

Meetings

1988 annual meeting posters

The following posters are scheduled to be presented in poster sessions at the 1988 AOCS annual meeting in Phoenix, Arizona. The meeting will be held May 8-12, 1988, at the Phoenix Civic Plaza. Titles of talks scheduled in the tentative technical program were published in the January issue of *JAOCS*.

Session RR: Poster Session—General Topics

The Lipids of Bovine Teat Canal Keratin

Joel Bitman, D.L. Wood, S.A. Bright and R.H. Miller, Milk Secretion and Mastitis Laboratory

Analysis of Cereal Products by Dynamic Headspace/Gas Chromatography

Brian D. Kirk, Tekmar Co.

Impact of Adsorbent Bleaching on Oxygenated Compounds and Stability

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

New High Purity Dimer Fatty Acids and Their Application

K.D. Haasc, Unichema Chemie B.V.

Results from the Danish Food Monitoring System for Nutrients with Special Emphasis on the Variation of Vitamin A in Milk and in the Fatty Acid Pattern of Herrings

Torben Leth, National Food Agency

Causes of Turbidity in Canola Oil

J.K. Daun, Canadian Grain Commission, and J.E. Jeffery, Canola Council of Canada

The Effect of Dietary Linoleate on Energy Metabolism, Lipid Composition and Function of Liver Mitochondria

Remi De Schrijver, University of Leuven

The Influence of Different Dietary Sources of γ -Linolenic Acid (GLA) from Evening Primrose Oil, Black-currant Oil, Borage Oil and Fungal Oil on Free Fatty Acid Production by the Rat Mesenteric Vasculature

M.S. Manku, D.K. Jenkins, J. Shay and D.F. Horrobin, Efamol Research Institute

The Effects of Diet on the Triacylglycerol Structure of Human Milk

Robert G. Jensen, G.C. Del Savio, A.M. Ferris, C.J. Lammi-Keefe, T.R. Omara-Alwala and C. Stewart, University of Connecticut

Comparative Study of Molecular Species of Glycerophospholipids (GPL) of Human Plasma and Erythrocytes

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

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

K.D. Carlson, A. Chaudhry and R.E. Peterson, USDA Northern Regional Research Center

Aflatoxin in Arizona Cottonseed: A Paired Study of Insect-damaged Bolls with Non-damaged Bolls

Louise S. Lee and Peter J. Cotty, USDA Southern Regional Research Center

Composition of Human Adipose Tissue Lipids

Daniel P. Schwartz, USDA Eastern Regional Research Center

Phospholipid Distribution and Headgroup Motion in Phosphatidylcholine Liposomes: A Phosphorus 31 NMR Study

Wolfgang J. Baumann and V.V. Kumar, University of Minnesota

Aflatoxin in Arizona Cottonseed: The Nucellus as a Potential Barrier to Invasion of the Embryo by *Aspergillus flavus*

Louise S. Lee, Wilton R. Goynes and Peter J. Cotty, USDA Southern Regional Research Center

Prediction of Induction Period of Soybean Oil by Initial Peroxide Value

Ana Rauen-Miguel and Walter Esteves, Unicamp Acid Water Resource Recovery, an Environmental Treatment Alternative

Ralph S. Daniels, Daniels Fertilizer Co.

Vacuum Bleaching Soybean Oil in the Laboratory: An Evaluation of the Variables Involved

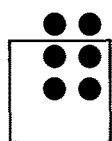
S. Brophy and D.D. Brooks, Oil-Dri Corp. of America

Solvent-free Enzymatic Synthesis of Glycerides

Francoise Ergon, Michael Trani and Gerald Andre National Research Council Canada

Volatile Compounds Formed During Simulated Deep-fat Frying of Rice Bran Oil

Lucy Sun Hwang, Shyong-En Tsai and Lung-Bin Hau, National Taiwan University; George Huang and Chi-Tang Ho, Rutgers University



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Program announced for lipids meeting

Program details for the "Diet, Lipids and Cancer (Metabolism: Membranes: Mechanisms)" conference to be held May 22-26, 1988, at Yulara in Northern Australia have been announced.

Registration, housing and travel information is available from the Diet, Lipids and Cancer Secretariat, John R. Sabine, Waite Agricultural Research Institute, Glen Osmond, S.A. 5064, Australia (telephone 08-372-2344; telex AA89141).

The scientific program will include eight discussion sessions with invited presentations, two "hypotheses" or debate sessions, and submitted poster papers. Persons interested in submitting posters should contact Sabine.

Discussion session invited speakers include the following:

- **High-fat Diets in Humans I: The Chemistry of Fats in the Human Diet**, R. Ackman, Canada; **Fat in the Diet of Human Populations**, M. Hill, England; and **Physiological Effects of Fat in the Human Diet**, S. Sato, Japan.
- **High-fat Diets in Humans II: Pharmacological Effects of Fat in the Human Diet**, J. Kabara, USA; **High-fat Diets and Cancer—Epidemiological Studies**, T. Hirayama, Japan; and **High-fat Diets and Cancer—From Animal Model to Dietary Guidance**, R. Vles, The Netherlands.
- **High-fat Diets in Animals I: The Formulation of High-fat Diets for Experimental Animals**, M. Bieber, USA; **Animal Models for Diet-cancer Studies**, D. Birt, USA; and **Drug Metabolism in Animals on High-fat Diets**, H. Bartsch, France.
- **High-fat Diets in Animals II: Physiological Effects of High-fat Diets in Experimental Animals**, R. Karmali, USA; **Chemical Carcinogens in Animals on High-fat Diets**, B. Roebuck, USA; and **Spontaneous Cancer in Animals on High-fat Diets**, I. Tinsley, USA.
- **Fatty Acids and Cancer: Cellular Metabolism of Fatty**

Acids, W. Lands, USA; **Dietary Lipids and Cell Membrane Function**, E. McMurchie, Australia; and **Effects of Specific Fat on the Development of Cancer**, C. Ip, USA.

- **Cholesterol and Cancer: Epidemiological Studies Relating Cholesterol and Cancer**, A. McMichael, Australia; **Membrane Cholesterol and Cancer**, M. Shinitzky, Israel; and **Cholesterol Metabolism and the Development of Cancer**, P. Coleman, USA.
- **Vitamins and Cancer: Epidemiological Studies Relating Vitamins to Cancer**, R. McLennan, Australia; **Plasma Vitamins Relative to Cancer Development**, K. Gey, Switzerland; and **Vitamin Intervention Trial in Human Cancer**, M. Rosin, Canada.
- **Host Lipid Metabolism: Effects of Tumors on Host Lipid Metabolism**, N. Baker, USA; **Membrane Lipids and Receptor Function**, M. Clandinin, Canada; and **Growth Factors in Normal and Cancer Tissue**, R. Furlanetto, USA.

Hypotheses topics and participants include the following:

- **Fat vs. Calories**, K. Carroll, Canada, and D. Kritchevsky, USA.
- **Metabolism vs. Membranes**, R. Conyers, Australia, and A. Spector, USA.
- **Questions for the Future: What Are the Research Gaps?** by T. Campbell, USA, and **Are We Ready for Intervention?** by B. Armstrong, Australia.

Poster session topics and paper titles will be available at the conference.

The registration fee is \$400 for registrations received after Feb. 1 and includes all conference materials, including abstract book, transfer from Yulara airport to hotel, opening social event, conference dinner, two excursions, coffee breaks and a light meal during the "hypotheses" session. Early registration is advised as the conference will be limited to 300 participants, including invited speakers.

Biotechnology

The 8th International Biotechnology Symposium will be held July 17-22, 1988, in the Palais des

Spring symposium

The Northeast Section of AOCS will hold an all-day symposium on "Basic Principles of Processing Vegetable Oils" Monday, April 11, 1988, at the Newark Airport Marriott Hotel, Newark, New Jersey.

Chairman for the symposium is August M. Rossetto Jr., president of L.A. Salomon Inc. The symposium will be geared for individuals involved in fats and oils processing, research and quality control.

Topics and speakers include the following:

- **Degumming and Refining of Vegetable Oils**, Roy A. Carr, POS Pilot Plant Corp.;
- **Bleaching**, Werner Zschau, Süd Chemie AG;
- **Filtration**, Frank H. Passalacqua, Industrial Filter & Pump;
- **Deodorization and Deacidification**, Calvin T. Zehnder, consultant;
- **Round-table discussion session**, featuring comments by George Buehler of UCI on processed oil prior to hydrogenation.

Those wishing to attend are asked to make reservations by April 1, 1988. Reservations may be sent to Aura Maza, Best Foods, 1120 Commerce Ave., Union, NJ 07083, telephone 201-688-9000, Ext. 393. The fee is \$60 for advance reservations or \$75 at the door.

Meetings

Congrès, Paris, France. Organizers are the Société Française de Microbiologie, in conjunction with the European Federation of Biotechnology under the auspices of the International Union of Pure and Applied Chemistry (IUPAC).

The program will feature sessions on basic microbiology, genetics of animal cells, genetics of microorganisms, cell culture, protein design, enzymes and organelles, mass transfer and bioprocess kinetics, bioreactor technology and control, downstream processing, production of physiologically active molecules in heterologous systems, vaccines, biological reagents, recent progress in food and feed biotechnology, plant biotechnology and its impact on agriculture, new developments in the production of industrial chemicals, biohydrometallurgy, environment and waste treatment, patents and economic problems, safety, education and biotechnology in developing countries.

The opening lecture will be given by F. Gros of the Institut Pasteur, Paris. Simultaneous English and French translation will be provided for the opening session. All other sessions will be in English.

For more information, contact 8th International Biotechnology Symposium, c/o S.O.C.F.I., 14 rue Mandar, 75002 Paris, France.

Antioxidants

A two-day symposium, "Antioxidants in Foods," will be held April 21-22, 1988, at Brunel University, Uxbridge, London, England.

Sponsors are the Society of Chemical Industry's (SCI) Oils & Fats and Food groups, in association with the Royal Society of Chemistry's Chilterns and Middlesex Section.

The symposium will cover chemistry of the mode of action, applications in food and feedstuffs, effects of processing on oxidative stability, natural antioxidants, synthetic antioxidants, analytical aspects, regulatory and marketing aspects, and nutritional and toxicological aspects.

For more information, contact Antioxidants in Food Symposium, c/o Institute of Food Research, Norwich University, Colney Lane, Norwich NR4 7UA, England.

PUFA workshop

A NATO Advanced Research Workshop on Dietary Omega-3 and Omega-6 Fatty Acids: Biological Effects and Nutritional Essentiality will be held June 20-23, 1988, in Belgirate, Italy.

The workshop will bring together experts on the biological effects of polyunsaturated fatty acids (PUFA) in the diet on health and disease and their roles in tissues. The aim is to discuss the comparative nutritional values of omega-3 and omega-6 fatty acids and to define their optimal balance in the diet.

Directors of the workshop are Claudio Galli of the Institute of Pharmacological Sciences, University of Milan, Italy, and Artemis P. Simopoulos of ILSI/NF, Washington, D.C., USA.

Attendance will be restricted to 100 participants. Those wishing to attend are asked to send their condensed curriculum vitae by March 15, 1988, to D. Galli, N.F.I./Nutrition Foundation of Italy, Via Balzaretto 9, I-20133 Milan, Italy.

Fats & Oils News

Outlook '88:

Expect record oilseed production

Although 1987/88 U.S. soybean production is forecast to remain below the record 1985/86 volume, predicted increases in South American soybean production and European Economic Community (EEC) rapeseed harvests are expected to push world oilseed output to new records this marketing year. The U.S. Department of Agriculture (USDA) forecasts world oilseed production in 1987/88 will surpass 203 million metric tons (MT), up nearly 5% over last year.

In December, speakers at USDA's Outlook '88 said these factors, plus a resurgence in Soviet soybean and soybean meal purchases, reductions in U.S. Commodity Credit Corporation (CCC)

stocks and an increase in oil use, will be the primary influences to watch in the coming months.

According to Silmar César Müller, the 1986/87 marketing season may have "marked the end of a long period of depression in the international oilseed market, especially for soybeans." The editor of *SASFRAS & Mercado*, a Brazilian publication covering oilseeds, grain and meat markets, said improved oilseed demand, a lowering of high world stocks and recent price recoveries may indicate a better balance between oilseed supply and demand.

"It is probable that we are moving from a relatively short period, in which soybean meal

keeps heading the market, into another headed by oil. The indicators for oils, coming especially from the Asian markets, seem better. And that is perhaps sufficient to keep world oilseed prices relatively attractive to the producing countries," Müller said.

However, he added, improvements in the market might stimulate production so that oilseed stocks would increase again in 1989. The only way for continuing market improvements would be to slow the production growth rate along with reducing stocks, he said, adding, "The only chance of a decrease in soybean production in 1988 lies perhaps in the U.S."

U.S. soybean production dropped

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U.S. soybean production dropped

from a peak 2.1 billion bushels in 1985 to an estimated 1.96 billion bushels in 1987, and the 1987 harvested acreage fell to 57.6 million acres, the lowest level since 1976. But, according to USDA's Roger Hoskin, record yields overcame an area cutback of 1.7 million acres. "Additional declines in U.S. acreage may only have a minimal impact on U.S. soybean production," the agricultural economist said.

Because less productive land in the Delta and the Southeast U.S. is no longer planted in soybeans, higher-yielding acreage in the Midwest could increase national yield averages. However, if prices are favorable, some of the land taken out of production could be planted, Hoskins added.

For U.S. soybean acreage to expand, soybean prices would have to rally to \$6.75-\$7 in early 1988, according to Dale Gustafson of the securities-commodity firm Drexel

Burnham Lambert Inc. He noted that CCC beans were being purchased "aggressively" due to high crush margins and strong export sales; reported commercial purchases of CCC inventory from September through November were 195 million bushels. "Soy complex prices in the post-harvest period have risen sharply despite the best level of producer selling in this decade," he said.

Gustafson predicted that U.S. firms would have to rely on producer sales to meet requirements after March; he also said crushing margins could be expected to stay at historically high levels from December through March 1988. Acreage reductions and demand could draw U.S. soybean stocks down to 70 million bushels by Sept. 1, 1989, he added.

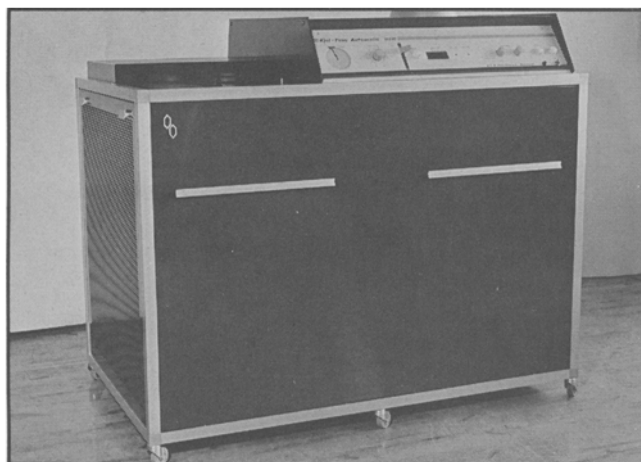
Meanwhile, Hoskin forecast that soybean production in the EEC would rise to 1.47 million MT in

1987/88, up from 89,000 MT in 1983/84. He said the 1988 rapeseed harvest could reach 5.9 million MT, and total EEC oilseed production for 1987/88 might reach 11.9 million MT, up from 1.9 million MT in 1975/76. Hoskin predicted 1987/88 Latin American production would rise 8%, with Brazil's soybean harvest forecast at more than 18 million MT and Argentina's at 8.5 million MT.

Müller's estimates for Latin American soybean production were slightly higher, with Brazilian output forecast at 18.77 million MT and Argentine production at 8.8 million MT. This is up from 1987 levels of 16.96 million MT and 7.3 million MT, respectively (Table 1).

However, Müller said export growth would not match production growth. "Our forecasts indicate that South American exports of soybeans and sunflowerseed complexes combined will rise not more

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TABLE 1

South American Soybean Production

Country	Area (in 1,000 hectares)			Production (in 1,000 MT)			Yield (Kg/ha)		
	1987	1988 ^a	1989 ^a	1987	1988 ^a	1989 ^a	1987	1988 ^a	1989 ^a
Argentina	4,300	4,300	4,500	7,300	8,815	9,225	2,000	2,050	2,050
Brazil	9,161	10,206	10,590	16,961	18,770	19,665	1,851	1,839	1,857
Paraguay	530	600	650	950	1,020	1,140	1,790	1,700	1,750
Totals	13,991	15,106	15,740	25,211	28,605	30,030	1,890 ^b	1,894 ^b	1,908 ^b

^aProjected.

^bAverage yields per hectare.

Source: Figures from November *SAFRAS & Mercado* projections. *SAFRAS & Mercado* is a Brazilian publication dealing with oilseed, grain and meat markets.

TABLE 2

South American Soybean Complex Net Export Trends (in 1,000 Metric Tons)

Country	Soybeans			Soybean meal			Soybean oil		
	1987	1988 ^b	1995 ^b	1987	1988 ^b	1995 ^b	1987	1988 ^b	1995 ^b
Argentina	1,350	2,800	3,500	4,000	4,050	4,800	820	820	985
Brazil	2,500 ^a	3,000 ^a	2,600 ^a	7,950	7,950	9,750	970 ^a	800 ^a	1,050 ^a
Paraguay	780	950	1,350	—	—	—	—	—	—
Total	4,630	6,750	7,450	11,950	12,000	14,550	1,790	1,620	2,035
% of world share	20	23	19	46	46	41	43	40	35

^aIndicates net exports for Brazil. Imports of soybeans and oil have been deducted from estimates for Brazil.

^bProjected.

Source: Figures from November *SASFRAS & Mercado* projections.

than 10% or around two million MT. On an oil basis, that means not more than 370,000 MT; on a meal basis, that means about 1.7 million MT extra."

SASFRAS & Mercado figures as of November 1987 showed 1988 soybean exports for Argentina, Brazil and Paraguay will total 6.75 million MT, up from 4.63 million MT in 1987. Total South American soybean meal exports are forecast to rise to 12 million MT, up 500,000 MT from 1987; net soybean oil exports are forecast to decrease slightly to 1.62 million MT, from 1987's 1.79 million MT (Table 2).

"The smaller increase of exports, in comparison to the production rise, is due to the fact that South American stocks are found today at one of the lowest levels through the last years. Also, domestic consumption may show an increase again, at least in Brazil, if prices do not move up beyond certain limits," Müller said.

He said initial projections for 1988/89 indicate that soybean area would increase around 4%, smaller than the 13% increase in 1987/88. Müller attributed the possible slowdown in expansion to improved 1988 corn markets in Brazil.

"South America is not expected to contribute to slow down the growing rate of world soybean production in the coming two years," Müller said.

Hoskin, meanwhile, predicted total world demand for protein meals and oil will increase. Noting that world consumption of the major protein meals would climb to 111.2 million MT, Hoskin said world meal exports could decline to 35.8 million MT from 36.2 million MT in 1986/87. USDA figures released since the December outlook conference indicate consumption will be 112.9 million MT,

exports will equal those of last year, and protein meal imports will be approximately 36.9 million MT.

Greater availability of meal in the EEC, traditionally a major importer, and increases in Brazilian domestic demand for soybean meal will influence oilseed protein exports and imports through the year, Hoskin said. He noted that Brazilian soybean meal demand would probably be 2.9 million MT in 1987/88. "Strong domestic use plus Soviet purchases last spring have effectively sidelined Brazil from the export market until the 1988 (Brazilian) crop is harvested," he said.

The Soviet Union will continue to be a major factor in the world oilseeds market, Hoskins said, noting that Russian soybean meal purchases from the U.S. will exceed the 2.5 million MT imported in 1986/87. Because the Soviet Union has trade agreements with Brazil

and Argentina, however, it could turn to those countries once the 1988 South American harvest is completed.

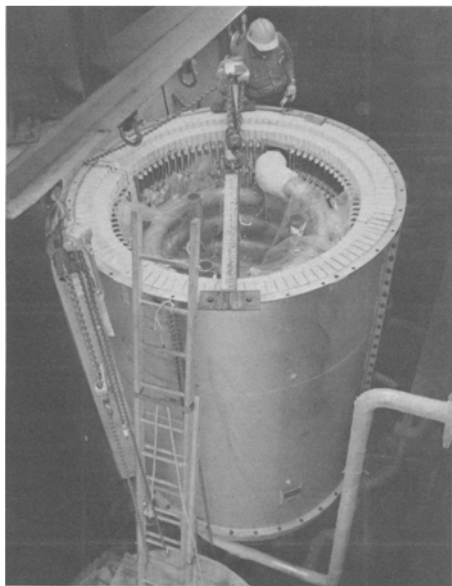
Hoskin noted there had been a change in the mix of soybeans and soybean meal exported from the U.S., with cumulative soybean meal exports trailing last year's sales by more than 40% as of November 1987, and U.S. soybean sales increasing by more than 15%. "The falling dollar has made soybeans cheap while firming oil prices, and high meal prices may have improved European crush margins. Also, many Europeans continue to prefer soybean meal over rapeseed meal. Much of the rapeseed is still of the single-low variety, making incorporation into non-ruminant rations difficult," Hoskin said.

Even though world vegetable oil production in recent years has outstripped consumption, Hoskin said, "In 1987/88, accelerated growth in

oil use is expected to hold world stocks of the 11 major vegetable oils near last year's level."

He predicted production of most oils, except peanut and coconut, would increase, with Southeast Asian palm oil, U.S. cottonseed oil, European rapeseed oil and EEC and Argentine sunflowerseed oil accounting for most of the production rise. He forecast that vegetable oil demand in China, India and Pakistan particularly would rise, and that China's vegetable oil imports could reach 901,000 MT in 1987/88.

Hoskin said U.S. soybean oil ending stocks have risen dramatically from 947 million pounds at the end of the 1985/86 season to possibly more than two billion pounds in 1987/88. This rise in U.S. oil stocks reflects the high crush to meet domestic and export soybean meal demand. World stocks not counting U.S. stocks have declined



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slightly since 1985/86 and will hold steady in 1987/88, Hoskin added. The ending stock buildup in the U.S. may be mitigated somewhat by a projected 4.3% increase in domestic consumption. U.S. domestic consumption in 1986/87 rose 7.9%.

USDA has forecast 1987/88 world production of the eight major oilseeds at a record 203.03 million MT, up from 194.32 million MT in 1986/87. Peanut, copra and flax production have declined, but soybean, cottonseed, sunflowerseed, rapeseed and palm kernel harvests are expected to increase. USDA's late November projections for oilseed and oilseed products include the following:

Soybeans—The anticipated 1987/88 world soybean harvest is 102.38 million MT, up nearly 4.1 million MT. Bean exports are forecast at 28.67 million MT, up from 28.52 million MT in 1986/87. Imports are projected down slightly, with this year's forecast set at 28.6 million MT. Crush, at 85.51 million MT, is up approximately 2.3 million MT over last year. Soybean ending stocks are projected at 18.22 million MT, the lowest level since the 1984/85 season. Soybean meal and oil production each are forecast to increase—meal to 67.4 million MT and oil to 15.2 million MT. World exports for both are forecast at 25.4 million MT and 3.85 million MT, respectively. Soybean oil consumption is expected to total nearly 14.72 million MT, 620,000 MT more than last year.

Cottonseed—Cottonseed production is forecast to rise from 26.94 million MT in 1986/87 to 29.54 million MT this marketing year. World cottonseed export and import levels are expected to remain unchanged from 1986/87, when 250,000 MT were exported worldwide and 220,000 MT were imported. Although crush is forecast up at 22.59 million MT, ending stocks for 1987/88 will be more than double the 1986/87 level of 280,000 MT. Cottonseed oil production is set for 3.27 million MT and world cottonseed meal production at 10.52 million MT.

Peanuts—World peanut production is forecast to decrease to 19.27 million MT. USDA anticipates

three of the major peanut producers—India, the U.S. and Senegal—will produce smaller crops, while China, another major producer, will harvest 6.4 million MT. World peanut exports are expected to decline slightly to 1.26 million MT; world peanut crush is set at 9.58 million MT.

Sunflowerseed—World sunflowerseed production is anticipated to be a record 19.73 million MT. USDA estimates EEC production would increase by 10% and Argentine production by 13%, while Eastern European and Soviet harvests would decrease. U.S. production is in its third year of decline with production estimated at 1.03 million MT. World sunflowerseed exports are forecast at 1.94 million MT, up about 140,000 MT. Both Argentine and French sunflowerseed exports are projected to increase. France's projected sunflowerseed export level of 1.3 million MT is more than five times the 1981/82 level. U.S. sunflowerseed export projections at 250,000 MT represent the sixth consecutive year of decline.

Rapeseed—World rapeseed output is forecast at a record 22.39 million MT, up 2.7 million MT from 1986/87. Most of the production increase is due to expansion in the EEC where rapeseed production increased in the United Kingdom, West Germany and, most notably, France. EEC output for 1987/88 is estimated at slightly more than 5.9 million MT, an increase of 2.22 million MT over 1986/87. Reports from *OILscoop* indicate that potential yields for the 1988 harvest in the U.S. Pacific Northwest may have declined due to drought last September to November. Rapeseed exports are projected to increase to 4.9 million MT; the 1987/88 projected crush of 19.7 million MT is up nearly 1.4 million MT over last year. Ending stocks are expected to reach about two million MT, 820,000 MT more than last year.

Flaxseed—World flaxseed production could drop 360,000 MT to a level of 2.39 million MT in 1987/88. The projection for flaxseed exports is 730,000 MT, down 30,000 MT from 1986/87. The projected two million MT crush level is down

marginally from 1986/87.

Copra—World copra production, set for 4.63 million MT, is expected to decline 110,000 MT from 1986/87. Exports in 1987/88 are forecast at 440,000 MT and crush at 4.47 million MT. The projected ending stock level of 80,000 MT is the lowest ending level since 1983/84.

Palm kernel—Palm kernel production may reach 2.73 million MT, an increase of approximately 210,000 MT over last year. Export levels in 1987/88 are anticipated to remain level with last year's at 130,000 MT, while imports could rise slightly to 120,000 MT. Palm kernel crush at 2.6 million MT is up 170,000 MT over last season.

According to *Oil World*, sesame seed, linseed and castorseed production will drop to 2.17 million MT, 2.57 million MT and 811,000 MT, respectively. *OILscoop* said U.S. safflowerseed production in 1988 would climb to 206,500 short tons, up from 160,250 tons in 1987. In 1988, two new varieties will be introduced, one in California and another in Montana.

Tropical fats

The Asian and Pacific Coconut Community (APCC), meeting in Apia, Western Samoa, in November, agreed to undertake concerted action against the current campaign against tropical oils in the U.S. Delegates endorsed what they called the "Apia Resolution" and empowered José Romero, chairman of the Philippine Coconut Authority (PCA), to present the resolution to relevant authorities in the U.S.

In the resolution, delegates to APCC, comprised of 12 member countries, condemned what they called "the recent vituperative moves and false claims made by the American Soybean Association against tropical oils, including coconut oil."

In the resolution, APCC said it would ask the U.S. government to urge ASA "to desist from continuing its smear campaign against coconut and other tropical oils" and would appeal to U.S. Congress "not to entertain any bills masquerading as health protective

Oil outlook

World vegetable and marine oil production may reach 51.4 million MT in 1987/88, compared with 49.45 million MT in 1986/87, according to the U.S. Department of Agriculture (USDA). Estimates include (in million MT) 15.19 soybean oil, 8.67 palm oil, 6.76 sunflowerseed oil, 7.18 rapeseed oil, 3.27 cottonseed oil, 2.7 peanut oil, 2.77 coconut oil, 1.63 olive oil, 1.16 palm kernel oil and 0.65 linseed oil.

World ending stocks are forecast at 6.19 million MT for the nine major edible oils: soybean, palm, sunflowerseed, rapeseed, cottonseed, peanut, coconut, olive and palm kernel. Even with increases in domestic consumption and exports, USDA estimates the U.S. will hold 21% of the world oil stocks, most of it in soybean oil, at the end of 1987/88. This is up from an average of 14% for the past three marketing years.

Edible vegetable oil exports from the U.S. are anticipated to increase to 990,000 MT from 818,000 MT last year. Most of the oil export sales are carried out under export promotion programs.

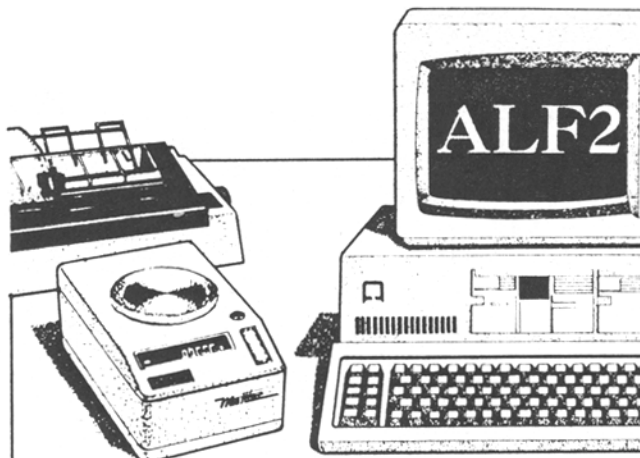
World oil imports and exports are forecast to each increase by approximately 3%. The EEC, usually a net importer, will export 3.7 million MT, while importing 3.6 million MT this year. Malaysia, meanwhile, could export a record five million MT of oil. U.S. imports also will decline slightly to 1.02 million MT. According to USDA, Pakistan and China may increase oil imports by 28% and 18%; India and the Soviet Union each are expected to increase imports by 11%.

Overall, the increase in world vegetable oil stocks has slowed to less than 2% per year. However, USDA said the disposal of the European rapeseed crop would have an impact on this year's vegetable oil balance. Although nearly 40% of the crop is scheduled to go into stocks, USDA said, if the EEC crushed or exported more than expected, the world trade balance of oils could change. Unanticipated production expansion in Latin America could also threaten the world balance of vegetable oils.

measures which are, in fact, clearly in restraint of free trade and grossly discriminating against poor, tropical oil-producing countries."

Chevreur Medals

Gregorio Varela of the Instituto de Nutricion from the Facultad de Farmacia in Madrid, Spain, and François Mendy, a French nutritionist, were awarded the 1987 Chevreur Medals by the Association Française pour l'Étude de Corps Gras (AFECG).



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Varela's research has been devoted mainly to olive oil and to processing's effect on oil composition. Mendy is known as one of the earliest researchers interested in the effect of long chain polyunsaturated fatty acids.

The medals were awarded during the 1987 Chevreul meeting in Perpignan, France. The meeting dealt primarily with virgin oils and new oils, their uses in foods, dietetics, cosmetics and pharmaceuticals.

Papers from the meeting will be published in French during 1988 by AFECG, 10 A Rue de la Paix, F-75002, Paris, France.

Protein facility

A new soy protein concentrate production facility owned by Solbar Hatzor Ltd. of Israel has been completed and is now online.

The facility has a capacity of 4,000 metric tons a year. The know-how and engineering design for the plant were provided by Hayes General Technology Co. Ltd. of Miscav Dov, Israel.

Central Soya Co. Inc. of Fort Wayne, Indiana, U.S., has contracted to purchase and distribute the products produced under the brand names Procon, Promosoy and Promocaf.

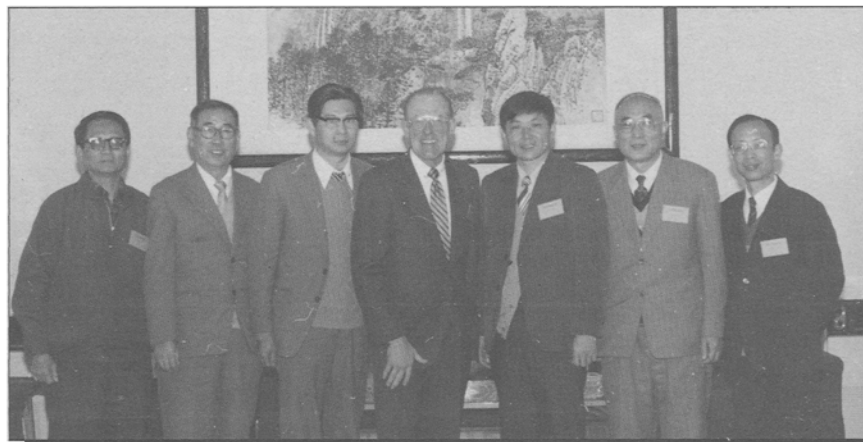
AOCS President's report from China

The following report on the International Symposium on New Technology of Vegetable Proteins, Oils and Starch Processing, held in November in China, was written by AOCS President Robert Hastert, who represented AOCS at the meeting.

Over 260 persons attended the International Symposium on New Technology of Vegetable Proteins, Oils and Starch Processing held Nov. 16-20, 1987, in Beijing, China. The conference was organized by the Chinese Cereals and Oils Association. Of those attending, 90 technical registrants and 25 accompanying persons were from outside China; the remaining 150 were technical registrants from China, chiefly from universities and research institutes and a few from factories.

Fu Li Min, director of China's Bureau of Science and Industry, was conference chairman. Sun Shi Zhong, executive director of the Chinese Cereals and Oils Association, was principal coordinator.

All technical papers were presented and printed in English. About half of the papers were by foreigners, and half were by Chinese. The first day featured two plenary sessions. I gave a welcoming speech on behalf of AOCS, one of the conference sponsors. In my address, I stressed the international nature of the society. This was not difficult, considering that there were AOCS members present from



AOCS President Robert Hastert (center) poses with Fan Tie (third from right) of the Cereal & Oil Chemistry Institute, Fu-Kuang Liu (second from right) of the Wuxi Light Industry Institute and some of the officers of the Chinese Cereals and Oils Association, organizers of the international symposium.

Canada, Denmark, the United Kingdom (U.K.), the Federal Republic of Germany, The Netherlands, Hong Kong, Hungary, Italy, Japan, Pakistan and Poland, as well as the U.S. and China. I also pointed out the diversity of interests and employment among AOCS members and emphasized the importance of the AOCS methods book.

On the second day, there were three concurrent technical sessions on proteins, starches and fats and oils. Fu-Kuang Liu and I chaired the fats and oils session. Liu is a professor at the Wuxi Light Industry Institute and is currently the only People's Republic of China member of AOCS. He told me he was recruited by Ed Lusas of Texas A&M.

Overall, papers presented were

quite good, both Chinese and foreign. While the English of some of the Chinese speakers was a bit difficult to follow, they closely adhered to their preprinted text, which was helpful. Of particular interest to me were Chinese papers on cinnamon camphorseed oil, a product containing about 50% saturated C:10 esters and another relating to the extraction and detoxification of cottonseed flakes using a mixed solvent of ethanol and hexane.

The Chinese fats and oils, vegetable protein and starch industries are quite underdeveloped compared to the U.S. and Europe. However, the Chinese readily acknowledge this fact and are knowledgeable and realistic about what must be done to remedy this.

Because of this, I believe it was

wise for AOCS to lend its name as a cosponsor of this conference. Our colleagues there have much hard work to do in the coming years, and it gave them satisfaction and encouragement to know that AOCS is willing to cooperate with them. I was particularly pleased to be the person exemplifying that cooperation.

International

Philippines

The Philippines Securities and Exchange Commission in principle has approved trading contracts for coconut oil at the Manila International Futures Exchange. According to a report in *The Cocomunity* newsletter, actual futures tradings will not be handled until related technical details, such as provisions for warehouses to provide for oil delivery, are resolved.

Europe

The European Economic Commission (EEC) has outlined a proposal to impose tougher penalties on community farmers who overproduce oilseeds.

The EEC plan aims to keep production ceilings for rapeseed, sunflowerseed and soybeans at current levels. However, it calls for raising the maximum penalty for production above these ceilings to a 15% reduction in guaranteed prices in 1988/89, a 20% reduction in 1989/90 and an unlimited reduction thereafter. The current maximum reduction is 10%. For every percentage point by which production exceeds the ceiling, there would be a 1% cut in price.

The two-day EEC summit conference in December ended without an accord on any of the main items on the agenda, including the proposed tax on fats and oils. The 12 EEC prime ministers decided to defer the issues again, this time until February 1988. The proposed fats and oils tax was not discussed because it lacked sufficient support to be approved. Opposition by England, West Germany, Denmark and The Netherlands kept the proposal from having sufficient votes to pass.

Japan briefs

According to the Ministry of Agriculture, Forestry and Fisheries of Japan, domestic market sales of pet food in fiscal 1986 totaled approximately 107 billion yen, up 14.5% from the previous year. The pet food market in Japan has been increasing for the past four years.

Approximately 400 persons attended the 26th annual meeting of the Japan Oil Chemists' Society held during 1987 in Nagoya. There were 153 technical presentations. In addition, plenary lectures were presented by T. Takagi of Hokkaido University on stereochemistry of oils and fats and their use, and by Y. Matsumoto of the University of Osaka Prefecture on recent trends in the science of macroemulsion.

The net income of Kao Corp. of Japan in fiscal 1987 was estimated at 30 billion yen, a 16% increase over 1986. The company credited part of the increase to such new products as "Attack" detergent and "Sofina" cosmetics. Kao's net sales for 1987 were estimated at 485 billion yen, 10% greater than 1986.

Also, the Q.P. Corp. and Mitsui Trading Co. have agreed jointly with Wei Chuan Foods Corp. of Taiwan to establish a company producing mayonnaise and salad dressings. The new company plans to produce products for domestic use and for export.

India

The 25th All India Convention of Oilseeds and Oils Trade and Industry, held in November at Hyderabad, India, verified the sharp reduction in oilseed production due to widespread drought. Figures estimated showed the Kharif (winter) 1987 oilseed crop had produced 2.98 million metric tons (MT) of groundnuts (in-shell), 85,000 MT of soybeans, 55,000 MT of sunflowerseed, 40,000 MT of toria (mustard variety), 25,000 MT of sesameseed, 14,000 MT of niger seed, 30,000 MT of castor seed and 28,000 MT of cottonseed.

The Indian Minister for Civil Supplies ruled out the possibility of oilseed imports except for those received as aid; even these will be restricted to half a million MT.

According to a report by the Indian Oil & Produce Exporters

Association, India is expected by trade sources to import at least two million MT of vegetable oils between November 1987 and October 1988.

Indonesia

The U.S. Department of Agriculture (USDA) estimates that Indonesia will import 575,000 MT of soybeans in 1987/88. In late November 1987, Indonesia bought 70,000 MT of soybeans, the first purchases for the new crushing facility in Jakarta. Trade sources have indicated U.S. beans are purchased because their crushing qualities are better known than those of beans from the People's Republic of China. The plant is expected to have a 300,000 MT crush rate when fully operational.

Spain

USDA projects Spain's 1987/88 soybean crush to total 1.99 million MT, down from 2.4 million MT during 1986/87. The decline is attributed to possibly lower Spanish soybean oil exports due to an increase in U.S. concessional sales of vegetable oils and local sunflowerseed oil. Feeding rates are anticipated to drop because meat prices are depressed and more meat is being imported from the EEC.

Italy

Poor weather during the Italian soybean harvest is expected to affect bean quality this year. Crop estimates remain at 1.3 million MT, but USDA said a significant number of beans would be affected by molds, decay or sprouting. USDA said this would lower prices paid to growers and may have an effect on next year's planted area.

Turkey

Turkey's Council of Ministers has reduced the import surcharge on edible oils from \$70 per ton to \$10 per ton. The decision is meant to give margarine manufacturers and refiners a chance to meet their production needs at competitive prices without causing an escalation in domestic oil prices. USDA said approximately 150,000 MT of edible oil must be imported to meet the local shortage.

Vietnam

The government of Vietnam, placing high priority on coconut development, has announced plans to increase the current annual production level of 0.68 billion nuts to 1.5 billion nuts by 1990, 3.6 billion nuts by 1995, and 6.5 billion nuts by the year 2000. To provide for these goals, the government hopes to expand coconut area by an additional 150,000 hectares by 1990 and 250,000 hectares by 1995, according to *The Cocomunity* newsletter.

Italian awards

The SISG, the Italian oil chemists' organization, honored German lipid researcher Helmut Mangold and M. Guida, president of the Italian Oils and Fats Producers' Association, during its recent meeting in Bologna, which coincided with the 90th anniversary celebration of the founding of that city.

Mangold received the Madaglia Facchini for his distinguished work in lipid sciences. Mangold's acceptance talk was dedicated to the late Orville Privett, a previous recipient of the award from The Hormel Institute in the U.S.

The award to Guida was a special award recognizing his contributions to the fats and oils industry and his organizational contributions.

Plenary lectures at the meeting were presented by W.W. Nawar, R. Paoletti, J. Graille and Professor Riva.

Soybean course

The following are excerpts from an article written by Florrie Kohn of the American Soybean Association staff for the Soybean Feature Service.

Mix 26 oilseed processors from 18 countries, add soybean specialists with 25-30 years of experience, blend together 16 hours a day for two weeks, add more than a dash of problems and solutions for study in an oil mill and classroom. Yield: a sure-fire way to increase soybean demand around the world.

That's the recipe that brought together a diverse mix of cultures and philosophies in College Station, Texas, in November at Texas A&M University's research oil mill. The event was the American Soybean Association-sponsored two-week short course to bring soybean users from around the world up to speed on soybean processing technology. The course was funded by soybean checkoff dollars and the U.S. Department of Agriculture's Foreign Agricultural Service, and coordinated by Texas A&M's Food Protein Research and Development Center.

Companies from 18 countries—Algeria, Egypt, Poland, Romania, Yugoslavia, Turkey, Portugal, Korea, Costa Rica, Mexico, Venezuela, Honduras, Haiti, Dominican Republic, Trinidad, Jamaica, Guatemala and Panama—sent engineers to the short course. These countries buy more than 18% of U.S. soybean exports, 23% of U.S. meal exports and 35% of U.S. soybean oil exports.

The international soybean processing short course was the brainchild of David Erickson, ASA's resident fats and oils expert at world headquarters in St. Louis, Missouri. "This short course satisfies my 10-year dream to teach people how to process soybeans at a facility where they can learn theories in the classroom and then put these theories into practice at a demonstration oil mill," Erickson said.

One participant was Ricardo Lopez of Prograsa, a company in Honduras. In January, Prograsa was to become Honduras' first company to buy and process soybeans. The company plans to crush soybeans, sell crude oil and process meal for animal feed.

Other participants noted that they were able to get answers to some of the processing problems they have experienced. Some were there to gather information to help their companies decide how to expand facilities and train production managers.

Biotech center

A research center for agricultural biotechnology was dedicated in late

November by officials of the U.S. Department of Agriculture (USDA) and the University of California at Berkeley.

The new Plant Gene Expression Center in Albany, California, is expected to become a major research source to aid plant breeders, geneticists and other scientists to develop superior crops. Center scientists will investigate plant genes to determine how they are expressed (turned on or off) and the nature of their messages.

USDA, the University of California at Berkeley and the California Agricultural Experiment Station entered a joint agreement in 1984 to establish the center. USDA's research agency will operate the center.

De Smet projects

Several large De Smet oil refining plants were started up during 1987, including three physical refining plants. All three of the physical refining plants use the new De Smet Multiflash Pre-Neutralizer, which, the company claims, reduces steam usage as compared with conventional physical refining.

Projects included the following:

- a 200 MT per day semi-continuous "MTD" deodorizer for Walter Rau Verfahrens Technik GmbH in Neuss, West Germany. According to De Smet, the facility can process several different types of margarine oils and is completely computer-controlled, incorporating process parameters as well as management information for the entire plant.
- a complete physical refinery to handle 600 metric tons (MT) per day of palm oil for Ngo Chew Hong Edible Oil Sdn. Bhd., Kuala Lumpur, Malaysia.
- a complete physical refinery for 700 MT per day of palm oil for Kupak Sdn. Bhd. in Kuantan, Malaysia. This facility included a 600 MT per day physical refinery and 250 MT per day fractionation plant, both furnished by De Smet.
- a complete physical refinery for 700 MT per day of palm oil for

Processing meeting

Approximately 115 persons took part in a meeting on "Optimization in Vegetable Oil Processing" held in Curacao, Netherlands Antilles, Nov. 4-7, 1987, sponsored by Quimica Sumex. The meeting featured 13 presentations by 10 speakers.

Participants attended from Venezuela, Colombia, Peru, Argentina, Dominican Republic, Costa Rica, Nicaragua, Trinidad, Ecuador, Mexico, Brazil, Uruguay, Guatemala, Honduras, El Salvador and Panama.

Felda Oil Products Sdn. Bn., Kuantan and Pasir Gudang, Malaysia. In addition, two fractionation plants of 300 MT per day were provided, each with membrane filter presses.

- A large capacity "MTD" dual deodorizer for Vandemoortele, Belgium. The deodorizer is divided into two sections and can treat simultaneously two different types of oil. This is the third "MTD" dual deodorizing plant De Smet has supplied to Vandemoortele.
- A 300 MT per day continuous deodorizer for Koipe in Andujar, Spain, a subsidiary of Lesieur.

According to De Smet, the total refining capacity represented by these plants is 2,800 MT per day.

In addition, a number of other smaller capacity De Smet refining and fractionation plants began operating in 1987. These represented a total capacity of 1,550 MT per day of various types of vegetable oils and cocoa butter. These included four plants each in India and Egypt; two each in Indonesia and the U.S.; and one each in Malaysia, Mexico, Trinidad, Argentina, France, Nigeria, Brazil, Turkey, Belgium and Spain.

Plant expansion

Central Soya Co. Inc. has announced plans to expand its Bellevue, Ohio, de-oiled lecithin processing facility.

Construction was to begin at the end of 1987, with completion scheduled for August 1988.

According to the company, the investment represents an increase of about 25% of current worldwide industry capacity and is expected to solidify Central Soya's position as the leading U.S. and world producer and marketer of de-oiled and refined fluid lecithins.

The company's most recent lecithin expansion, completed in 1986, nearly doubled the company's capacity. "The previous expansion was expected to meet market needs through 1990, but broad-based growth in special emulsifiers, coupled with the food industry's interest in natural source ingredients, have created product demand that has strained production resources in recent months," according to L.D. Williams, Central Soya's senior vice president in charge of the chemurgy division. Other areas being researched for de-oiled lecithin usage include medical and pharmaceutical applications.

Company merger

The boards of directors of DNA Plant Technology Corp. (DNAP) and Advanced Genetic Sciences Inc. (AGS) have agreed in principle for the two companies to merge.

The companies said the merger would give them a leadership position in the agricultural biotechnology field. Under terms of the agreement, AGS shareholders would receive two-thirds of a share of DNAP common stock for each share of AGS common stock.

According to Richard Laster, DNAP president and chief executive officer, the merger would bring together complementary scientific capabilities covering biotechnology skills ranging from classic plant breeding to molecular genetics.

AGS, founded in 1980, is involved in the application of plant genetic engineering, ice nucleation and biological control technologies. DNAP, founded in 1981, is involved in applying biotechnology for developing new plant varieties and plant-based products in which specific desirable traits are enhanced.

Sanbra action

Sanbra, the Brazilian oils and fats company affiliated with Bunge & Born S/A, has ceded to local pollution authorities its rights in Brazil for its patented system for vacuum in deodorization, according to the company.

The system includes condensation at low temperature of deodorization vapors prior to compression by the booster ejector, the company said. The condensation occurs in a direct contact condenser, using a cooled brine solution that is recirculated in the system. According to the company, appreciable energy savings are possible, and the dirty cooling tower and associated pollution problems are eliminated.

The process has been used at two Sanbra plants for the past two years.

News briefs

Frank L. DeTrano has been promoted to national sales manager for chemical specialties for Capital City Products Co. Also, Ronald G. Edwards has been named industrial sales manager and Gregory A. Linder has been named operations manager at Capital City Products' Janesville, Wisconsin, plant.

Croklaan BV and Loders Nucoline Ltd. have been renamed Loders Croklaan. The company has offices in Wormerveer, Holland; London, England; New York City, New York, U.S., and Rexdale, Ontario, Canada.

Robert V. Sanderson has been named vice president of marketing for Protein Technologies International.

Seoul-Heinz Ltd., a joint venture company of Seoul Food Industrial Co. and the H.J. Heinz Co., has placed its new physical refining plant for vegetable oils online in Inchon, Korea. The physical refining system was designed and supplied by EMI Corp., Des Plaines, Illinois.

In the United Kingdom, the Tropical Development and Research

Institute (TDRI) has been combined with the Land Resources Development Centre by the British Overseas Development Administration to form the Overseas Development Natural Resources Institute (ODNRI). Anthony Beattie, TDRI's director, has been chosen director of ODNRI.

Sungene Technologies Corp. has elected Roy Curtiss III and James E. Austin to its board of directors. Curtiss, chairman of the Department of Biology at Washington University, St. Louis, is an expert in microbial and molecular genetics of bacterial pathogens. Austin is professor of business administration at Harvard University's Graduate School of Business Administration.

British Standards Institution (BSI) has produced new standards for

methods of analysis of fats and fatty oils and for the determination of bleachability and determination of erucic acid. Copies are available from BSI Sales, Linford Wood, Milton Keynes MK14 6LE, England.

Darwin A. Novak has joined Staley Mfg. Co. as director for the Horizon engineering group. He formerly had been manager of the detergent chemicals group at Monsanto Co. In addition, Gary D. Lee has been named director of the chemicals intermediates business unit for the Horizon chemical division. Also, Charles F. Putnik has been named director of Horizon's surfactants business unit.

SVO Enterprises, a subsidiary of The Lubrizol Corp., has appointed S.A. Contichim International N.V. of Brussels, Belgium, as its exclu-

sive sales agent for the European market. As such, Contichim will handle the sale and marketing of SVO's high oleic acid sunflowerseed specialty oil and high oleic chemical derivatives.

AOCS member Giles S. Farmer has joined the senior staff of Applied Engineering & Science, Atlanta, Georgia, as vice president of manufacturing services. Farmer has worked extensively in process and environmental areas of fats and



oils, cheese and dairy products, soapstock acidulation and by-products recovery, process loss control and productivity increases.

From Washington

ASA files EEC trade complaint

The American Soybean Association (ASA) has filed a Section 301 complaint with the U.S. Trade Representative claiming that European Economic Community (EEC) oilseed subsidies are unfair to U.S. soybean exporters. In its December 16 petition, ASA asked the Trade Representative to investigate the impact EEC subsidies have on imports of U.S. soybeans and meal and to determine whether those subsidies are in violation of the General Agreement on Tariffs and Trade (GATT).

ASA claims that the subsidies granted to European growers and processors undermine a 1962 agreement under which the EEC agreed to allow the U.S. duty-free access for soybeans and soybean meal. According to John Baize, ASA vice president for government relations and policy, the subsidizing policy violates three articles of GATT. Because the import-limiting subsidies were established after the EEC granted the U.S. duty-free status on soybeans and meal, he

said, the subsidies violate Articles 2 and 23. "Since the EEC failed to formally notify the U.S. of these import-displacing subsidies, the EEC is in violation of Article 16 of GATT."

ASA president Wayne Bennett said the ASA regretted having to file the complaint, but "it is clear to U.S. soybean farmers that unless the EEC's import-displacing internal oilseed subsidy program is eliminated or satisfactorily modified, it will not be long before the EEC ceases to be a market for U.S. soybeans and soybean products."

If the U.S. Trade Representative decides to pursue the complaint, the first action would be to carry out bilateral talks with the Europeans, Baize said. If those talks were not successful, the matter would go the GATT talks in Geneva.

CSPI seeks more olestra studies

The Center for Science in the Public Interest (CSPI) has asked the Food and Drug Administration

(FDA) to require additional carcinogenicity studies before granting Procter & Gamble permission to use olestra as a food additive. According to reports in *Food Chemical News*, CSPI said the FDA allowed P&G to do cancer studies on just one species of animal instead of the customary two.

Although FDA's decision to waive its usual requirement for a second carcinogenicity test was based on the fact that sucrose polyester (olestra) is not metabolized, CSPI's Michael Jacobsen said lifetime feeding tests "should still be required on at least two rodent species because the additive could affect the gastrointestinal tract and could disturb the animals' metabolism in ways that would lead to adverse effects on any number of organs."

Jacobsen suggested that even though lifetime testing in two species is considered adequate for most additives, "We maintain that olestra should be tested more thoroughly because it might be consumed over a lifetime at high levels." CSPI also asked that tests be conducted on animals susceptible to conditions that may affect