

P20

Elimination of Toxic Compounds, Nutritional Evaluation and Partial Characterization of Protein from Jojoba Meal

L.A. Medina, A. Trejo and M. Sánchez, University of Sonora, Hermosillo, Sonora, Mexico

P21

Protein Extractability of Defatted Jojoba Meals: Effects of Ph and Salt Concentration

Walter J. Wolf, Mardell L. Schaer and Thomas P. Abbot, USDA, Northern Regional Research Center, Peoria, IL, USA

P22

Monitoring Jojoba Toxins by Fourier Transform Infrared Spectroscopy and HPLC

T.P. Abbot, R.E. Peterson, L.K. Nakamura, T.C. Nelson and M.O. Bagby, USDA, Northern Regional Research Center, Peoria, IL, USA

Meetings

1988 meeting to feature 300 talks

Approximately 300 technical presentations are scheduled for the 1988 annual meeting of the American Oil Chemists' Society, to be held May 8-11, 1988, at the Phoenix Civic Plaza, Phoenix, Arizona.

The meeting registration desk in the Exhibit Hall (Hall E) at the Phoenix Civic Plaza will be open from 2 to 6:30 p.m. Sunday, May 8. The first social event is the Sunday evening opening mixer, which will be held in the registration/exhibit area from 6:30 to 8:30 p.m. There, participants will be able to renew acquaintances, meet new people and enjoy hors d'oeuvres and drinks.

The technical program will run from Monday morning, May 9, through late Wednesday afternoon, May 11. The annual awards breakfast is scheduled for 7:30 a.m. Monday in the Ballroom at the Phoenix Civic Plaza, with plenary sessions beginning at 9 a.m. The tentative technical program is published in this issue of *JAOCS*. The final program will be included in the meeting portfolios given to attendees at the registration desk.

In addition to Sunday afternoon hours, the registration desk will be open from 7 a.m. to 5 p.m. Monday and from 8 a.m. to 5 p.m. Tuesday and Wednesday. The accompanying exhibit is scheduled to be open Sunday, May 8, from 2-8:30 p.m.;

Monday and Tuesday, May 9-10, from 9 a.m. to 5 p.m., and on Wednesday, May 11, from 9 a.m. to 1:30 p.m.

Topics featured at the meeting will include the pharmacological effects of lipids—the role of lipids in carcinogenesis and therapy, a protein and co-products symposium, flavor chemistry of food lipids, new frontiers of plant lipid research, soaps and detergents, physical chemistry of fats and oils, frying fats and oils for the fast food industry, fats and oils processing, jojoba oil, dietary aspects of fats and oils with emphasis on omega-3 fatty acids, HPLC analysis of lipids and proteins, corrosion in processing equipment, disposal of bleaching clays, castor oil and meal, and capillary column chromatography.

A special feature at this year's meeting will be a session focusing on the outlook for oilseeds, fats and oils. Invited speakers are Thomas Mielke of *Oil World*, Joseph Smith of Oilseeds International, Philip Mackie of the U.S. Department of Agriculture's Foreign Agricultural Service and Mario Balletto, Merrill Lynch's oilseeds analyst in New York. The outlook session is scheduled for Monday, May 9.

Awards to be presented at the Monday breakfast will include the Supelco AOCs Research Award,

AOCs Award of Merit, The Soap and Detergent Association Award for best technical paper on surfactants and detergents published in *JAOCS* during 1987; the Archer Daniels Midland Awards for best technical papers relating to protein and co-products; and the Ralph H. Potts Memorial Fellowship. Also recognized will be the AOCs Honored Students and the top-ranking Smalley Check Sample Program participants.

There also will be an inaugural lunch, slated for Wednesday, May 11, at noon in the Ballroom. The incoming president will speak, and other new officers will be installed.

General chairman for the 1988 meeting is Arnold Gavin. Neil Widlak of Kraft Inc. serves as technical chairman. Other members of the local committee include the following: David C. Tandy of EMI Corp., registration; Frank Hutcheson of EMI, technical session arrangements; Mary McPherson, entertainment; John Woerfel, exhibits; Jay Patel of The Dial Corp., golf; Joan D. Gavin, spouses' program, and James H. Brown of Jojoba Growers & Processors, plant trip.

Registration and housing reservation forms are included in this issue of *JAOCS*. Additional copies may be obtained from Joan Dixon, Meetings Manager, AOCs, PO Box 3489, Champaign, IL 61821-0489. Registrants should send completed

housing reservation forms to the meeting Housing Bureau. The Hyatt Regency Phoenix and the Adams Hilton will be co-headquarters hotels for the meeting. All technical sessions, committee meetings, exhibits and social events will be held at the convention center, the Phoenix Civic Plaza.

Special events

Several sports tournaments and the now traditional Fat People's Fun Run and Walk will be held in conjunction with the 1988 AOCS annual meeting.

Golf and tennis tournaments are scheduled for 9 a.m. to noon Sunday, May 8. The Fat People's Fun Run and Walk is tentatively scheduled for 6:30 a.m. Tuesday, May 10. Buses will leave at 6 a.m. for the five-kilometer course.

On Monday evening, there will be an optional tour and steak dinner event. Buses will take participants from the hotels on a narrated tour of the Phoenix area and on to a stop at Rawhide, Arizona's 1880s town. The stop will include music, dancing, entertainment and steak dinners.

On Tuesday evening, many of the AOCS sections will hold cocktail receptions beginning at 5:30 p.m. For a listing of the section receptions, please check the registration form. The Protein and Co-Products Section, meanwhile, has scheduled its annual luncheon for Tuesday.

On Wednesday evening, instead of a traditional banquet, there will be a "Taste of the Southwest" event, featuring displays of handicrafts and decor native to the area and food, drinks and entertainment.

Once again, for the second year, there will be special interest box lunches held during the lunch-time breaks during the week to discuss common concerns and to learn how to become more directly involved in AOCS programs and activities. These will be announced in an upcoming issue of *JAACS*.

In addition, Joan D. Gavin of the local arrangements committee is organizing special activities for spouses attending the program.

Spouse's Program registration also includes tickets to the Sunday evening opening mixer.

Exhibitors

The exposition accompanying the AOCS annual meeting provides an opportunity for registrants to view the latest in equipment, supplies and services available to all segments of the fats and oils industry.

As of mid-November, 47 firms, for a total of 70 booths, had signed up to participate in the exhibit accompanying the 1988 AOCS annual meeting in Phoenix. Those firms include the following:

Amafilter
Amano International Enzyme Co.
American Colloid Co.
Anderson International Corp.
Bran + Luebbe
Brinkmann Instruments Inc.
Bruker Spectrospin
The Cambrian Engineering Group Ltd.
CEM Corp.
Centrico Inc.
Crown Iron Works Co.
De Smet USA Corp.
Eastman Chemical Products
Eirich Machines Inc.
EMI Corp.
Equipment Engineering
Florida Industrial Filters Inc.
The Foxboro Co.
French Oil Mill Machinery Co.
G. Mazzoni S.p.A.
Gist Brocades USA Inc.
Harshaw/Filtrol Partnership
Industrial Filter & Pump Mfg. Co.
Laporte Inorganics
Leybold Vacuum Products Inc.
Libra Laboratories
Linde Division, Union Carbide Corp.
Manville, Filtration & Minerals
Miles Inc.
N. Hunt Moore & Assoc. Inc.
Nicolet Instrument Corp.
Novo Laboratories Inc.
Nu-Chek-Prep Inc.
Oil-Dri Corp. of America
Pacific Scientific Co.
POS Pilot Plant Corp.
Prater Industries Inc.
Spectral Data Services Inc.
Süd Chemie AG Group
Tekmar Co.
The Tintometer Co.

Tramco Inc.
UOP Inc.
Varian Instrument Corp.
Votator Division of Cherry-Burrell
Waters Chromatography Division,
Millipore
Wurster & Sanger Inc.

Honored students

Five students have been selected as Honored Students for the 1988 AOCS annual meeting to be held in May in Phoenix.

The awardees are Patricia S. Clark of the Department of Food Science, University of Arkansas; Vincent F. D'Sousa of the Department of Food Science, University of Guelph; Steven N. Pind, C.H. Best Institute, University of Toronto; Craig C. Miller, Department of Biochemistry, University of California at Davis; and Behroze S. Mistry, Department of Food Science and Nutrition, Ohio State University.

Each honored student will receive a complimentary registration for the meeting, as well as funds to help defray travel and housing costs.

In addition to presenting technical papers and attending technical sessions, honored students are invited to participate in a variety of social events to talk with experienced fats and oils researchers.

Short courses

AOCS will hold three short courses during the four days before the 1988 annual meeting opens in New Orleans. The courses will be held May 4-7, 1988, at The Pointe Resorts, Phoenix.

Topics will be the following:

- Introduction to Fats and Oils Technology
- Lecithins: Sources, Manufacture and Uses
- Application of Pulsed NMR Techniques in Food Analysis

Opening receptions for each course will be held Wednesday, May 4, at 6:30 p.m. Technical ses-

Meetings

sions will begin on Thursday morning, May 5. The annual meeting registration form may be used to register for any of the short courses.

Introduction to Fats and Oils Technology

The purpose of this course is to provide fundamental information on fats and oils for new professionals in the field so that they can contribute more actively to the industry.

The program will include the following talks and speakers:

- Chemistry and Engineering Principles in Fats and Oils Technology, Anthony H. Chen, 3I Corp.
- Oilseed Handling and Crushing, David C. Tandy, EMI Corp.
- Refining and Winterization, Harry G. Duff, Canada Packers Inc.
- Bleaching and Hydrogenation, Robert C. Hastert, Harshaw/Filtrol Partnership
- Deodorization, Arnold M. Gavin, EMI EX/IM Corp.
- Margarine and Shortening, consultant Richard J. Bell
- Physical Properties and Applications of Fats and Oils, Peter J. Wan, Kraft Inc.
- Fats and Oil Oxidation, Sherman S. Lin, 3I Corp.
- Product Handling and Packaging, Lewis Erwin, Kraft Inc.
- Quality Assurance and Control, Monoj Gupta, Frito-Lay, Inc.
- By-Product Utilization, Karl T. Zilch, Emery Chemicals
- Protein and Co-Products, Kenneth E. Beery, Central Soya Co. Inc.
- Nutrition, George Liepa, Texas Woman's University
- Environmental, Michael J. Boyer, AES Engineering Inc.
- Economics of Fats and Oils Plant, Roy Carr, POS Pilot Plant Corp.
- Trading of Oils and Oilseeds, Stephan C. Anderson, Cargill Inc.
- Future Technology, Peter Wan, Kraft Inc.

Anthony H. Chen of 3I Corp. is chairman, assisted by co-chairman Peter J. Wan of Kraft Inc.

Lecithins: Sources, Manufacture and Uses

The purpose of this short course is to review the basic chemistry of lecithin, its availability and its uses in food and nonfood applications. Chairman is Bernard F. Szuhaj, director of food research for Central Soya Co. Inc.

The course will be divided into five sessions. Talks and speakers will include the following:

- Nomenclature and Structure of Phosphatides, Lloyd Horrocks, Ohio State University
- The Chemistry and Reactivity of Phosphatides, C. Rex Scholfeld, USDA/ARS
- Plant Sources of Lecithins, John Cherry, USDA/ARS
- Animal Sources of Phospholipids, Arnis Kuksis, University of Toronto
- Microbiological Sources of Phospholipids, Colin Ratledge, University of Hull
- Identification and Characterization of Phospholipids, John Kramer, Agriculture Canada-CEF
- Fractionation and Purification of Lecithin, Michael Schneider, Lucas Meyer GmbH
- Synthesis and Modification of Phosphatides, Miklos Ghycz, Nattermann Chemie
- Commercial Manufacturing of Lecithin, Gary List, USDA/ARS
- Industrial Methods of Analysis, Roger Lantz, Central Soya Co. Inc.
- Lecithin in Baking Applications, William Knightly, Emulsion Technology, Inc.
- Lecithin in Beverage Applications, speaker to be announced
- Lecithin in Confection Applications, Giovanni Bigalli, Hershey Foods Corp.
- Lecithin in Food Processing Applications, Greg Dashiell, Central soya Company Inc.
- Lecithin in Human Health and Nutrition, Steven Zeisel, Boston University Medical School
- Lecithin in Animal Health and Nutrition, Peter Kullenburg, MRKS Marketing Services
- Phosphatides in Pharmaceutical Applications, Frank Martin, Liposome Technology, Inc.

Call for papers

Organizers of a world congress on vegetable protein utilization in human foods and animal feedstuffs, to be held Oct. 2-7, 1988, in Singapore, are seeking additional volunteer papers for food sessions and for poster presentations in both food and feed areas.

The meeting will feature more than 100 technical presentations on the use of vegetable proteins in food and feed, as well as new technologies in the field. The congress will be held at the Westin Stamford/Plaza Hotel in Raffles City, Singapore.

AOCS is organizer of the meeting, with the American Soybean Association (ASA) as co-sponsor. Lars Wiedermann of ASA's Tokyo office is general chairman. Co-chairman is Ken Beery of Central Soya Co. Inc., Fort Wayne, Indiana.

An exposition of supplies of goods and services to various segments of the vegetable protein industry also will be part of the congress. A special effort is being made to attract supplies of small-scale production systems for "cottage industry" uses as well as large commercial equipment and systems.

Those who would like to present volunteer papers or poster presentations should contact Ken Beery at Central Soya Inc. Co., PO Box 1400, Fort Wayne, IN 46801, USA.

- Lecithin in Cosmetic Applications, speaker to be announced
- Industrial Coatings Applications for Lecithin, speaker to be announced
- Phospholipids in Magnetic Media Applications, Mark Chagnon, Integrated Magnetics, Inc.

Meetings

Application of Pulsed NMR Techniques in Food Analysis

This course is being chaired by V.K.S. Shukla of Aarhus Oliefabrik, Aarhus, Denmark, and co-chaired by Giovanni Bigalli of Hershey Foods Corp., Hershey, Pennsylvania.

The purpose is to bring together specialists from industry to relate state-of-the-art information in their specialties and to present first-hand experience in the application of pulsed NMR techniques in food analysis. Topics will cover the food industry in general, with special reference to oils and fats, chocolate and confectionary, margarine, ice cream and the dairy industries.

Program highlights include the following:

- Introduction to Pulsed NMR

Principles, Phil Barker of Bruker Instruments

- Application to Pulsed NMR Technique for Measuring Solid/Liquid Ratios in Cocoa Butter and Its Equivalents, V.K.S. Shukla, Aarhus Oliefabrik
- Theory & Practice of Solid Fat Determination by NMR & Dilatometry, consultant Ralph Timms
- Study of Crystallization Behavior of Cocoa Butters and Its Equivalents Using Pulsed NMR Technique: Discussion of Critical Parameters for Experimental Work, V.K.S. Shukla
- Determination of Oils in Seeds Using Pulsed NMR, D. Ribailler, Cetiom
- Automated Determination of

SFI, G.D. Vickers, Scienco Inc.

- Determination of Solid/Liquid Ratios in Cocoa Butter Substitutes, V.K.S. Shukla
- Determination of Solid Fat Content in Cocoa Butter Replacers Using Pulsed NMR, Benget Petersson, Karlshamns AB
- Determination of Fat Content in Chocolates, Phil Barker
- Robot Controlled Pulsed NMR: Solid Fat Content Analysis, Gil Persyne, Praxis Corp.
- Waterbinding and Fat Crystallization in Food Dispersions: Emulsions and Gels, Niels Barfod, Grindsted Products
- Determination of Moisture by Pulsed NMR, Shelly Richardson, University of Illinois.

VANCOUVER, CANADA 8 - 10 June 1988



Oils & Fats International, the international journal for senior industry management, is organiser of the first ever exhibition to be held simultaneously with the annual Congress of the International Association of Seed Crushers (IASC Congress).

The Tradefair will be held in the Hotel Vancouver, one of the venues used by more than 1000 influential delegates who are attending the IASC Congress.

The Tradefair is being promoted by Oils & Fats International throughout the world and promises to be an important showcase for exhibiting companies.

Refiners, processors, equipment suppliers, professional services and official organisations are advised to reserve their stands early as space is strictly limited.

*For further information please return this form to: Andrew Kingsley, Oils & Fats International Tradefair, Queensway House, 2 Queensway, Redhill, Surrey RH1 1QS, England.
Telephone: (0737) 768611
Telex: 948669 Topjnl G
Fax: (0737) 761989.*



I am interested in receiving details of the Oils & Fats Tradefair at the IASC Vancouver Congress 1988.

Please send details of the special Oils & Fats International IASC Congress Preview issue.

Name Position

Company

Address

Telephone Telex Fax

Tentative Technical Program

Monday Morning

Session A: Surfactants and Detergents I: Fat-Based Surfactants

Chairperson:

Eric Jungermann, Jungermann Associates, Inc.

N-Alkylpyrrolidone Based Surfactants

Robert B. Login and Joseph Niu, GAF Chemicals Corporation

Acylaminoacid: Characteristic Properties and Applications

Kazutami Sakamoto, Ajinomoto U.S.A., Inc.

A ¹³C NMR Study of the Effects of Chain Branching on the Quaternization of Tertiary Amines

Edward H. Fairchild and Sheldon R. Schulte, Sherex Chemical Company, Inc.

Studies of the Preservation Kathon CD on Alkyl Olefin Sulfonate

T. Scott Griffin and Don Ferm, U.S. Borax

Ethoxylated Alcohols and Acids

Drs. Murphy and Seitz, Dial, Inc.

Human Safety and Environmental Aspects of Some Anionic Surfactants

Andrew S. Vak, Arthur D. Little, Inc.

Studies on the Preservative Kathon CG in Alkyl Olefin Sulfonate Based Systems

Donald J. Ferm and T. Scott Griffin, U.S. Borax Research Corporation

Session B: Pharmacological Effects of Lipids III: Introduction and Dietary Lipids and Tumor Development

Chairperson:

Jon J. Kabara, Michigan State University

The Multistep Nature of Cancer Development

Emmanuel Farber, University of Toronto

Factors Affecting Growth of Normal and Malignant Cells in vitro

George Lipkin

Are Messenger Molecule in Microbe the Ancestor of the Vertebrate Hormones and Tissue Factors?

Derek LeRoith

Role of Lipids in Tumorigenesis

Kenneth K. Carroll, University of Western Ontario

Effect of Dietary Fat (Type and Quality) on Normal Mammary Gland Development

Clifford W. Welsch

Lipid Modulation of Mammary Tumor Cell Cytolysis:

Direct Influence of Dietary Fats on the Effector Component of Cell-Mediated Cytotoxicity

Kent L. Erickson

Session C: Flavor Chemistry of Food Lipids I, Symposium Honoring Stephen S. Chang

Chairperson:

David Min, Ohio State University and Thomas Smouse

Introduction

Thomas H. Smouse

Contribution of Flavor Chemistry to the Food Industry—Overview

D. Richard Ensor, Firmenich, S.A.

Development of Methodology for Flavor Chemistry—Past, Present and Future

Roy Teranishi, U.S.D.A. Western Regional Research Center

Isolation Methods of Flavor Compounds

Gary Reineccius, University of Minnesota

Gas Chromatography and Gas Chromatography-Mass Spectrometry of Flavor and Odor Products from Fats and Oil

Edward G. Perkins, University of Illinois

Session D: HPLC of Lipids and Proteins I

Cochairpersons:

V.K.S. Shukla, Aarhus Oliefabrik A/S and Edward G. Perkins, University of Illinois

HPLC of Lipids Employing a Silver Ion Column

William W. Christie, The Hannah Research Institute

HPLC of Unconventional Oils

S. Nielsen and Vijai K.S. Shukla, Aarhus Oliefabrik A/S

HPLC Analysis of Phospholipids in Crude Oil for Evaluation of Soybean Deterioration

T.L. Mounts and A.M. Nash, U.S.D.A. Northern Regional Research Center

HPLC of Ether Lipids

Thomas Foglia, U.S.D.A. Eastern Regional Research Center

Session E: Effects of Dietary Omega-3 Fatty Acids I

Chairperson:

Joyce Beare-Rogers, Dept. of Health and Welfare, Canada

PUFA of Rat Liver Phospholipids in Starvation and Short-Term Switch Feeding of Corn Oil and Menhaden Oil Diets

Ralph T. Holman and Susan B. Johnson, Univer-

Meetings

sity of Minnesota, Bruce A. Svingen, Winona State University, and Frank B. Cerra, University of Minnesota Hospitals

Human Epidermis Transforms Eicosapentaenoic Acid to 15-Hydroxy 5,8,11,13,17-Eicosapentaenoic Acid: A Potent Inhibitor of 5-Lipoxygenase

Craig C. Miller and Vincent A. Ziboh, University of California

Human Absorption of Fish Oil Eicosapentaenoic Acid (EPA) and Docosahexaenoic Acid (DHA) as Triacylglycerols, Free Acids or Ethyl Esters

Larry D. Lawson and Bronwyn G. Hughes, Murdock Pharmaceuticals, Inc.

Some EPA Artifacts in Heated Oils

R.C. Wijesundera, W.M.N. Ratnayake and R.G. Ackman, Canadian Institute of Fisheries Technology

The Lipids of the Greenland Eskimo Mummies, or Five Hundred Years in the Freezer

Ralph T. Holman, Susan B. Johnson, Fred Phillips and Fred J. Pusch, University of Minnesota, and J.P. Hart Hanson, Gentafta Hospital

Session F: Physical Chemistry of Fats and Oils I

Cochairpersons:

J.M. deMan, University of Guelph, and Allen Blaurock, Kraft, Inc.

Fat Crystal Networks—Structure and Rheological Properties

J.M. deMan, University of Guelph

Polymorphic Behavior of Palm Oil and Palm Oil Products

V.F. D'Souza and J. deMan, University of Guelph

Effect of Addition of Palm Oil on the Polymorphic Stability of Hydrogenated Canola Oil

J.M. deMan and Peck Hong Yap, University of Guelph

Polymorphism of POP

K. Sato and T. Arishima, Hiroshima University, K. Ojima, N. Sagi and H. Mori, Fuji Oil Co.

Melt Crystallization of Polymorphs of POP and SOS

T. Koyano and I. Hachiya, Meiji Seika Co., H. Mori, Fuji Oil Co., T. Arishima and K. Sato, Hiroshima University

Session G: Oilseed Outlook

Chairperson:

Thomas Applewhite

USDA's 1988 Oilseed Production and Consumption Outlook

Philip Mackie, U.S.D.A. Foreign Agricultural Service

1988 Oilseed Futures Outlook

Mario P. Baletto, Merrill Lynch Capital Markets

World Situation and Outlook for Major Oils & Fats

Thomas Mielke, Oil World

1988 Outlook for Specialty Crops and Oils

Joseph Smith, Oilseeds International Ltd.

Annual Surveys of Regional Patterns in Soybean Protein and Oil Content

Charles R. Hurburgh, Iowa State University

Monday Afternoon

Session H: Surfactants and Detergents II: Specialty Surfactants

Chairperson:

Arno Cahn, Arno Cahn Consulting Services

Properties of Alkanesulfonates

Khalid Rasheed and Robert Herke, Witco Corporation

Dynamic Surface Tension Behavior of Aqueous Silicone Surfactants

Alan Zombeck and Lenin J. Petroff, Dow Corning Corporation

Sodium Alkyl Polyether Sulfonates: Properties, Characteristics, and Applications

William A. Williams and Louis J. Nehmsmann, PPG-Mazer

Phosphate Esters: Solubility Factors that Influence Detergency

Joseph A. Komor, Mona Industries

Properties of Detergent Builder Solutions Containing Various Alkylated Diphenyloxide Disulfonates

T.J. Loughney, Dow Chemical Company

Surface Active Polyether Amines

Carter G. Naylor, Texaco Chemical

Some Synergistic Properties of N-Alkylpyrrolidones, A New Class of Surfactants

Zhen Huo Zhum, Harun Ayanzen and Milton J. Rosen, Brooklyn College

Oilfield Applications of a Novel Amine

F.W. Valone, Texaco Chemical

Session I: Pharmacological Effects of Lipids III: Dietary Lipids and Tumor Development

Chairperson:

Jon J. Kabara, Michigan State University

Prostaglandins and Tumor Growth and Dissemination

Silvio Garattini, Roberto Fanelli and Chiara Chiabrando, Istituto di Ricerche Farmacologiche

Antineoplastic Prostaglandin:antitumor Effect of PGA and PGJ Derivatives

Masanori Fukushima, Aichi Cancer Center

Effect of Different Levels of Dietary Trans Fat or Corn Oil on Azoxymethane-induced Colon Carcino-

Meetings

genesis in F344 Rats

B.S. Reddy

Effects of the Interaction of Dietary Fat and Protein on N-Nitrosobis (2-Oxopropyl) Amine-induced Carcinogenesis and Spontaneous Lesions in Syrian Golden Hamsters

Diane F. Birt

Comparative Effects of Butter and Margarine on Mammary Tumorigenesis in Mice. Also, Effects of Fats on Promotion Step in Hepatocarcinogenesis Using Short Term Screening Test

Susumu Yanagi

Influence of Dietary Medium-Chain Triglycerides on the Development of Tumors

L.A. Cohen

Selective Killing of Human Cancer Cells by Polyunsaturated Fatty Acids

M.E. Begin

Toxic and Ecological Effects of Fatty Acids on Microorganisms and Animals (Invertebrate and Vertebrate)

Miyoshi Ikawa

Biological Activity of Synthetic Glycerophospholipids

S. Kluge

Influence of Dietary Fat on the Synthesis of Prostanoids by Colonic Tumors

N. Roblee

Session J: Flavor Chemistry of Food Lipids II

Chairperson:

David Min, Ohio State University and Thomas Smouse

Chemistry Lipid Oxidation in Foods

Wassef W. Nawar, University of Massachusetts

Singlet Oxygen Oxidation in Vegetable Oils

David B. Min, Ohio State University

Enzymatic Oxidation of Lipids

Harold W. Gardner, U.S.D.A. Northern Regional Research Center

Flavor Chemistry of Deep-Fat Frying of Oil

Jan Pokorny, Prague Institute of Chemical Technology

Rapid Test for the Deterioration of Frying Oils

Mike Blumenthal, Libra Laboratories, Inc.

Flavor Chemistry of Processed Potato Products

Ron Buttery, U.S.D.A. Western Regional Research Center

Session K: Protein Symposium I: Effect of Protein Modification on Functionality

Chairperson:

J.E. Kinsella, Cornell University

Enzymatic Modification and Surface Activity

J.E. Kinsella, L. Phillips and Doug Rector, Cornell University

Genetic Modification of Milk Proteins

Rafael Jimenez-Flores and Tom Richardson, University of California

Modification as it Affects Thermal Behavior

H. Harwalker, Food Research Institute of Canada

Film Properties of Modified Proteins

D. Srinivasan, University of Wisconsin

Glycosylation of B-lactoglobulin and Surface Active Properties

R. Waniska, Texas A&M University

Nutritional Aspects of Dietary Texturized Protein—An Overview

George Liepa, Texas Women's University

Optimization of Cottonseed Flour Substitution in Food Products

C. Clay King

Enhancing the Utility of Hydrolyzed Vegetable Proteins by Membrane Processing

S.S. Koseoghi

Session L: Physical Chemistry of Fats and Oils II

Cochairpersons:

John deMan, University of Guelph, and Allen Blaurock, Kraft, Inc.

Polymorphism of 1,2-Diacyl-*sn*-Glycerols

Dharma R. Kodali, David A. Fahey and Donald M. Small, Boston University School of Medicine

On the Polymorphism of Principal *cis*-Monounsaturated Fatty Acids

K. Sato, Hiroshima University, M. Suzuki, Nippon Oil and Fats Co. and M. Kobayashi, Osaka University

Polymorphic Behaviors of Petroselinic Acid

K. Sato and N. Yoshimoto, Hiroshima University, F. Kaneko and M. Kobayashi, Osaka University and M. Suzuki, Nippon Oil and Fats Co.

Some Physical Properties of Shortenings and Margarines

L. deMan, DeMan Food Technology Services Inc. and J.M. deMan, University of Guelph

Rheological Properties of Shortenings as Affected by Temperature Cycling

P. Chawla and J.M. deMan, University of Guelph

Composition of Seed Crystals Isolated from Cocoa Butter

Paul S. Dimick and Thomas R. Davis, Penn State University

Kinetics of Crystallization in Simple Triglycerides

Allen Blaurock, Kraft, Inc.

The Development of Empirical Energy Parameters for Triglycerides

R. H. Lee, Kraft, Inc.

Session M: HPLC of Lipids and Proteins II

Cochairpersons:

V.K.S. Shukla, Aarhus Oliefabrik A/S and Edward G. Perkins, University of Illinois

Meetings

HPLC Determination of Amino Acids in Leguminous Proteins

Vibeke Axelsen and Vijai K.S. Shukla, Aarhus
Oliefabrik A/S

HPLC-Analysis of Interesterification and Hydrolysis Products of Fats and Oils

Friedrich Spener and Susanne Eick, University of
Münster

HPLC of Lipid Oxidation Products

Nancy J. Moriarity, U.S.D.A. Eastern Regional
Research Center, and F.A. Kummerow, University
of Illinois

Identity and Purity of Vegetable Oils by HPLC

B.G. Herslof, University of Stockholm

Determination of Reesterified Olive Oils by HPLC Analysis

Richard Flor, U.S. Customs Service, and Aimee
Taylor, Augusta College

Determination of Chlorophyll Pigments in Crude and Degummed Canola Oils by HPLC and Spectrophotometry

J.K. Daun and C.T. Thorsteinson, Canadian Grain
Commission

Separations of Alkane-1,2-Diols and Monoacylmono-alkylglycerol Enantiomers by High Performance

Liquid Chromatography on a Chiral Phase
Toru Takagi and Yutaka Itabashi, Hokkaido
University

Session N: New Frontiers of Plant Lipid Research

Chairperson:

Paul K. Stumpf, University of California, Davis

Sites, Substrates and Regulation of Fatty Acid Desaturation

Judith B. St. John and Helen A. Norman,
U.S.D.A., Beltsville, Maryland

Acyl Specificity of Acyl Transferases in Maturing Seeds and Lipases and β -oxidation Enzymes in Germinating Seeds

Anthony H.C. Huang, University of South
Carolina

Acetyl-CoA Carboxylase in Plants

Basil J. Nikolau and Eve Syrkin Wurtele, NPI

Techniques of Molecular Biology in Plant Lipid Research

Vic Knauf, Calgene

Tuesday Morning

Session O: Surfactants and Detergents III: A Panel Discussion—Detergency Testing

Chairperson:

Ted P. Matson, Vista Chemical Company

Terg-O-Tometer Testing

William Gilman, U.S. Testing

The Launder-Ometer

Jose Luis Berna, Petresa

Radiotracer Detergency

Nelson Prieto, Shell Development

Soiled Test Cloths

George Feighner, Scientific Services

Bundle Testing

Jay R. Brumer, FMC

In-Home Testing

Kenneth Mills, Lever Brothers

On-Site Institutional Laundry

Linda Marquardt, Ecolab Research Center

Large Industrial Laundry

John Birchbickler, Ecolab Research Center

Session P: Pharmacological Effects of Lipids III: Sterol and Carcinogenesis and Lipid Peroxides and Carcinogenesis

Chairperson:

Jon J. Kabara, Michigan State University

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"Optimum Frying: Theory and Practice," 2nd Rev. Ed. (1987)
Monograph by M. M. Blumenthal, Ph.D. \$50.

Meetings**Cholesterol Effect on Plasma Membrane in Normal and Leukemia Cells**

George Deliconstantinos

Sterol Carrier and Lipid Transfer Proteins

Terence J. Scallen

Biological Activity of Some Oxygenated Sterols

Andrew A. Kandutsch

The Effect of Hydroxysterols on Cell Properties

Ross P. Holmes

Some Aspects of Phospholipid and/or Cholesterol Metabolism in Lymphoid Cells of Neoplastic Derivation

George Melnykovich

Effects of Steroid Hormones (Ecdysteroids) on Development or Reproduction

James A. Svoboda

Antitumoral and Immunosuppressive Activities of Oxygenated Sterols in Mice

Baug Luu

Fatty Acid Paradoxes in the Control of Cell Proliferation: Prostaglandins, Lipid Peroxides, and Cooxidation Reactions

David G. Cornwell

Lipid Peroxide Involvement in the Various Tumorigenesis States

Peter J. O'Brien

Nutritional Effects of Lipids on Photocarcinogenesis

Homer S. Black

Free Radical Dietary Antioxidants and Mechanisms in Cancer Prevention

Carmia Borels

A Role for Free Radicals in the Process of Tumor Promotion

Bonita G. Taffe

Session Q: Flavor Chemistry of Food Lipids III**Chairperson:**

David Min, Ohio State University and Thomas Smouse

Chemistry of Meat Flavor

Ki Soon Rhee, Texas A&M University

Chemistry of Fish Flavor

Robert Lindsay, University of Wisconsin

Flavor Chemistry of Dairy Products

Earl G. Hammond, Iowa State University

Chemistry of Hydrogenation Flavor

Robert Allen, Anderson Clayton Co.

Flavor Chemistry of Phospholipids

Bernard Szuhaj, Central Soya Company

Flavor Stability Improvement of Commercial Edible Oils by Further Purification

Tim Pelura, Kabi Vitrum, Inc.

Session R: Protein Symposium II**Chairperson:**

Shuryo Nakai, University of British Columbia

Protein Secondary Structure

George Rose and Leonard G. Presta, Pennsylvania State University

Comparative Folding

Jonathan Greer, Abbot Labs

Numerical Modelling of Peptides: Technical Capabilities

Ray Hagstrom, Argonne National Laboratory

Relationship of SH Groups to Functionality of Ovalbumin

Etsushiro Doi and Naofumi Kitabatake, Kyoto University, Hajime Hatta, Taiyo Kagaku Co., Ltd., Taihei Koseki, Kyoto University

Effects of Molecular Changes (SH Groups and Hydrophobicity) of Food Proteins on Their Functionality

Eunice Li-Chan and Shuryo Nakai, University of British Columbia

Use of Radiolabelled Protein as Tracers to Study Thermally-Induced Thiol-Disulfide Exchange Reaction in Milk Systems

Tom Richardson and Noh Bong-Soo, University of California, Davis

Functional Roles of Heat Induced Protein Gelation in Processed Meat

James C. Acton and Rhoda L. Dick, Clemson University

Session S: Effects of Dietary Omega-3 Fatty Acids II**Chairperson:**

Joyce Beare-Rogers, Dept. of Health and Welfare, Canada

Effects of Vegetable and Marine Oils on Platelet Aggregation at Rest and During Stress

David E. Mills, K.M. Prkachin, K. Harvey, R. Ward and Y.S. Huang, University of Waterloo

Dietary Menhaden Oil Effects on Rabbit Lipid Metabolism

John E. Bauer, C. Henry Beauchamp and Patricia A. Schenck, University of Florida

Structured Lipids—Preferred Fats and Oils for Nutritional Acceptability and Health

Vigen K. Babayan, New England Deaconess Hospital

Developmental Changes in Thermotrophic Properties of Synaptosomal Acetylcholinesterase Are Altered by Diet-Induced Depletion of Long Chain n-3 Polyenoic Fatty Acids

N. Hrboticky and S.M. Innis, University of British Columbia

The Influence of Various Dietary Fats on Serum Cholesterol, Triglycerides and Lipoprotein Distributions in Rabbits: Menhaden Oil is Hypercholesterolemic

Gary J. Nelson, Darshan S. Kelley, Perla C. Schmidt and Claire M. Serrato, U.S.D.A. Western Human Nutrition Research Center, and Frank T. Lindgren, University of California

Effect of n-6 Fatty Acid (FA) Depletion on the Distri-

Meetings

tribution of 20-Carbon Polyunsaturated Fatty Acids (PUFA) in Rat Kidney Phospholipids (PL)

Yung-Sheng Huang, University of Waterloo, and David Horrobin, Efamol Research Institute

Fatty Acid Composition of Some Tissues from Ringed Seals (*Phoca hispida*) from the Canadian Arctic

M. Yurkowski, Fisheries and Oceans Canada

Synthesis of Fish Oil Omega-3 Triglycerides

Virginia K. Stout, Northwest and Alaska Fisheries Center

The Effect of Deodorization Time and Temperature on the Chemical, Physical and Sensory Characteristics of Menhaden Oil

Timothy J. Pelura, Kabi Vitrum Inc.

Material Selection for High Temperature Oil Processing

Donald M. Godell, Wurster & Sanger, Inc.

Concern About Corrosion in Computer Controls

Ewa Bardasz, Union Camp Corporation

Corrosion in Heating Coils

James R. Smith and Douglas Bloss, Armstrong-Hunt, Inc.

Choosing Correct Material for Plate Heat Exchangers

James A. Carlson, APV Crepace, Inc.

Special Consideration for Corrosion in Corn Germ Processing

Phil Bolheimer, Bolheimer & Assoc.

Session T: General Analytical I

Chairperson:

Anthony Montana, Henkel Corp.

The Fractionation of Phosphatidylcholine and Other Phospholipids by Silver Resin Chromatography

R.O. Adlof, Northern Regional Research Center, ARS/USDA

Densitometry of Lipids with Iodine Staining on HPTLC

U. Olsson, P. Kaufmann, B.G. Herslof, University of Stockholm

Characterization of Solute-Solvent Interactions in Soybean Oil by Inverse Gas Chromatography

Jerry W. King, Northern Regional Research Center, ARS/USDA

Influence of Fatty Acid Composition on the Wavelength Selection for the Estimation of Oil Content in Oilseeds by NIR Spectroscopy

J.A. Panford, Canadian Grain Commission

Measurement of Total Unsaturation Contents in Vegetable Oils Using NIR Procedure

R.B. Roy, Technicon Industrial Systems Corp.

Quantitation of trans Unsaturation in Fatty Acid Methyl Esters by Fourier Transform Infrared Spectroscopy

A.C. Lanser, Northern Regional Research Center, ARS/USDA

Rapid Analysis of Cholesterol in Beef Lipids

Myung Joo Han, University of Tennessee

Session U: Processing I: Corrosion and Materials of Construction

Cochairpersons:

Glenn Brueske and George E. Anderson, Crown Iron Works Co.

Choosing Proper Stainless Steel

John C. Tverberg, Trent Tube Division

Proper Selection of Material and Welding Technique for Process Equipment

Ken Krysiack, Hercules, Inc.

Tuesday Afternoon

Session V: Surfactants and Detergents IV: Surface Chemistry of Mixed Active Systems

Chairperson:

Jesse L. Lynn, Lever Brothers

Survey of Mixed Active Use

Isaac Secemski, Lever Brothers

Synergisms in Binary Surfactant Mixtures

M.J. Schwuger, F. Jost and H. Leiter, Henkel KGaA

Interaction of Cationic Surfactants with Anionic and Nonionic Surfactants

Dewey L. Smith and Michael F. Cox, Vista Chemical Company, and Phillip M. Lacke, Sherex Chemical Company

Title to be announced.

John Scamehorn, University of Oklahoma

Title to be announced

Gordon Piddy, Uniliver Research

High Active NI/ES Mixtures

Ed Rosencrist and Lou Kravetz, Shell Development

Title to be announced.

Paul Holland

Title to be announced.

Randy Hill, Horizon Chemical

Session W: Pharmacological Effects of Lipids III: Protein Kinase C and Carcinogenesis

Chairperson:

Jon J. Kabara, Michigan State University

Biological Effects of Lipids and Their Metabolites on Cell Activation, Immune Functions, and Immuno-surveillance Against Cancer Cells

Kam H. Leung

Role of Membrane Lipids in Tumorigenesis and Immune Recognition of Tumor Cells

David S. Roos

Regulatory Functions of Fatty Acids on Blood Platelets

Shuji Kitagawa

Inhibited Intercellular Communication as a Mechanistic Link Between Teratogenesis and Carcinogenesis

James E. Trosko

The Role of Lipids in Permeability Changes Induced by Toxins, Complement and Other Cytolytic Agents

C.A. Pasternak

Effects of Phorbol Esters on Multiplication and Differentiation of Mammary Cells

L.M. Houdebine

Cell Membrane Involvement in Regulation of Signal Transduction by Protein Kinase C.

Curtis L. Ashendel

Effect of Cellular Phospholipid Modification on Phorbol Diester Binding, Cell Culture, Differentiation/Transformation and Lipids, Diacylglycerol Second Messengers, and Mechanisms of Phorbol Diester Action

Myles C. Cabot

Membrane Lipid Dynamics in Human Promyelocytic Leukemia Cells Sensitive and Resistant to 12-O-Tetradecanoylphorbol 13-Acetate Induction of Differentiation

Paul B. Fisher

Inhibition of Gap Junction—Mediated Intercellular Communication by Unsaturated Lipids: Potential Involvement in the Promotion of Cancer

Charles F. Aylsworth

Session X: Flavor Chemistry of Food Lipids IV

Cochairpersons:

David Min, Ohio State University and Thomas Smouse

Natural Antioxidants

Jurg Loliger, Nestec Ltd.

Recovery of Volatile Flavor Compounds During Processing

Stanley Kazeniak, Journal of Food Science

Biosynthesis (Biogenesis) of Flavor Compounds in Foods

To be named.

Flavor Compounds Binding in Food

John Kinsella, Cornell University

Importance of Sensory Evaluation of Individual Flavor Compounds in Flavor Chemistry

Werner Grosch, Deutsche Forschungsanstalt für Lebensmittelchemie

Correlation of Instrumental and Sensory Analysis of Lipid Foods

Glen Jacobson, Campbell Soup Company

Integration of Statistics in Flavor Analysis

John J. Powers, University of Georgia

Summary and Review of Lipid Foods Flavor Chemistry

David B. Min, The Ohio State University

Session Y: Protein Symposium III: Molecular Properties of Proteins Important for Emulsification, Foaming and Gelation

Chairperson:

Charles V. Morr, Clemson University

Molecular Properties of Food Proteins and Their Measurement

D. Srinivasan, University of Wisconsin

Molecular Properties and Functionality of Proteins in Food Emulsions: Meat Products

J.M. Regenstein, Cornell University

Molecular Properties and Functionality of Proteins in Food Emulsions: Liquid Food Systems

M.E. Mangino, Ohio State University

Molecular Properties and Functionality of Proteins in Food Foams

B. German, Cornell University

Molecular Properties and Functionality of Proteins in Food Gels

E.A. Foegeding, North Carolina State University

Lipid-Protein-Surfactant-Water Interactions in Whippable Emulsions

N.M. Barfod, N. Krog and W. Buchheim, Grinsted Products

Session Z: Effects of Dietary Omega-3 Fatty Acids III

Chairperson:

Joyce Beare-Rogers, Dept. of Health and Welfare, Canada

Metabolism of Deuterium-labeled Linolenic Acid in Humans

E.A. Emken, R.O. Adlof, H. Rakoff and W.K. Rohwedder, U.S.D.A. Northern Regional Research Center

Reduced Growth and Metastasis of a Transplantable Syngeneic Mammary Tumor (410.4) by Dietary Alpha-Linolenic Acid (18:3n-3)

Kevin L. Fritsche and Patricia V. Johnston, University of Illinois

Alteration of Blood Platelet Reactivity and Phospholipid Composition by a Fish Oil Concentrate in Human Subjects

Bruce J. Holub, University of Guelph

Dietary Omega-3 Fatty Acid Supplementation in Type II Diabetic: Diverse Effects on Glucose and Lipoprotein Metabolism

John W. Ensinnck, University of Washington

Session AA: Capillary Column Chromatography

Chairperson:

Ron Sleeter, Archer Daniels Midland Co.

Capillary Columns—They Have Finally Arrived

Meetings

R.G. Ackman, Canadian Institute of Fisheries Tech.

Measurement of *cis-cis* and *trans* Values in Fatty Acid Methyl Esters from Vegetable Oils by Capillary Gas Chromatography

R.A. DePalma, The Procter and Gamble Company

Status of the AOAC Collaborative GLC Study

Jeanne D. Joseph, National Marine Fisheries Service

Wide Bore Capillary Columns for Fatty Acid Analysis

Nicholas Pelick and Leonard M. Sidisky, Supelco, Inc.

Quantitative Esterification of Fatty Acids

R.G. Einig and C.A. Georgiades, Warner Lambert Co.

Quantitation of FAME—Response Factors and Injection Technique

J.D. Craske, consultant

Analysis of Vegetable Oil Volatiles by Multiple Headspace Extraction

J.M. Snyder, U.S.D.A. Northern Regional Research Center

Determination of Trace Levels of Linoleic Acid and Its Esters by Argentation Solid Phase Extraction and Gas Chromatography

William L. Grady, Union Camp Corp.

Operating Parameters for Miscella Processing Various Types of Oils

George C. Cavanagh, Cavanagh Associates

Wednesday Morning

Session CC: Surfactants and Detergents V: Performance and Evaluation

Chairperson:

K. Lee Matheson, Vista Chemical Co.

Precipitation in Mixtures of Anionic and Cationic Surfactants

John F. Scamehorn, Joel C. Amante and Jeffrey H. Harwell, University of Oklahoma

Effect of Molecular Composition on the Physical Properties and Performance of Linear Alcohol Ether Sulfates

Michael F. Cox, Vista Chemical Company

Liquid Detergent Based on a Blend of Cationic, Anionic and Nonionic Surfactants. Adsorption, Detergency and Antistatic Properties

Session BB: Processing II: Preparation/Prepress/Extraction and Chemical and Physical Refining

Cochairpersons:

Jeff Scott, Crown Iron Works, and Frank Khym, Consultant

Fluidbed Soybean Preparation System—Experience after 5 Years of Operation

Jack G. Moore, N. Hunt Moore & Associates, Inc.

Trends and Developments in Oilseed Screw Pressing

Martin A. Stainsby, Simon-Rosedowns Ltd.

Update on Desolventizing and Predesolventizing

Jerry Fawbush, Central Soya Inc.

Nonelectrolyte Partitioning by UF/RO Membranes—An Application to Cottonseed Extraction

M.S. Kuk and R.J. Hron, Sr., U.S.D.A. Southern Regional Research Center

Phospholipid Analysis of Canola Oil

R. Przybylski and N.A.M. Eskin, University of Manitoba

Continuous Ultrasonic Degumming of Crude Soybean Oil

K.J. Moulton, Sr., U.S.D.A. Northern Regional Research Center

The Effect of Acid Pretreatment of Phospholipid Removal

James M. Bogdanor, W.R. Grace & Co.

Preconditioning, Degumming and Acid Treatment Practices Before Physical Refining

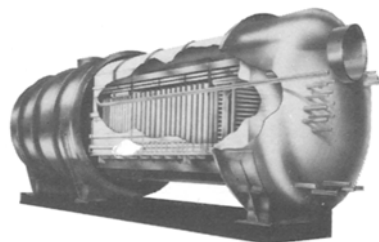
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Meetings

K.M.E. Hellsten, A.W. Klingberg and B.T.G. Karlsson, Berol Kemi AB

Synthetic Background Soil for Laundry Testing Applications

Paul K. Anderson, Clorox

Influence of LAS Counterion and LAB Characteristics on the Physicochemical Properties of Linear Alkylbenzene Sulfonate

L. Cohen, Petresa

Role of Free Surfactant in Destabilizing Oil-in-Water Emulsions

Michael Aronson, Lever Research

A Practical Approach to the Development of Microemulsions

Barbara H. Munk, Stepan Company

Dimer Acid Vesicles

G.R. Shore, Unichema Chemie B.V.

Application of d-Limonene in Cleaning Compounds

Dilip D. Desai and Joseph C. Drozd, Stepan Company

Session DD: Pharmacological Effects of Lipids III: O-Alkyl Ethers in Experimental Cancer Therapy

Chairperson:

Jon J. Kabara, Michigan State University

Cytotoxic Effects of Alkyl-Lysophospholipids in Human Brain Tumor Cells

Wolfgang E. Berdel

Antiinvasive Effect of Racemic 1-O-Octadecyl-2-O-Methylglycero-3-phosphocholine on MO₄ Mouse Fibrosarcoma Cells In Vitro

Guy A. Storme

Effect of Alkyl-Lysophospholipids on Phosphatidylcholine Biosynthesis in Leukemic Cell Lines

William R. Vogler

1-O-Hexadecyl-2-Acetyl-sn-Glycerol Stimulates Differentiation of HL-60 Human Promyelocytic Leukemia Cells to Macrophage-like Cells

Larry W. Daniel

Pharmacological Effects and Anticancer Activity of New Echer Phospholipid Analogs

Edward Modest

Alkyllysophospholipids as Antitumor and Anticarcinogenic Agents

P.G. Munder

Alkylphosphocholine: A New Class of Antitumor Drugs

H. Eibl

Session EE: Castor Oil I

Chairperson:

John Kraker, Polyester Co.

Agronomy of Castor Seed—1988 Update

Deallergination of Castor Meal—1988 Update

The Use of an Anderson Expander for Deallergination of Castor Bean Meal

Pilot Scale Refining of Castor Oil via Steam High Vacuum Distillation

Castor—Reference Literature Update

Bleaching of Castor Oil

Session FF: Protein Symposium IV: Toxic Compounds in Vegetable Proteins

Chairperson:

Irvin E. Liener, University of Minnesota

Inactivation and Analysis of Soybean Inhibitors of Digestive Enzymes

Mendel Friedman, Michael R. Gumbmann and David L. Brandon, U.S.D.A. Western Regional Research Center

The Nutritional Significance of Lectins

Irvin E. Liener, University of Minnesota

Properties of α -Amylase Inhibitors of Common Beans (*Phaseolus vulgaris*)

John R. Whitaker, University of California

Toxic Compounds in Vegetable Proteins—Cyanogens

Jonathan E. Poulton, University of Iowa

New Perspectives on the Antinutritional Effects of Tannins

Larry Butler, Purdue University

Nutritional and Physiological Effects of Phytic Acid

Lilian U. Thompson, University of Toronto

Effects of Dietary Casein and Cottonseed Protein on Serum and Biliary Constituents and on Gallstone Formation and Regression in the Hamster

Mary Anne Gorman, Glenda Johnson, Jim Johnson, Jane Anderson and George U. Liepa, Texas Woman's University

A Study of Gossypol Reduction in Cottonseed Flour by Choline and Ethanolamine

O. Akamos, University of Manitoba

Session GG: Frying Fats and Oils

Chairperson:

Frank Orthoefer, Nabisco Brands

The Analysis of Frying Fats and Oils

Edward G. Perkins, University of Illinois

Elucidation of the Structures of Cyclic Fatty Acid Monomers Isolated from Heated Vegetable Oils

J.L. Le Quere, J.L. Sebedio and E. Semon, I.N.R.A., Laboratoire des Aromes

Deterioration of Frying Fat During Restaurant Frying and Flavor of Fish Fried in New and Discarded Frying Fat

Sharon L. Melton and Danielle Sykes, University of Tennessee

Frying Performance of Partially Hydrogenated Soybean Oil Versus Palm Olein During Laboratory Frying

Meetings

and Their Effect on the Flavor of Fried Potatoes

Sharon L. Melton, Sajida Jafar and Kaye Trigiano,
University of Tennessee

Behavior of Pre-fried Frozen French Fries During the Final Frying Process

A. Bonpunt, J.L. Sebedio, J. Prevost and A.
Grandgirard, I.N.R.A.

High-Temperature Stabilities of Low-Linolenate, High-Stearate and Common Soybean Oils

Lynne A. Miller and Pamela J. White, Iowa State
University

Frying Dynamics of Two Oils in Commercial Applications

Roger D. Sinram, A.E. Staley Manufacturing Co.
R&D

Comparisons of Vegetable Oils for Frying Stability

K. Warner and T.L. Mounts, U.S.D.A. Northern
Regional Research Center

Cottonseed Oil and Its Uses: A Review

C. Clay King, Texas Woman's University, Lynn
Jones, National Cottonseed Products Assoc., Inc,
Frank Orthoefer, Nabisco Brands, Inc. and Kristan
Frerck, Texas Woman's University

High Monounsaturated Oils for Food Service

Ilija Gawrilow, SVO Enterprises

Session HH: Biochemistry I

Effect of Dietary Isomeric Monounsaturated Fatty Acids on the Lipid Metabolism of Various Tissues

Randall Wood and Roberta Crook, Texas A&M
University

Fatty Acyl CoA Interacts with Multiple Protein Factors During Vesicular Transport in a Cell-Free System

Benjamin S. Glick, Paul Melancon, Marc Block
and James E. Rothman, Stanford University

The Generation of Fatty Acid Analogs to Investigate the Role of Covalently Bound Lipids in Protein Function: Potential Anti-Viral and Anti-Neoplastic Agents

Robert O. Heuckeroth and David A. Rudnick,
Washington University, Steve P. Adams,
Monsanto Company, and Jeffrey I. Gordon,
Washington University

Daily Prostaglandin E Turnover in Adult Men. Its Determination by SIM Mass Spectrometry

Aldo Ferretti, Vincent P. Flanagan and Valerie B.
Reeves, U.S.D.A. Lipid Nutrition Laboratory

Incorporation of Deuterium-labeled *trans*-8- and *cis*-8-Octadecenoic Acid Isomers vs. *cis*-9-Octadecenoic Acid in Human Plasma and Lipoprotein Lipids

E.A. Emken, R.O. Adlof and W.K. Rohwedder,
U.S.D.A. Northern Regional Research Center and
R.M. Gulley, St. Francis Medical Center

Essential Fatty Acid (EFA) Metabolism in Pre-menstrual Syndrome (PMS)

D.F. Horrobin and M.S. Manku, Efamol Research
Institute

Molecular Species of Glycerophospholipids (GPL) of Human Erythrocytes

J.J. Myher, S. Pind and A. Kuksis, University of
Toronto

Session II: Processing III: Bleaching and Hydrogenation

Chairperson:

Monoj Gupta, Frito-Lay Inc.

Effects of Bleaching on Oil Oxidative Properties

Charles B. Ungermann and Dennis R. Taylor,
Harshaw/Filtrol Partnership

The Synergistic Effect of Neutral Bleaching Earth and Citric Acid: Metals Removal

G.R. Goss, D. Brooks, W. Moll, S. Brophy and D.
Pietroske, Oil-Dri Corporation of America

The Synergistic Effect of Neutral Bleaching Clay and Citric Acid: Chlorophyll Removal

D.D. Brooks, G.R. Goss, S. Brophy, D. Pietroske
and J. Stein, Oil-Dri Corporation of America

A Comparative Evaluation of Bleaching Clay of Various pH for Color and Chlorophyll in Once Refined Soybean Oil

D.D. Brooks, S. Brophy and J. Stein, Oil-Dri
Corporation of America

Advanced Techniques for Effective Oxygen Removal from Oleochemicals

Alan T.Y. Cheng, Union Carbide Corp.

Ultrasonic vs. Non-Ultrasonic Hydrogenation in a Batch Reactor

Jesse E. Covey, Mukana wa Muanda, University
of Kinshasa, and Peter J. Wan, Anderson Clayton
Foods

Natural Carotene from Palm Oil

Masayoshi Makamura

Advanced Techniques for Effective Oxygen Removal from Oleochemicals

Alan T.Y. Cheng, Linde Div., Union Carbide Corp.

Hydrogenation of Corn Oil Using Nickel Catalysts

V. Abraham and R. Parisi, Carson Foods, J.M.
deMan, University of Guelph

Advances in the Hydrogenation of Oleochemicals

Mark K. Weise, Union Carbide Corporation

Hydrogen Supply Options and Issues

K.A. Kuberka, C.A. Messina and M.K. Weise,
Union Carbide Corporation

Wednesday Afternoon

Session JJ: Surfactants and Detergents VI: Additions, Builders and Analysis

Chairperson:

John Roheim, Dial Corp.

Modifying Soluble Silicate Properties with Anionic Functional Siliconates

Jeffrey A. Kosal, Dow Corning Corporation

The Effect of Sodium Silicate on Phosphate Heavy Duty Laundry Powder Crutcher Slurries

Mitchell T. Holtzer and Richard T. Coffey, PQ Corporation

Quantitative Characterization of Mixtures of Inorganic Phosphates and Organophosphate Esters Using NMR Spectroscopy

G. Steve Caravajal and Gary L. Pennington, The Procter & Gamble Company

Performance of Non-Cellulosic Antiredeposition Agents

Edward J. Parker and Richard J. Holland, BASF Corporation

Amorphous Water Measurements on Granular Solids Using ¹H-NMR Spectroscopy

T. Michael Rothgeb and Elizabeth R. Jacobs, The Procter & Gamble Company

Protein-Engineering of the Detergent Protease, Maxacal®

L.J.S.M. Mulleners and R.A. Cuperus, Gist-Brocades N.V. and J.H. Van Eu and M.C. Crossin

General Biosynthetics Choosing Surfactants for Hypochlorite Containing Detergents

Terri Germain and Joseph C. Drozd, Stepan Company

Purification of Higher Alcohols and Amines—via Pellet Bed/Charge Pot Addition of VenPure Sodium Borohydride Products

Richard J. Colby and Richard A. Mikulski, Morton Thiokol/Ventron Products

Purification of Amides, Ethoxylated Amines, and Imidazolines with VenPure Borohydride Products

Michael M. Cook, Mark J. Eugenio, Robert M. Gelinas, Richard A. Mikulski and P. Nga Trinh, Morton Thiokol/Ventron Products

Session KK: Oxidative Stability of Fats and Oils

Chairperson: To be determined.

The Flavor and Oxidative Stability of Canola Oil Blends

S. Durance-Tod, University of Manitoba

Prooxidant Chemical Mechanisms of Mono- and Di-Glycerides and Fatty Acids in Soybean Oil

Behroze S. Mistry, Ohio State University

Autooxidation of Trilinolein and Trilinolenin

W.E. Neff, Northern Regional Research Center, ARS/USDA

The Effect of Ascorbyl Palmitate on the Accelerated Storage Stability of Canola Oil

Lynn M. McMullen, University of Alberta

Automated Determination of Peroxide Value

Melinda Guzman-Harty, Ross Laboratories

Measurement of Oil Stability—Deficiencies in the Active Oxygen Method

Mark Matlock, ADM

Improvements in a Procedure for Quality Control: The Oil Stability Index (OSI)

Mark Matlock, ADM

Session LL: Castor Oil II

Chairperson:

John Kraper, Polyester Co.

Review of Hydrolytic and Enzymatic Splitting of Castor Oil**The Role of Ricinoleate Products in Coatings****The Use of Ricinoleate Polyols in Automotive Polyurethane Elastomers****The Use of Ricinoleate Polyols as Polybutadine Urethane Modifiers****Use of Castor Oil and its Derivatives in Cosmetic Applications****Oleochemicals from Castor Oil****Session MM: Biochemistry II****Altered Membrane Structure After Lipid Peroxidation Activates Phospholipase A2**

Alex Sevanian, Laurie McLeod, Mary Lou Wratten and Eunjoo Kim, University of Southern California

Effect of Methyl Arachidonate Hydroperoxide Positional Isomers on Liposomal Calcium Ion Uptake

Nancy J. Moriarity, U.S.D.A. Eastern Regional Research Center, and Fred A. Kummerow, University of Illinois

Identification of Phospholipase B as a "Stalked" Membrane Protein of the Intestinal Brush Border

A. Kuksis and S. Pindis, C.H. Best Institute

Regulation of Sterol Biosynthesis in Cultured Plant and Animal Cells by 24(RS), 25-epiminolanosterol

W. David Nes and Beni Tal, U.S. Department of Agriculture, George Popjak and Aniko Meenan, U.C.L.A. School of Medicine, and Edward J. Parish, Auburn University

The Cytotoxicity and Antiproliferative Effects of Lysophosphatidylcholine and Alkyl Lysophospholipids Are Modulated by Cholesterol

Barbara Malewicz and Wolfgang J. Baumann, University of Michigan

Characterization and Quantification of Three Plasma Lp(a) Lipoprotein Subclasses

Frank T. Lindgren, Lawrence Berkeley Laboratory, Virgie G. Shore, Lawrence Livermore National Laboratory, Gerald L. Adamson and Laura A. Glines, Lawrence Berkeley Laboratory

Session NN: General Synthesis

Chairperson: To be determined.

Synthesis and Characterization of Linoleate- and Linolenate-Containing Triglycerides in Vegetable Oils for Autoxidation Studies

R.A. Awl, D. Weisleder and E.N. Frankel, U.S.D.A. Northern Regional Research Center

Microbiological Syntheses of Triglycerides and Wax Esters

S. Koritala, U.S.D.A. Northern Regional Research Center

Meetings

The Acid-Catalyzed Addition of Alkoxy Groups to the Olefinic Double Bonds of Soybean Oil

R.V. Madrigal and M.O. Bagby, U.S.D.A. Northern Regional Research Center and E.H. Pryde (Deceased)

Preparation of Deuterated Methyl 6,9,12-Octadecatrienoates and Methyl 6,9,12,15-Octadecatetraenoates

H. Rakoff, U.S.D.A. Northern Regional Research Center

1,2- and 1,3-Dialkylglycerol Ethers: Synthesis and Configuration Analysis

Philip E. Sonnet, Agricultural Research Service, U.S.D.A.

Stereospecific Alkene Formation Via Peterson Olefination

John Flygare, Northwestern University, Potts Awardee

Determination of Total Sulfur Contents in Fats and Oils and Identification of Some Sulfur-bearing Fatty Acids in Canola Oil

R.C. Wijesundera, Canadian Institute of Fisheries Technology

Analysis of Oil and Meal from *Lesquerella fendleri* Seed

Kenneth D. Carlson, Northern Regional Research Center, ARS/USDA

Mucilage in Canola Seeds

S. Sharafabadi, University of Manitoba

Variation in the Fatty Acid Composition of Lecithins

P. Kaufmann, U. Olsson and B.G. Herslof, University of Stockholm

Correlation of Heats of Combustion with Empirical Formulas for Fatty Alcohols

Bernard Freedman, Northern Regional Research Center, ARS/USDA

Squalene, A Natural Inhibitor of Chilling Injury in Stored Grapefruit

Harold E. Nordby, USDA

Session OO: General Analytical II

Chairperson:

Anthony Montana, Henkel Corp.

Determination of Oil Content in Canola Seed by a Modified Re grind Procedure—Comparison with Diatomaceous Earth

J.K. Daun, Canadian Grain Commission

Development of a Rapid Equilibrium Method for Analysis of Total Oil in Soybeans

Patricia Clark, University of Arkansas

Session PP: Environmental Control: Extraction and Disposal of Spent Bleaching Clays—A Round Table Discussion

Chairperson:

Michael T. Boyer, AES Engineering, Inc.

A list of poster presentations planned for the 1988 annual meeting will be published in the February *JAOCS*.

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