



# Four Corners

Chairman, International Relations Committee — Eugene Marshack • Corresponding Secretaries — G. Jacini, B. Jacobsberg, D. Jacqmain, K.S. Krishnan, J. Pokorny, E. Sever, and E. Vioque

## Belgium . . . . . B. Jacobsberg D. Jacqmain

Research activities are proceeding along previous lines, in accordance with today's technical and marketing requirements.

For fat refining, the mechanism of *trans* esterification is being investigated, and the thermal effect on the components of the unsaponifiable matter is also being studied.

Filtration in refining and fractionation of fats was examined during a two-day international symposium in April 1976. Palm oil, which interests the refiners because of its potential uses, is studied both for quality and for crystallization properties. Close links are being maintained between the Belgian government and Malaysia in the form of development aid for palm oil technology and research.

Recent publications include:

"Filtration in the Refining and Fractionation of Oils and Fats," Proceedings of the International Symposium, CERIA, Brussels, Editor Belgian Filtration Society.

"Malaysian International Symposium on Palm Oil Processing and Marketing," review paper, B. Jacobsberg, Oil Palm News (*Tropical Institute, London* 21:1-8 (1976).

"Studies in Palm Oil Crystallization," *JAOCs* 53:609-617 (1976). B. Jacobsberg, Oh Chuan Ho.

"Degradation thermique du beta-carotène dans l'huile de palme," H. Hinnekens, A. Gooris, M.C. Carlier, J. Vandegans, D. Jacqmain, *Rev. fr. Corps gras* 23:609-616 (1976).

## India . . . . . K.S. Krishnan

### Oil Technologists' Association of India

The 31st Annual Convention for the Oil Technologists' Association of India was held Feb. 12 and 13, 1977, at the Harcourt Butler Technological Institute, Kanpur. Professor M.M. Chakrabarty, President, OTAI, delivered the presidential address. The convention included a symposium on "Utilization of By-products and Waste of Oil Industry, and Manufacture of Oleo-chemicals, Surfactants, and Synthetic Resins and Polymers."

The D.C.M. Chemical Works, Ramaswamy Memorial Lecture was delivered by Dr. G.S. Sidhu on "The Need for R&D Investments by the Vegetable Oil Industry in India."

The Jaipuria Gold Medal was awarded to Dr. M.M. Paulose for the year 1975 and to Dr. S.M. Osman for 1976 for research contribution in oil-chemistry and technology. The OTAI Gold Medal was awarded to Dr. M.L. Mulki for 1975 and to Dr. M.R. Surendra Nath for 1976 for contribution to oil and oil-based industry. The Prag Narain Memorial Award was made to Dr. B.R. Reddy for report on "Utilization of Oil-cakes and Meals."

Dr. S.D. Shukla, director, H.B. Technological Institute, Kanpur was unanimously elected president of OTAI and

Professor A.C. Gupta was elected honorary secretary of OTAI for 1977 and 1978.

OTAI Central Zone elected Dr. A.K. Vasishta as president and Mr. M.S. Saxena as honorary secretary for 1977 and 1978. They arranged a popular lecture on "Weather Resistance and Light-fastness Tests of Plastics, Textiles, Paints, and Varnishes" by Mr. Weber on March 25, 1977.

OTAI Eastern Zone arranged a lecture on "Impression on Visit to IFS Congress, Marsellies" by Professor M.M. Chakrabarty. The zone also organized a refresher course on "Surface Coatings Technology" from Nov. 1-6, 1976, jointly convened by Dr. C.S. Chadha and Mr. S.K. Srivastava. The course included lectures on Chemistry and Technology of Natural Resins and Alkyds; Developments in Epoxy, Vinyl, and Acrylic Resins; Chlorinated Rubber; Inorganic Pigments and Extenders; Methods for Surface-Preparation and Paint Applications; Decorative Finishes; and Polyurethane Resins.

OTAI Northern Zone elected Dr. M.R. Subbaram as president and Mr. S.C. Singhal as honorary secretary for 1977 and 1978. They held lectures on "Testing of Oils and Fats" by Dr. B.R. Roy and "Solvent Losses in Solvent Extraction Plant" by Mr. M. Rex Wingard. A refresher course on "Modern Methods of Analysis of Oils and Oil-bearing materials" was also organized wherein the participants were acquainted with gas liquid chromatography, nuclear magnetic resonance, and mass spectrometry.

OTAI Southern Zone elected Dr. N. Bhojraj Naidu as president and Dr. D.S. Raju as honorary secretary for 1977 and 1978. They held lectures on "Indian Nutritional Realities" on Jan. 28, 1977, by Dr. K.T. Achaya. They also organized a seminar on "Problems and Prospects of Solvent Extraction Industry in India" on Dec. 11 and 12, 1976. The research papers and discussions covered: raw materials; plant and machinery; product and processes; government rules, regulations, and policies; current research and other matters; and panel discussions and recommendations. An exhibition pertaining to machinery for the solvent extraction industry was also arranged during the seminar.

OTAI Western Zone elected Dr. C.B. Khanpara, president and Dr. Ram Das, honorary secretary for 1977 and 1978. They held a seminar on "Products Based on Modified Fats" on Jan. 16, 1977, in Tajmahal Hotel, Bombay which was inaugurated by Mr. T. Thomas, chairman, Hindustan Lever Ltd. Papers were presented on development of margarine; PUFA vanaspati; bakery fats; seed collection and storage; processing and applications of sal, phulwa, kokum, mowrah, mango, and dhupa fats; confectionery fats; castor-based products; oil-based chemicals; greases; alkyd resins; and rice bran oil. The seminar also included a panel discussion on "Application of Oil Technology To Serve National Need" with the participation of Mr. K.K. Ajila, Mr. G. Khandwalla, Mr. K.V. Mariwalla, Dr. M.R. Subbaram, and Mrs. K. Sohanie under the chairmanship of Dr. J.G. Kane.

## Italy . . . . . G. Jacini

The Italian Oil Chemists' Society held its 13th national Congress Oct. 28-30, 1976, at Rapallo on the Mediter-

ranean Riviera. The Congress developed two themes selected to avoid repetition of the topics dealt with in the larger I.S.F. Congress held at Marseille last August. The first theme of the 13th Italian Congress was concerned with the international analytical and regulative problems related to olive oil, i.e., technical and forensic problems of olive oil in regard to the other eight countries of the European Economic Community; a second theme concerned the organoleptic properties of olive oils, a topic on which several experimental works have appeared recently.

On the occasion of this Congress the 8th biennial "S. Fachini" prize was awarded to Prof. P. Cappella of the University of Bologna (Italy).

The IOCS board for 1977-78 includes: President, Prof. P. Cappella, University of Bologna; vice-presidents, Prof. F. Paolini, Rome, and Prof. M. Vitagliano, University of Bari; members, C. Carola, Stazione Olii Grassi, Milano; E. Fedeli, National Research Council, Milano; F. De Francesco, Trento; S. Gazzera, Procter & Gamble, Rome; R. Monacelli, National Institute of Health, Rome; E. Tiscornia, University of Genoa; secretary, D. Grieco, Milano, and treasurer, S. Luft, Unilever, Milano.

### Anti-pollution Act

An act has gone into effect in Italy (Official Gazette, issue No. 141, May 29, 1976) setting forth admissible water-pollution limits as applicable to all sorts of public and private, direct and indirect discharges into surface and underground, inland and coastal waters, sewers, etc.

Table I includes data applying to surface water sources and to public sewers. Some of the most important pollution limits affecting the oils and fats industry are reported by way of examples.

TABLE I  
Anti-Pollution Act Limits

| Parameters                           | Admissible values     |  |
|--------------------------------------|-----------------------|--|
|                                      | Surface water sources | Public sewers                                      |
| pH                                   | 5.5-9.5               | 5.5-9.5  |
| Temperature (C)                      | 30 (lakes)            | 30 (lakes)   |
| BOD <sub>5</sub>                     | 40                    | up to 70% of value up-stream of purification plant |
| COD (mg per liter)                   | 160                   | 160  |
| Vegetable oils & fats (ml/liter)     | 20                    | 40   |
| Mineral oils (ml/liter)              | 5                     | 10   |
| Chlorinated solvents (ml/liter)      | 1                     | 2  |
| Organic aromatic solvents (ml/liter) | .2                    | .4   |
| Surfactants                          | 2                     | 4  |

Spain . . . . . Dr. E. Vioque

### 8th Meeting of the Spanish Committee on Surface Active Agents

The meeting was held March 2-4, 1977, in Barcelona and was organized by the "Comité Espanol de la Detergencia, Tensioactivos y Afines" member of the "Comité International des Derivés Tensioactifs, C.I.D." with the collaboration of the "Patronato Juan de la Cierva" for Scientific and Technical Research of the "Asociación Nacional de Fabricantes de Productos Tensioactivos."

General lectures were: Management Problems in the Near Future, Salvador Anglada, Petroquímica Espanola, S.A.; Conjunction of the Applied Research in Spain, J.M. Matinez Moreno, Instituto de la Grasa, Sevilla.

Specific topics were *Emulsions*: Developments in Micro-

emulsions, S. Friberg, Chairman Chemistry Department, University of Missouri, Rolla, USA; Synthesis and Applications of New w/o emulsifiers, K. Oppenlander, H. Kraf, K. Seib, BASF, A.G.; Can Proteolytic Enzymes Be Used in Emulsion Cleaning? S.V. Vaeck, Ministère des Affaires Economiques-Belgique; Rheology of Emulsions, J.O. Pascual, Tensia-Surfac S.A.; Advances in Emulsions, R. Perron, Centre National de la Recherche Scientifique-France; and Analysis of Emulsifiers Using High Pressure Liquid Chromatography, H. Bruschweiler, EMPA, Switzerland.

*Liquid Detergents*: Evaluation of Proteolytic Enzymes in Liquid Detergents, G. Jesen, Novo Industri A/S; Liquid Detergents-FWA Systems, D. Barton, Hickson & Welch Ltd.-S.A. Rovira, Bachs Macia; Investigations on the Water Drainage from the Surface of Glass in Nonionic/Cationic Systems, J. Enkelund, Linds Kemiske Fabrikker A/S; and The Use of O.B.A. in Liquid Detergents Products for Cotton Easy-Care Fibers and Synthetic Fibers, G. Brembilla and L. Cavallone, Sigma S.p.A.

*Ecology in Relation to Surfactants*: Ecology and Detergents, J. Bergeron, Colgate-Palmolive S.A.E.; Ecology and Toxicology of Optical Brightening Agents Used in Detergents, R. Von Rutte, Ciba-Geigy, S.A.; Unilever and Environmental Protection, P.A. Gilbert, Unilever; Eutrophication and Advanced Sewage Treatment, J. Kandler, Hoechst A.G.; Adsorption and Desorption of DSDMAC During Washing Process, G. Tauber, H.W. Bucking, K. Lotzsch, Hoechst, A.G.; Relation Between Chemical Structure of Ethoxylated and Propyloxylated Alcohols and their Biodegradability, P. Labourer, Ugine-Kuhlmann; and New Possibilities on the Automatic Analysis of Nonionic Surfactants, J. Sanchez, Instituto de Tecnologia Química y Textil, Barcelona.

*Surfactants in Cosmetic*: Skin Protection Against Surfactants Improved by the Deposition of a Selected Cation Polymer, M. Fadrique, Union Carbide Europe, S.A.

The Proceedings of the meeting will appear in August, 1977. They will include all Communications and Discussions.

### 10th Meeting of the Technical Committee of the International Oil Council

The Committee met in Madrid Nov. 17, 1976, with members of the following countries in attendance: Argel, Spain, Greece, Portugal, Tunis, and Turkey. Present was Mr. Di Gregorio, Assistant Director of the Technical Affairs.

1. Nomination of president and vice-president of the Technical Committee and of the Subcommittee of Oil Chemistry: Due to the retirement of Mr. A. Gimenez Cuende as president of the committee, Cristobal de la Puerta (Spain) was nominated to succeed him. F. Jabbes will continue as vice-president.

With regard to the president and vice-president of the Subcommittee of Oil Chemistry, Dr. C. Carola (Italy) and Dr. J. Gracian (Spain), respectively, were nominated.

2. Several topics in relation to the Codex dietary standard recommended for olive oil and refined sulfur olive oils were examined: (a) tocopherol determination; (b) determination of fatty acids in beta position; (c) composition of the sterol fraction.

(a) The president made a summary about the actual situation of the International Standard, in connection with tocopherol determination, now being studied by the Fat Commission of the International Union of Pure and Applied Chemistry (IUPAC) and he believes it will take two or three years to have a final standard for all the countries. He suggests adopting a provisional standard for olive oil only.

This suggestion was approved unanimously.

(b) The president informed the group that there is an international standard approved by the IUPAC and adopted

also by the Commission of Codex.

It is necessary to examine and propose to the Council the limits for the percent of palmitic plus stearic in the beta position.

Mr. Di Gregorio explained that in the last meeting held in London by the Commission of Fat and Oils of the Codex, 2% was accepted as the limit for those saturated fatty acids in the beta position.

All the delegates, with the exception of the Greek one, were in agreement with the limit of 2%. The Greek delegate made a detailed report on some modifications she considered should be done in the analytical method and at the same time she was of the opinion that the limit for the palmitic plus stearic acids should be higher.

It was decided to establish provisionally the following limits:

|                             |      |
|-----------------------------|------|
| Virgin olive oil            | 1.5% |
| Pure and refined olive oils | 1.8% |
| Refined sulfur olive oils   | 2.2% |

(c) The president summarized the actual situation: There is not a concrete and efficacious method for the determination of the sterol fraction and also a great dispersion of the values obtained, especially in Portugal. It is not possible, for this reason, to still maintain the value of 93% for beta-sitosterol within the total sterol fraction. The Portuguese delegate found a high percentage of olive oils containing less than 90% of beta-sitosterol oils which at the same time show a content of stigmaterol higher than that of campesterol.

Provisionally 93% was accepted as a limiting percentage for beta-sitosterol.

## Turkey . . . . . Erdil Sever

### New Research Center in Istanbul

A new research center in Istanbul sponsored by Unilever-Iş has started recently. Research work in Turkey, apart from the university and industrial units, is centralized in one state institution named TBTA: the Scientific and Technical Research Council of Turkey.

This emerging new center is in the suburbs of Istanbul at Unilever-Iş Margarine Site and initially has a staff of 12 people.

The main goals of the group are to develop and make use of the various potential sources in Turkey. One important goal is the agricultural approach to establish and spread the growth of groundnut and rapeseed in certain parts of the country. This will be a great contribution to the 500,000 tons of oil produced per year at present.

Second, additional oil production projects will make use of potential sources such as teaseed, tobaccoseed, grape-seed, and wild pistachio nuts which are abundant in capacity, but not utilized significantly up to now.

Third, the center will study the natural sources for perfumery and develop the necessary perfumes for various toilet preparations, soaps and detergents.

Also, various coprojects such as prawn-farming, wine production, and catalyst manufacturing with the universities and other scientific institutions comprise the program of the unit up to now.

### A New Margarine Factory in the "Sunflowerseed Barn"

Almost 90% of the total sunflowerseed grows in the Thrace region, the Balkan part of the country called the "sunflowerseed barn." Most of the margarine and liquid oil producers are located in this area and make maximum use of the 520,000 tons of sunflowerseed annually produced.

A new edible oil factory named "AYMAR," with a capacity of 100,000 tons per year, is under construction and will commence production in Spring 1978.

## Czechoslovakia . . . . . Jan Pokorný

### Analysis, Chemistry, and Technology of Surface Active Agents and Detergents

A joint meeting on the Analysis, Chemistry, and Technology of Surface Active Agents and Detergents was organized by the Czechoslovak Society of Chemical Technology and the Czechoslovak Chemical Society. The meeting was held in Olomouc, Moravia, on Nov. 23-24, 1976. In addition to several review papers, a series of original papers was presented on various topics of analysis of surface active agents (SAA), e.g., on the Identification of Anion Active and Nonionic SAA in Water by Means of the Infrared Spectrometry of Their Complexes (Z. Vavrouch); on the Determination of Carboxyl and Sulfonic Groups in Products of the Sulfonation of Fatty Acids (M. Morak and K. Audiova); Conductometric Determination of SAA (Z. Stransky); Determination of Very Low Concentrations of Cation Active Agents (P. Pitter), Use of Film Balance for the Characterization of SAA Based on Oleic Acid or Lauryl Alcohol (I. Vyskocil et al.). Among the papers on physical and chemical properties of SAA, the following were of particular interest: The Reaction of Ethylene Oxide with Partial Glycerol Esters (M. Bares), Properties of Alkyl Derivatives of Glucose (J. Zemanovic), Effect of Chelating Substances on the Detergent Activity (V. Peterka), Effect of Nonionic Detergents on the Properties of Polyvinylacetate Dispersions (P. Arendas et al.), Some Applications of SAA in Microelectronics (M. Salomon), Equilibria in Micellar Systems (J. Lasovsky).

### New Analytical Methods of Detergents

The analytical committee of the Detergent Section, Czechoslovak Chemical Society, studied the following methods in 1976: (a) determination of the nonphosphated residue in neutralized esters of phosphoric acids; (b) analysis of sulfated ethoxylated alcohols; (c) analysis of alkanolamides. In addition to this work, the committee participated in the international working program of CID.

### 3rd Symposium on Flavor Compounds in Food Materials

The Symposium took place in B. Bystrica, Slovakia, on Feb. 3-4, 1977. Among other papers, several dealt with flavor compounds derived from lipids, e.g., those produced during the ripening of cheese or other dairy products. The effect of rancidification of lipids on flavor changes of fatty foods and various reactions of rancidity products with amino acids and proteins were discussed. The effect of lipid phase on the perception limits of various flavor substances was the subject of another paper. ●

### Instrumentation volume available

Standards and Practices for Instrumentation, Fifth Edition, is now available from the Instrument Society of America at a cost of \$80 to members and \$100 to non-members. The 930-page hardbound book is intended as a guide to nationally and internationally accepted standards in instrumentation design and usage. Orders, or requests for further information, may be sent to: Publications, ISA, 400 Stanwix St., Pittsburgh, PA 15222; or, John Wiley & Sons, Baffins Lane, Chichester, Sussex PO19 1UD, England; or, Intercontinental Marketing Corp., IPO Box 5056, Tokyo 100-31, Japan. ●