Soaps and Detergents V—Application of Surfactants in the Petroleum Industry**

**Organizer: H. Stupel, Shell Chemical Company, Houston, TX.**

**Chairpersons: H. Stupel (presiding) and J. Novosad, Petroleum Recovery Institute, Calgary, Alta.**

- 2:00 278. CARBON DIOXIDE FLOODING FOR ENHANCED OIL RECOVERY: PROMISE AND PROBLEMS. F.M. Orr, Jr., J.J. Taber and J.P. Heller, New Mexico Institute of Mining and Technology, SOCORRO, NM.
- 2:30 279. SURFACTANT-ENHANCED STEAM DRIVES FOR HEAVY OIL RECOVERY. R.E. Dilgren and K.B. Owens, Shell Development Company, Houston, TX.
- 3:00 280. APPLICATION OF SURFACTANTS IN THE PETROLEUM INDUSTRY. R.C. Nelson, Shell Development Company, Houston, TX.
- 3:30 281. THE USE OF INORGANIC SACRIFICIAL AGENTS IN COMBINATION WITH SURFACTANTS IN ENHANCED OIL RECOVERY. J.S. Falcone, P.H. Krumrine and G.C. Schweiker, The PQ Corporation, Lafayette Hill, PA.

- 4:00 282. A STUDY OF SURFACTANT FLOODING AT HIGH SALINITY AND HARDNESS. J. Novosad, B. Maini and J. Batycky, Petroleum Recovery Institute, Calgary, Alta.

- 4:30 283. ENHANCED OIL RECOVERY CHEMICAL NEEDS. B.M. O'Brien, Exxon Chemical Americas, Houston, TX.

2:00 p.m.—Grand Ballroom Lobby

**SESSION 47—Poster Session**

- P13. SYNTHESIS OF 1-O-ALKYL [ALKYL<sub>3</sub>-1',2'-<sup>3</sup>H]-2-ACETYL AND 1,2-DIPALMITOYL[2-PALMITOYL-9,10-<sup>3</sup>H]-SN-GLYCERYL-3-PHOSPHORYL-CHOLINE. U.H. Do and D.G. Ahern, New England Nuclear Corporation, Boston, MA.
- P14. OBSERVATIONS ON THE ACYLATION OF 1-PALMITOYL-GLYCEROPHOSPHORYLCHOLINE WITH FATTY ACID ANHYDRIDES. R.W. Evans, M.A. Williams and J. Tinoco, University of California, Berkeley, CA.
- P15. DIFFICULTIES IN USING THE IATROSCAN FOR THE QUANTIFICATION OF COMPONENTS OF A LIPID MIXTURE. R.T. Crane, S.C. Goheen, E.C. Larkin and G.A. Rao, Veterans' Administration Medical Center, Martinez, CA.
- P16. CAPILLARY GAS LIQUID CHROMATOGRAPHY OF CHOLESTERYL ESTERS. N.B. Smith, University of Western Ontario, London, Ont.
- P17. ACCUMULATION OF ERUCIC ACID IN RAT ADRENAL AND OVARY: A TIME-COURSE STUDY. B.L. Walker, University of Guelph, Guelph, Ont.
- P18. THE EFFECT OF SELECTED ANTIOXIDANTS ON THE STABILITY OF VIRGIN OLIVE OIL. A.K. Kiritsakis, Higher Technical Education School (KATEE), Salonika, Greece, L.R. Dugan and C.M. Stine, Michigan State University, East Lansing, MI.
- P19. SOME EFFECTS OF DEEP-FAT FRYING ON LIPIDS OF FAST FOODS. L.M. Smith, A.J. Clifford, R.K. Creveling, C.L. Hamblin and W.L. Dunkley, University of California, Davis, CA.
- P20. CONVERSION OF USED FRYING OIL AND FAT TO A FUEL FOR DIESEL ENGINES BY TRANSESTERIFICATION. M.J. Nye, University of Guelph, Guelph, Ont.
- P21. TESTING VARIOUS FATTY ACID ESTERS AS DIESEL FUELS. W.E. Klopfenstein and H.S. Walker, Kansas State University, Manhattan, KS.
- P22. "HYAMINE" TITRATION RESPONSES TO ALCOHOL AND ETHOXYLATED ALCOHOL SULFATES AND ALKYL ARYL SULFONATES USING METHYLENE BLUE, BROM CRESOL GREEN AND MIXED INDICATOR, TWO-PHASE TECHNIQUES. F.C. Veatch, J.L. Hoyt and D.L. Carson, Conoco, Inc., Ponca City, OK.

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**Thursday, May 6**

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9:00 a.m.—Dominion Ballroom South

**SESSION 48—Special: Metabolism of Unsaturated Fatty Acids**

**Organizers: J.L. Beare-Rogers, National Health and Welfare, Ottawa, Ont., and J.K.G. Kramer, Agriculture Canada, Ottawa, Ont.**

**Chairpersons: J.K.G. Kramer (presiding) and U.M.T. Houtsmuller, Unilever Research Vlaardingen, The Netherlands.**

- 9:00 284. POLYENE FATTY ACID COMPOSITION OF HEART MUSCLE PHOSPHOLIPIDS MODIFIED BY AGING, DIET AND CATECHOLAMINES.

S. Gudbjarnason, University of Iceland, Reykjavik, Iceland.

- 9:30 285. BIOLOGICAL PROPERTIES OF SOME POLY-UNSATURATED FATTY ACIDS WITH ONE *TRANS* DOUBLE BOND. U.M.T. Houtsmuller, Unilever Research, Vlaardingen, The Netherlands.
- 10:00 286. EFFECTS OF PARTIALLY HYDROGENATED VEGETABLE AND MARINE OILS ON MITOCHONDRIAL FUNCTION, MEMBRANE PHOSPHOLIPID FATTY ACIDS AND MICROSOMAL DESATURASE ACTIVITY IN THE RAT. R. Blomstrand and L. Svensson, Huddinge University Hospital, Huddinge, Sweden.
- 10:30 287. HYDROGENATED VEGETABLE OIL FATTY ACID ISOMERS: INCORPORATION INTO INDIVIDUAL LIPID CLASSES OF HUMAN TISSUES. J.B. Ohlrogge and E.A. Emken, Northern Regional Research Center, Peoria, IL.
- 11:00 288. COMPETITIVE DEPOSITION OF 8-, 10- AND 12-*TRANS*- VS 9-*CIS*-OCTADECENOATE IN THE LAYING HEN. A.C. Lanser, Northern Regional Research Center, Peoria, IL.
- 11:20 289. BIOSYNTHESIS OF OCTADECADIENOIC ACIDS FROM OCTADECENOIC ACIDS PRESENT IN PARTIALLY HYDROGENATED VEGETABLE OILS. L.D. Lawson, E.G. Hill and R.T. Holman, The Hormel Institute, Austin, MN.
- 11:40 290. SUPPRESSION OF POLYUNSATURATED FATTY ACID METABOLISM IN RATS BY DIETARY PARTIALLY HYDROGENATED VEGETABLE OIL OVER TWO GENERATIONS. E.G. Hill, L.D. Lawson and R.T. Holman, The Hormel Institute, Austin, MN.

**9:00 a.m.—Grand Ballroom West**

**SESSION 49—General: Analytical Procedures**

**Chairpersons: To be named.**

- 9:00 291. COMPARATIVE EVALUATION OF 6 METHODS OF SOLVENT EXTRACTION WITH RESPECT TO NEUTRAL AND POLAR LIPIDS IN MEAT. M.R. Sahasrabudhe and B.W. Smallbone, Agriculture Canada, Ottawa, Ont.
- 9:20 292. POSSIBILITIES FOR BETTER PRECISION OF THE ANALYSIS OF SHORT-CHAIN FATTY ACIDS. G. Bigalli, R.D. Houseal, Jr., and D.R. Eichelberger, Hershey Foods Corporation, Hershey, PA.
- 9:40 293. DETERMINATION OF *TRANS* FATTY ACIDS IN MILKFAT. L. deMan, Food Specialities Co. Ltd., Ajax, Ont., and J.M. deMan, University of Guelph, Guelph, Ont.
- 10:00 294. POLAR CAPILLARY GLC OF MOLECULAR SPECIES OF DIACYL, ALKYLACYL AND ALKENYLACYLGLYCEROL MOIETIES OF PHOSPHOLIPIDS. J.J. Myher and A. Kuksis, University of Toronto, Toronto, Ont.
- 10:20 295. HIGH PERFORMANCE LIQUID CHROMATOGRAPHY OF LIPIDS USING UV-DETECTION. B.G. Herslöf and T.J. Pelura, KabiVitrum AB, Stockholm, Sweden.
- 10:40 296. ANALYSIS OF LIPIDS BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY VIA FLAME IONIZATION DETECTOR AND MASS SPECTROMETRY. W.L. Erdahl, F.C. Phillips, W.R. Anderson and O.S. Privett, The Hormel Institute, Austin, MN.
- 11:00 297. ANALYSIS OF DOLICHYL PHOSPHATE BY HIGH PRESSURE LIQUID CHROMATOGRAPHY. N. Chaudhary, D.J. Freeman, J.W. Rip and K.K. Carroll, University of Western Ontario, London,

Ont.

- 11:20 298. SEPARATION OF ISOMERS OF FATTY ACID METHYL ESTERS BY HPLC USING A SILVER-LOADED ALUMINOSILICATE COLUMN. T. Grossberger, Best Foods, Union, NJ.
- 11:40 299. RETENTION BEHAVIOR OF TRIGLYCERIDES ON A REVERSE-PHASE COLUMN USING PSEUDOPHASE LIQUID CHROMATOGRAPHY. J.A. Singleton and H.E. Pattee, North Carolina State University, Raleigh, NC.

**9:00 a.m.—Algoma**

**SESSION 50—Symposium: Phospholipid Exchange Systems**  
**Organizer: G.M. Helmkamp, Jr., University of Kansas Medical Center, Kansas City, KS.**

**Chairperson: G.M. Helmkamp, Jr.**

- 9:00 300. NONSPECIFIC LIPID TRANSFER PROTEINS AS PROBES OF MEMBRANE STRUCTURE AND FUNCTION. R.C. Crain, University of Connecticut, Storrs, CT.
- 9:30 301. USE OF FLUORESCENT PHOSPHOLIPID ANALOGS IN STUDIES ON PHOSPHOLIPID TRANSFER PROTEINS. P. Somerharju and K.W.A. Wirtz, State University of Utrecht, Utrecht, The Netherlands.
- 10:00 302. MODULATION OF PHOSPHOLIPID TRANSFER PROTEIN ACTIVITY. G.M. Helmkamp, Jr., University of Kansas Medical Center, Kansas City, KS.
- 10:30 303. PHOSPHOLIPID TRANSFER PROTEINS IN THE LUNG SURFACTANT SYSTEM. R.H. Lumb, Western Carolina University, Cullowhee, NC.
- 11:00 304. THE USE OF RESONANCE ENERGY TRANSFER TO STUDY THE KINETICS OF AMPHIPHILE TRANSFER BETWEEN VESICLES. J.W. Nichols and R.E. Pagano, Carnegie Institute of Washington, Washington, DC.
- 11:30 305. MODE OF ACTION OF PHOSPHOLIPID TRANSFER PROTEINS. T.E. Thompson, University of Virginia, Charlottesville, VA.

**8:30 a.m.—Civic Ballroom**

**SESSION 51—General: Fat and Flavor Stability**

**Chairpersons: D.B. Min, Ohio State University, Columbus, OH (presiding), and W.W. Nawar, University of Massachusetts, Amherst, MA.**

- 8:30 306. FACILE FORMATION OF KETONES FROM  $\beta$ -KETO ESTERS UNDER ANHYDROUS CONDITIONS. R. Aneja, Clemson University, Clemson, SC, A.P. Davies and G. Eaton, Unilever Research, Sharnbrook, Bedford, United Kingdom.
- 8:50 307. AUTOMATED AOM TEST FOR FAT STABILITY. J.M. deMan, University of Guelph, Guelph, Ont.
- 9:10 308. DETERMINATION OF VEGETABLE OIL FLAVOR QUALITY BY PURGE AND TRAP ANALYSIS. J.N. Geske and G.G. Spyres, A.E. Staley Manufacturing Co., Decatur, IL.
- 9:30 309. VOLATILE PROFILES OF FATS AND OILS EMPLOYING AUTOMATED DIRECT GAS LIQUID CHROMATOGRAPHIC PROCEDURE. J.L. Gensic, B.F. Szuhaj and J.G. Endres, Central Soya Company Inc., Fort Wayne, IN.
- 9:50 310. ISOLATION AND CHARACTERIZATION OF THE NATURAL ANTIOXIDANTS FROM ROSEMARY. S.S. Chang and C.-T. Ho, Rutgers, The State University, New Brunswick, NJ, and J.W. Wu, Mrs. Paul's Kitchens.
- 10:10 311. THE QUANTITATIVE EFFECTS OF CHELATE, PROOXIDANT AND OXYGEN CONTENT ON THE OIL FLAVOR STABILITY DURING STORAGE. D.B. Min and J. Wen, Ohio State University, Columbus, OH.
- 10:30 312. FLAVOR AND OXIDATIVE STABILITY OF

HYDROGENATED AND UNHYDROGENATED SOYBEAN OIL: EFFICACY OF PLASTIC PACKAGING. K. Warner and T.L. Mounts, Northern Regional Research Center, Peoria, IL.

- 10:50 313. INVESTIGATION OF 1-DECYNE FORMATION IN COTTONSEED OIL FRIED FOODS. L.L. Fan, J.-Y. Tang and A. Wohlman, Frito-Lay, Inc., Irving, TX.
- 11:10 314. QUANTIFICATION AND IDENTIFICATION OF VOLATILES FROM TRINOLENIN HEATED IN AIR. E. Selke and W.K. Rohwedder, Northern Regional Research Center, Peoria, IL.
- 11:30 315. ANTIOXIDANT ACTIVITY OF SODIUM NITRITE IN MEAT. M. Zubillaga, T.A. Foglia and G. Maerker, Eastern Regional Research Center, Philadelphia, PA.
- 11:50 316. LINOLEIC ACID OXIDATION CATALYZED BY AMADORI COMPOUNDS IN AQUEOUS MEDIA. R.S. Farag, Y. Ghali and M.M. Rashed, Cairo University, Giza, Egypt.

9:00 a.m.—Dufferin

**SESSION 52—Symposium: Non-food Use of Plant Oils**  
**Organizer: E.H. Pryde, Northern Regional Research Center, Peoria, IL.**

**Chairpersons: E.H. Pryde and M.O. Bagby, Northern Regional Research Center, Peoria, IL.**

- 9:00 317. CHEMICALS, FUELS, AND MATERIALS FROM WHOLE PLANTS. M.O. Bagby, Northern Regional Research Center, Peoria, IL.
- 9:30 318. INTERPENETRATING POLYMER NETWORKS FROM TRIGLYCERIDE OILS CONTAINING SPECIAL FUNCTIONAL GROUPS. L.H. Sperling and J.A. Manson, Lehigh University, Bethlehem, PA.
- 10:00 319. CROP ORIGIN OILS AS ADDITIVES TO HERBICIDES. J.D. Nalewaja, North Dakota State University, Fargo, ND.
- 10:30 320. REDUCING DUST BY USE OF VEGETABLE OIL. F.S. Lai, U.S. Grain Marketing Research Laboratory, Manhattan, KS.
- 11:00 321. PLASTICIZERS FROM MODIFIED VEGETABLE OILS. E.H. Pryde, Northern Regional Research Center, Peoria, IL.

9:00 a.m.—Grand Ballroom East

**SESSION 53—Special: New Processing Procedures**

**Organizer: H.G. Duff, Canada Packers Inc., Toronto, Ont.**

**Chairperson: H.G. Duff.**

- 9:00 322. DESIGN OF A 50,000-LB/HR SOLAR STEAM PLANT. D.J. Allen and A.C. Gangadharan, Foster Wheeler Solar Development Corporation, Livingston, NJ.
- 9:30 323. CRYSTALLIZATION AND PULVERIZATION OF FAT AND FAT-LIKE SUBSTANCES. E.-W. Muench and W. Stein\*, Krupp Industrie, Hamburg, Germany.
- 10:00 324. RECENT DEVELOPMENTS IN ELECTROLYTIC GENERATION OF HYDROGEN. A.F. Hufnagl, The Electrolyser Corporation, Toronto, Ont.
- 10:30 325. SOLVENT EXTRACTION OF SPENT CLAY. G.L. Posschelle, De Smet USA Corporation, Atlanta, GA.
- 11:00 326. APPLICATION OF SUPERCRITICAL FLUIDS. A.B. Caragay and C. Eppig, Arthur D. Little Inc., Cambridge, MA.
- 11:30 327. PROCESSING OF EDIBLE OILS OBTAINED BY EXTRACTION WITH SUPERCRITICAL CARBON DIOXIDE. G.R. List, J.P. Friedrich and D. Christianson, Northern Regional Research Center, Peoria, IL.
- 11:50 328. CONTINUOUS ACIDULATION OF SOAPSTOCK AND RECOVERY OF ACID OIL. T.K. Mag, D.H. Green and A.T. Kwong, Canada Packers Inc., Toron-

to, Ont.

9:00 a.m.—Essex

**SESSION 54—Special: Biotechnology—Biosurfactants and Waxes**

**Chairperson: J.E. Zajic, University of Texas, El Paso, TX.**

- 9:00 329. CHEMICAL SPECIES CONTRIBUTING TO THE DE-EMULSIFYING ABILITY OF BACTERIAL CELL SURFACES. W.L. Cairns, R. Rumble and N. Kosaric, University of Western Ontario, London, Ont.
- 9:30 330. EMULSIFICATION EVALUATION OF BACTERIA USING HYDROPHILIC-LIPOPILIC BALANCE (HLB) VALUES. J. Zajic and W. Seffens, University of Texas, El Paso, TX.
- 10:00 331. PRODUCTION OF SURFACTIN FROM *BACILLUS SUBTILIS*. D.G. Cooper, McGill University, Montreal, PQ, C.R. MacDonald, University of Guelph, Guelph, Ont., S.J.B. Duff and N. Kosaric, University of Western Ontario, London, Ont.
- 10:30 332. INTERACTION OF EMULSAN WITH HYDROCARBONS. D.L. Gutnick, Z. Zosim and E. Rosenberg, Tel Aviv University, Tel Aviv, Israel.
- 11:00 333. SELECTING BIOSURFACTANTS FOR ENHANCED OIL RECOVERY (EOR): AN INTRODUCTION TO AN APPROACH INVOLVING STRUCTURE-FUNCTION CORRELATIONS. W.L. Cairns, J.M. Wood and N. Kosaric, University of Western Ontario, London, Ont.
- 11:20 334. BIOLOGICAL DE-EMULSIFICATION OF COMPLEX PETROLEUM EMULSIONS. N.C.C. Gray, A.L. Stewart, W.L. Cairns and N. Kosaric, University of Western Ontario, London, Ont.
- 11:40 335. SUBSTRATE-DEPENDENT AND GROWTH TEMPERATURE-DEPENDENT CHANGES IN TYPES OF WAX ESTERS PRODUCED BY *ACINETO-BACTER* SP. Ho1-N. J.L. Ervin, J. Geigert and S.L. Neidleman, Cetus Corporation, Berkeley, CA.

9:00 a.m.—Dominion Ballroom North

**SESSION 55—Symposium—Engineering Control**

**Organizer: J.C. Weber, Procter & Gamble, Cincinnati, OH.**

**Chairpersons: J.C. Weber (presiding) and M. Stein, Procter & Gamble, Cincinnati, OH.**

- 9:00 336. OIL REFINERY LOSS MONITORING AND CONTROL SYSTEMS. P.F. Elliott, Elliott Automation Company Inc., Houston, TX.
- 9:30 337. AN INTEGRATED CONTROL AND INFORMATION SYSTEM APPLIED TO AN EDIBLE OILS PLANT. E.W. Ralph, Procter & Gamble, Cincinnati, OH.
- 10:00 338. OIL RECOVERY TECHNIQUES. W.T. Wall, Jr., and W.M. Throop, Envirex Inc., Waukesha, WI.
- 10:30 339. ELIMINATION OF AIR AND WATER POLLUTION BY DOUBLE-STAGE SCRUBBER. A. Athanassiadis, Extraction De Smet NV, Antwerp, Belgium.
- 11:00 340. MIXING—DESIGN AND SCALE-UP FOR NON-NEWTONIAN FLUIDS. A. Dhruv, Anderson Clayton Foods, Richardson, TX.
- 11:30 341. OIL PROCESSING—PROCESS SAFETY. R. Meyer, Procter & Gamble, Cincinnati, OH.

9:00 a.m.—Grand Ballroom Centre

**SESSION 56—General: Protein—Processing and Nutritional Aspects**

**Chairpersons: R.D. Phillips, University of Georgia, Experiment, GA, and K.C. Rhee, Texas A&M University, College Station, TX.**

- 9:00 342. AQUEOUS PROCESSING OF LUPINES. J.M. Aguilera, M.F. Gerngross and E.W. Lusas, Texas A&M University College Station, TX.

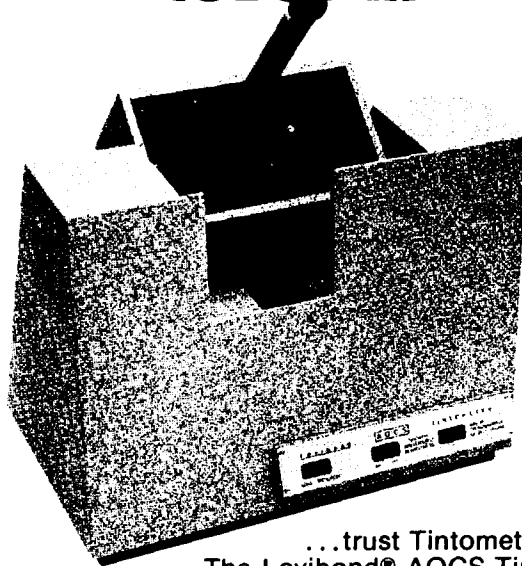
- 9:20 343. ABRASIVE DRY MILLING OF COWPEAS. R.D. Phillips and M.S. Chinnan, University of Georgia, Experiment, GA.
- 9:40 344. GAS LIQUID CHROMATOGRAPHIC SEPARATION OF PHENOLIC ACIDS IN OILSEED AND LEGUME FLOURS. K.J. Dabrowski and F.W. Sosulski, University of Saskatchewan, Saskatoon, Sask.
- 10:00 345. SUPPLEMENTATION OF BAKERY ITEMS WITH HIGH-PROTEIN PEANUT FLOUR. R.L. Ory and E.J. Conkerton, Southern Regional Research Center, New Orleans, LA.
- 10:20 346. COMPOSITIONAL, PHYSICAL, AND SENSORY CHARACTERISTICS OF AKARA PROCESSED FROM COWPEA PASTE AND NIGERIAN COWPEA FLOUR. K.H. McWatters, University of Georgia, Experiment, GA.
- 10:40 347. NUTRITIONAL AND PHYSIOLOGICAL RESPONSE OF RATS TO DIETS CONTAINING WHOLE DECORTICATED AND DECORTICATED-STEAMED COWPEAS. R.D. Phillips and J.G. Adams, University of Georgia, Experiment, GA.
- 11:00 348. EFFECT OF TEMPERATURE, TIME, AND MOISTURE TREATMENT ON SOME NUTRITIONAL AND FUNCTIONAL PROPERTIES OF COWPEA PROTEINS. R.D. Phillips and L.G. Mendoza, University of Georgia, Experiment, GA.
- 11:20 349. SUBSTITUTION OF SOY FOR BEEF AND FISH IN HUMAN DIETS: IMPACT ON SEVERAL NUTRITIONAL PARAMETERS. C. Kies and H.M. Fox, University of Nebraska, Lincoln, NE.
- 11:40 350. THE COMPARATIVE EFFECT OF DIETARY ANIMAL AND VEGETABLE PROTEIN ON GALLSTONE FORMATION AND BILIARY CONSTITUENTS IN THE HAMSTER. G.U. Liepa and S. Mahfouz, Texas Woman's University, Denton, TX.

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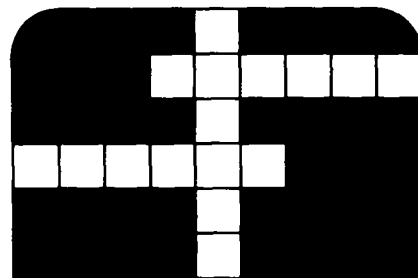
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AOCS  
World  
Conference  
on

# Oilseed and Edible Oil Processing

The Hague • The Netherlands<sup>1</sup> • October 3-8, 1982

## Netherlands-American bicentennial

The World Conference on Oilseed and Edible Oil Processing is one of a series of events officially designated part of the Netherlands-American Bicentennial observance.

The actual observance will last from April 19 until Oct. 8, 1982, which means the conference, to be held Oct. 3-8, comes in the final week. The dates were chosen because April 19, 1792, was the date that The Netherlands became the second nation (after France) to extend diplomatic recognition to the colonial rebels, whereas Oct. 8, 1792, was the date the first foreign aid agreement between the two nations was signed—with The Netherlands sending cash to the fledgling nation in North America.

There are two celebrations—one in the United States, designed to make U.S. residents more aware of Dutch culture, and the other in The Netherlands, designed to show U.S. culture to the Dutch.

One strictly Dutch event that will be part of the observance is the Floriade '82. The international horticultural exhibition opens April 8 and runs until Oct. 10 in a 125-acre park in southeast Amsterdam. The event, held once every 10 years or so, will include thousands of outdoor plants as well as a series of 13 indoor exhibitions to be held at a 7,000-square-meter flower hall.

Several American art exhibits will be held in The Netherlands during the year, and a series of one-man shows at the Stedelijk Museum in Amsterdam should be in session during the conference.

Back in 1782, The Netherlands' recognition was a result of international politics, commercial motives, and sympathy for a small power trying to become independent of one of the world's superpowers. The Netherlands and Great Britain were commercial competitors in seagoing trade lanes. When American sea captain John Paul Jones docked in The Netherlands after his *Bon Homme Richard* had defeated the *Serapis* and *Comtesse de Scarborough*, he became a celebrity in Amsterdam. Even today, Dutch children learn a popular song, "Jan-Powel Jonas," named for the American naval hero.

Amsterdammers, desirous of maintaining trade with the colonies, had discussed a possible treaty with colonial representatives as early as 1778. These discussions were secret, however, for Amsterdam merchants had no authority to negotiate a treaty for the entire nation. The idea was to reach wording satisfactory to Amsterdam merchants and the U.S. congress, then to present the treaty to the Dutch parliament, or States-General. Unfortunately, the British intercepted a copy in 1780 and used it as one basis for declaring war on The Netherlands, whose government had known nothing about the discussions. Partially as a result, individual provinces in The Netherlands began in 1781 to recognize John Adams as an official representative of the new American government, and on April 19, 1782, the national government did the same.

Coincidentally, when Pieter Johan van Berckel, The Netherlands' first ambassador to the new government, arrived in North America in October 1783, the Continental Congress had left endangered Philadelphia to reconvene in Princeton, New Jersey, in Nassau Hall, named for William III, Prince of Orange of the "illustrious house of Nassau" who had become king of England in 1688. It was in Nassau Hall that van Berckel presented his credentials to the Congress.

A bicentennial commission historical summary says that



The Congress Center in The Hague, site for October 1982 World Conference on Oilseed and Edible Oil Processing.

while France was the first nation to recognize the Continental Congress, France was a superpower and long an antagonist of Great Britain. "The Netherlands and the United States, on the other hand, negotiated as equals, both facing the clear possibility of reprisal by major powers as a result of their decisions," the summary says. "This stubborn people by the North Sea welcomed another republic of proud and stubborn folk across the ocean. The recognition of the United States by The Netherlands, actually, underlined the fact that the new nation in North America was truly independent, even of the French, and was accepted as a sovereign state by its contemporaries and equals." □

## Conference to address major concerns

The major concerns of the edible oils industry will be the main topics during the World Conference on Oilseed and Edible Oil Processing to be held Oct. 3-8, 1982, in The Hague's Congress Center.

The five dozen plenary speakers will be specifically instructed to include data on product yield, energy consumption, and manpower requirements for each step of oilseed and edible oil processing. Not only will energy consumption data be included, but speakers also are asked to provide the latest information on how to conserve energy. Environmental considerations within each step of the process, and how these fit into the over-all operation, will be discussed. Finally, each speaker is asked to consider how each step of the process affects the quality of the final product. All talks are to emphasize information that is new since the 1976 world conference on oilseed and vegetable oil processing.

In that respect, for example, the session on oilseed processing will include papers on new methods of preparatory treatment for oil-bearing materials, new techniques in extraction, including a look at potential new solvents, and discussion of safety measures.

In the edible oil processing sessions, talks will include new techniques used before physical refining. Hydrogenation theory and practice will be discussed, along with interesterification and restructuring, deodorization, formulation and a special talk on how each step of the processing operation affects the results of later processing operations.

Economical handling and use of by-products will be discussed in papers on lecithin, soapstocks, catalysts, and deodorization and physical refining by-products. The session on trading and quality will include talks that examine new analytical methods available to the industry, how quality affects trading value, how to confirm the identity of an oil or a blended oil, and quality levels required by processing.

There will be talks on the unique characteristics of major oils in international trade and how those characteristics can affect processing considerations as well as end use.

The final day of the conference will specifically cover energy conservation in extraction and processing, current and potential applications of automation and a series of talks on long-term directions in the fats and oils industry, including a look at end products, processing methods and equipment, and new sources for raw materials.

Another part of the conference will be an exposition

featuring suppliers to the industry. Firms and organizations that wish to participate should write Patrick Graham, Advertising Manager, AOCS, 508 S. Sixth St., Champaign, IL 61820.

Persons who wish to receive registration material when it becomes available later this year should send their names and complete mailing addresses to AOCS at the same address. □

## 24 participating organizations

Twenty-four organizations in North America, Europe, Asia and Australia have agreed to be participating organizations for the World Conference on Oilseed and Edible Oil Processing to be held Oct. 3-8, 1982, in The Hague.

These organizations participate by naming members to be the planning and steering committees as well as relaying information about the meeting to their members.

The participating groups include:

U.S. Department of Agriculture's Agricultural Research Service; Tropical Products Institute, U.K.; Food and Agricultural Organization (FAO); Italian Oil Chemists' Society; Swedish Oilseed Growers Association; Institute of Food Research and Products Development at Kasetsart University, Thailand; Oil Technologists Association of India (OTAI); Australian Institute of Food Science and Technology; the French Institut des Corps Gras; International Oil Mill Superintendents Association; American Association of Cereal Chemists; Agriculture Canada's Food Research Institute.

The National Institute of Oilseed Products (NIOP); DGF (German Society for Fat Research); Groupe Consultatif International de Recherche sur le Colza (France); VERNOF (Association of Dutch Manufacturers of Edible Oils and Fats); FEDIOL (EEC Seed Crushers and Oil Processors Federation, Belgium); Federation of Oils, Seeds and Fats Associations (FOSFA), U.K.; American Soybean Association; Society of Chemical Industry's Fats and Oils Group, U.K.; British Food Manufacturing Industries Research Association; Institute of Shortening and Edible Oils, U.S.; Palm Oil Research Institute of Malaysia (PORIM); and the National Cottonseed Products Association, U.S. □



## DGF announces meeting program

The German Society for Fat Science's Vortragstagung 1982 will be held in Wiesbaden from October 11-14, 1982. Some of the topics to be covered include analysis, nutritional value of oil, protein as feed, paint, detergents, and biology and chemistry of lipids. For more information and a copy of the meeting program, write to DGF-Geschäftsstelle, Soester Strasse 13, D-4400 Münster. □

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