

## Calendar

### AOCS NATIONAL MEETINGS

Annual Meeting, May 3-7, 1989, Convention Center, Cincinnati, Ohio.

### AOCS WORLD CONFERENCES

World Congress on the Utilization of Vegetable Proteins in Human Foods and Animal Feedstuffs, Oct. 2-7, 1988, Singapore.

World Conference on Edible Fats and Oils Processing: Basic Principles and Modern Practices, Oct. 1-6, 1989, Maastricht, The Netherlands.

### 1988

#### August

Rheology Workshop, Aug. 8-10, 1988, Chicago, Illinois, sponsored by the American Association of Cereal Chemists (AACC). Contact: AACC Short Course Program, 3340 Pilot Knob Rd., St. Paul, MN 55121.

**POS Short Course on Canola Oilseed and Oil Processing**, Aug. 8-11, 1988, POS Pilot Plant Corp., Saskatoon, Saskatchewan, Canada. Contact: Paul Fedec, Short Course Chairman, POS Pilot Plant Corp., telephone 306-975-7066; telex 074-2882; fax 306-343-5966.

4th International Diffuse Reflectance Conference, Aug. 14-19, 1988, Wilson College, Chambersburg, Pennsylvania. Contact: Fred McClure, Department of Agricultural Engineering, North Carolina State University, Raleigh, NC 27695-7625.

Bioavailability '88: Chemical and Biological Aspects of Nutrient Availability, Aug. 21-24, 1988, University of East Anglia, Norwich, England. Details: Bioavailability '88, AFRC Institute of Food Research, Norwich Laboratory, Colney Lane, Norwich, Norfolk NR4 7UA, U.K.

Analysis of Oils and Fats Workshop, Aug. 22-24, 1988, University of St. Andrews, Scotland. Sponsored by IUPAC Commission VI.3 and arranged in conjunction with the Department of Chemistry at the University of St. Andrews and the Laboratory of the Government Chemist, London, England. Contact: Joyce Beare-Rogers, Bureau of Nutritional Sciences, Health Protec-

### On the Cover

In the left photo, Nobel medalist Konrad Bloch and AOCS Treasurer Robert Burton check out the sites at Rawhide, the Monday evening social outing held in conjunction with the 1988 AOCS annual meeting. In the upper right photo, Arnold Gavin, meeting general chairman, welcomes attendees to Phoenix. In the lower photo, Stephen S. Chang greets friends at a symposium luncheon held in his honor. A report on the meeting begins on page 1034.

(Continued on page 1128)

## JAOCS

**JOURNAL OF THE AMERICAN OIL CHEMISTS' SOCIETY** (ISSN: 0003-021X), formerly *OIL & SOAP*, is published monthly by the AMERICAN OIL CHEMISTS' SOCIETY, 1608 Broadmoor Dr., Champaign, IL 61821-0489, USA. Phone (217) 359-2344. Telex: 4938651 AOCS UI. Second class postage paid at Champaign, Illinois, and additional mailing offices. POSTMASTER: Send address changes to Journal of the American Oil Chemists' Society, P.O. Box 3489, Champaign, IL 61821-0489, USA.

**SUBSCRIPTIONS** for U.S. are \$70 for one year and \$190 for three years. Non-U.S. subscriptions are \$85 for one year and \$235 for three years. Air mail postage is \$60 extra per year.

**COPYRIGHT** 1988 by the American Oil Chemists' Society. Formerly published as Chemists' Section, Cotton Oil Press, 1917 to 1924; Journal of the Oil and Fat Industries, 1924 to 1931; Oil & Soap, 1932 to 1947. The American Oil Chemists' Society assumes no responsibility for statements or opinions of contributors to its columns. The Journal is indexed in the Applied Science and Technology Index of the H.S. Wilson Company, New York.

**CLAIMS** for copies lost in the mails must be received within 30 days (90 days foreign) of the date of issue. Notice of change of address must be received two weeks before date of issue.

**ADVERTISING INSTRUCTIONS AND DEADLINES.** Closing date 3rd of month preceding date of issue. Insertion orders received after closing will be accepted by the production manager at advertisers' risk. AOCS cannot guarantee positioning of proofs for ads received after closing. Cancellation date 3rd of preceding month. Send insertion orders and mechanical materials to advertising offices at 1608 Broadmoor, P.O. Box 3489, Champaign, IL 61821-0489, USA. Phone: (217) 359-8028. Telex: 4938651 AOCS UI. *Advertising Sales and Production:* Arleen Ward, Jennifer Nelson.

**MANUSCRIPT PUBLICATION:** Submit to the Journal of the American Oil Chemists' Society, P.O. Box 3489, Champaign, IL 61821-0489, USA.

**AOCS OFFICERS:** *President,* Timothy L. Mounts, leader, vegetable oil research,

USDA Northern Regional Research Center, Peoria, Illinois; *Vice President,* Roy A. Carr, president, POS Pilot Plant Corporation, Saskatoon, Saskatchewan, Canada; *Secretary,* M.D. Meiners, food technologist, Best Foods Division of CPC International, Union, New Jersey; *Treasurer,* R.M. Burton, president, Burton International Biomed Ltd., St. Louis, Missouri; *Executive Director,* James C. Lyon, AOCS, Champaign, Illinois.

**JOURNAL STAFF:** *Editor:* T.H. Applewhite; *Associate Editors:* G.C. Cavanagh, T.A. Foglia, T.J. Jacks, George Liepa, Raymond Mackay, D.B. Min, T.L. Mounts, E.G. Perkins, L.H. Princen, M.A. Reynolds, M.J. Rosen, J.F. Scamehorn, Edward A. Sedor, G.F. Spencer, W.J. Stancel, M.E. Tuvell, P.J. Wan, D.L. Wharry; *Publications Director:* George Willhite; *Manuscript Production Supervisor:* Lee Heissel; *Graphics Supervisor:* Lee Gross; *Staff Editor:* Paula Erwin; *News Editor:* Barbara Fitch Haumann; *Circulation Manager:* Sandy Burr; *Advertising Chairman:* K.T. Zilch; *Book Review Editor:* E.G. Perkins; *Index Editor:* E.G. Perkins; *Technical Correspondent:* E.G. Perkins.

*(Continued from page 1030)*

tion Branch, Department of Health & Welfare, Ottawa, Ontario, Canada K1A 0L2.

New Zealand Institute of Chemistry and New Zealand Biochemical Society joint annual meeting, Aug. 23-26, 1988, Palmerston North, New Zealand. Contact: Conference Secretary, Grasslands Division, DSIR, Palmerston North, New Zealand.

102nd Annual International Meeting, Association of Official Analytical Chemists, Aug. 29-Sept. 1, 1988, The Breakers, Palm Beach, Florida. Contact: Margaret Ridgell, AOAC, 1111 N. 19th St., Suite 210, Arlington, VA 22209.

4th Separation Science & Biotechnology Symposium, Aug. 31-Sept. 3, 1988, Palazzo Feltrinelli, Gargnano del Garda, Italy. Contact: Pier Giorgio Righetti, Professor of Biochemistry and Symposium Chairman, Euro Business Center, PO Box 10552, 1001 EN Amsterdam, The Netherlands.

### September

Scientific Congress on Proteins in Food and Nutrition, Sept. 8-9, 1988, Vienna, Austria. Contact: Secretariat of the Scientific Congress on Proteins in Food and Nutrition, c/o Vienna Medical Academy, Alsterstrasse 4, A-1090 Vienna, Austria.

Annual meeting, German Society for Fat Science (DGF), Sept. 11-15, 1988, Trier University, Trier, West Germany. Contact: Deutsche Gesellschaft für Fettwissenschaft e.V., Soester Strasse 13, D-4400 Münster, West Germany.

Industrial Bioprocessing Short Course, Sept. 11-15, 1988, Estes Park, Colorado. Contact: Gwynne Hallock, Colorado State University, Office of Conference Services, Rockwell Hall, Fort Collins, CO 80523.

2nd International Symposium on Lipid Metabolism in the Normoxic and Ischemic Heart, Sept.

12-13, 1988, University of Limburg, Maastricht, The Netherlands. Contact: G.J. Van der Vusse, Department of Physiology, University of Limburg, PO Box 616, 6200 MD Maastricht, The Netherlands.

Sensory Evaluation of Food Short Course, Sept. 14-16, 1988, St. Paul, Minnesota, sponsored by the American Association of Cereal Chemists (AACC). Contact: AACC Short Course Program, 3340 Pilot Knob Rd., St. Paul, MN 55121.

1988 Corn Refiners Association Scientific Conference, Sept. 18-21, 1988, Marriott Pavilion Hotel, St. Louis, Missouri. Contact: Corn Refiners Association Inc., Suite 1022, 1001 Connecticut Ave. NW, Washington, DC 20036.

29th International Conference on the Biochemistry of Lipids, Sept. 19-22, 1988, Tokyo, Japan. Details: 29th ICBL, c/o Prof. Y. Seyama, Department of Physiological Chemistry and Nutrition, Faculty of Medicine, University of Tokyo, Bunkyo-ku, Tokyo 113, Japan.

International Symposium on Application of Biotechnology for Small Industries' Development in Developing Countries, Sept. 21-24, 1988, Tawana Ramada Hotel, Bangkok, Thailand. Contact: Thailand Management Development and Productivity Centre, Department of Industrial Promotion, Ministry of Industry, Rama 6 Rd., Bangkok 10400, Thailand.

Cosmetic Science '88—Achievements and Aims, 15th International Congress of the International Federation of Societies of Cosmetic Chemists, Sept. 26-29, 1988, Grosvenor House, Park Lane, London, England. Contact: Society of Cosmetic Scientists, Delaport House, 57 Guildford St., Luton, Beds LU1 2NL, England.

Seminar, Strategies for Making India Self-reliant in Vegetable Oils, Sept. 26-29, 1988, Hyderabad, India. Contact: M.V.R. Prasad,

Directorate of Oilseeds Research, Rajendranagar, Hyderabad 50030 A.P., India.

ISF-JOCS World Congress 1988, Sept. 26-30, 1988, Tokyo, Japan. Contact: ISF-JOCS World Congress 1988, Secretariat, The Japan Oil Chemists' Society, 7th floor, Yushi Kogyo Kaikan, 13-11 Nihonbashi 3-chome Chuoku, Tokyo 103, Japan.

### October

Eastern Analytical Symposium, Oct. 3-7, 1988, New York Hilton Hotel, New York, New York. Contact: Stephen Scypinski, EAS publicity chairman, Berlex Laboratories Inc., 110 E. Haver Ave., Cedar Knolls, NJ 07927, telephone 201-292-8158.

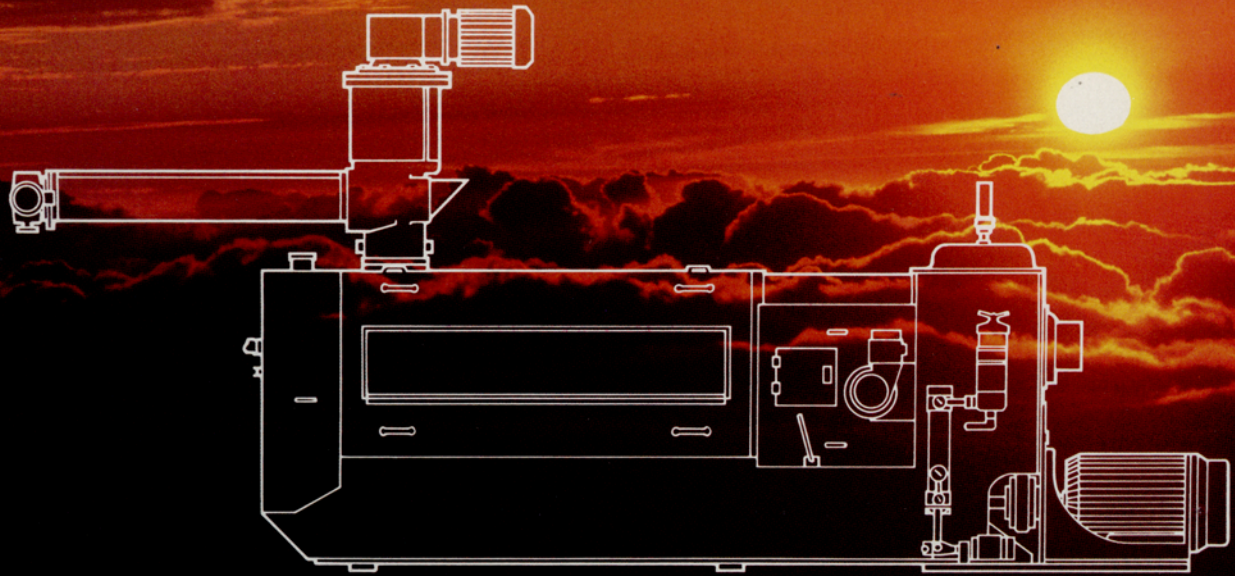
Nara Workshop on Functionality of Fats and Lipids, Oct. 4-6, 1988, Nara, Kyoto, Japan. Contact: K. Sato, Faculty of Applied Biological Science, Hiroshima University, Shitami, Saijo-cho, Higashi-Hiroshima 724, Japan.

International Post-Graduate Course, NMR in Agriculture: Plants, Animals, Products, Oct. 4-15, 1988, Wageningen University, The Netherlands. Contact: Office of Post-Graduate Courses, De Leeuwenborch, Hollandseweg 1, 6706 KN Wageningen, The Netherlands.

1st National Symposium on New Crops: Research, Development and Economics, Oct. 23-26, 1988, Adam's Mark Hotel, Indianapolis, Indiana. Contact: Continuing Education Business Office, Room 110, Stewart Center, Purdue University, West Lafayette, IN 47907.

Vitamin E: Biochemistry and Health Implications, Oct. 31-Nov. 3, 1988, sponsored by the New York Academy of Sciences, The Sheraton Centre, New York, New York. Contact: Conference Department, New York Academy of Sciences, 2 E. 63rd St., New York, NY 10021.

# Press reliability -- every day



For any type oilseed, French presses deliver the most reliable uptime, highest oil and meal consistency, and best process economy to keep you on the sunny side of profitability. Here's how:

**Built-in durability.** Beneath the skin of French presses are many extras to equip you with faithful performance. They weigh up to 25% more than competitive capacity machines! They're also gear-driven vs. belt-driven for better reliability. And rugged gear boxes are designed with a 2.0 service factor instead of merely nominal.

Extra-strength, value-added features such as these are why French presses built in the 1940s are still squeezing seeds at plants like Producers Co-op in Girard, Kansas. They simply don't die.

**Superior output and economy.** French's computer modeling system evaluates hard-coated shaft designs to determine the most efficient collar and worm configuration for all types of seeds. It's another reason why French full-presses yield the world's lowest residual oil—3 to 3.5% on cottonseed! Plus it's high quality oil because French presses are cooled with water rather than recirculating oil that degrades from excess heat.

**Largest equipment variety.** Choose among 14 models, from up to 65 tpd full-presses to 400 tpd pre-presses. We'll also custom design your press for the best fit in any seed application. That's why all but one installation in the USA since 1973 for wet process corn germ—one of the toughest seeds known—

have used French presses. Our pilot plant testing facility reduces your risk to ensure process results.

**Uptime you can trust.** Our approach to providing lasting productivity hasn't changed since 1900. Husky, well-built presses go a long way to reduce the maintenance your press ultimately requires. And we're there to help you with a responsive worldwide network of service people and factory-original repair parts to keep you up and running. We can even retrofit existing presses to increase your capacity or add pelletizing capability.

Gain the best long-term value in presses, solvent extraction and auxiliary oilseed equipment. Contact us today to discuss your requirements.

YOUR PARTNER IN PROCESSING



The French Oil Mill Machinery Company

P.O. Box 920, Piqua, Ohio 45356 U.S.A. Phone: 513-773-3420, Telex: 687-4224, Cable: French Piqua, Fax: 513-773-3424, Ext. 321