THE FOUR CORNERS...

By EUGENE MARSHACK, Chairman,
International Relations Committee;
NOLLY SKIRIS, CARLOS FARNER N., HAROLD JASPERSON, K. S. KRISHNAN, TERUZO ASAHARA, H. NIEWIADOMSKI, and HELMUT KORP, Corresponding Secretaries

Argentina . . . . . Nolly Skiris

In this first report I have outlined the state of the oilseeds industry in Argentina, and presented the organizations that are devoted both to promoting and developing new and larger oilseed crops and research in the fatty materials field.

Argentina is a producer of the following: flaxseeds (principal world producer and first exporter of linseed oil), sunflower seed (second producer in the world), peanuts, cottonseeds, tung-fruit, olives, soybeans, and grape seeds.

Sunflower seed oil is marketed chiefly as an edible oil (about 200,000 metric tons per year).

In Table I, column I, are listed the total production of oil-bearing seeds during the harvest year 1965/66, and in column II are listed typical averages.

TABLE I

Edible oils	I	II
Sunflower seed	782,000 tons	700,000 tons
Peanut (husk removed)	410,000 tons	300,000 tons
Cottonseed	212,000 tons	200,000 tons
Olive	43,500 tons	50,000 tons
Soybean	18,000 tons	20,000 tons
Grape seed	32,000 tons	30,000 tons
	1,497,500 tons	1,300,000 tons
Industrial oils		
Linseed	570,000 tons	700,000 tons
Tung-fruit	174,500 tons	100,000 tons
	744,500 tons	800,000 tons
TOTAL:	2,242,000 tons	2,100,000 tons

Exports of oils and oilseeds by-products amount to 175 million dollars; thus, Argentina is in first place as world exporter of oilseed by-products (1,000,000 tons approximately per year).

In Table II are listed amounts exported during 1965.

In Argentina there are 150 oil mills, with a crushing capacity amounting to 2,800,000 tons/year. Of these, 51 mills are devoted exclusively to linseed (capacity: 600,000 tons/year), 10 to cottonseed (cap.: 275,000 tons/year) and 6 to tung (cap.: 130,000 tons/year).

Since 1963 margarines have been manufactured, using hydrogenated vegetable oils and animal fats. Yearly production: 10,000 tons. The two factories that started production—Flora Dánica and Molinos Río de la Plata S.A.—are the principal market suppliers, with 4,000 tons/year production each.

TABLE II

Export		Amount, ton
Linseed oil		230,000
Sunflower seed oil		34,000
Peanut oil		58,000
Tung oil		11,000
Olive oil		5,000
Cottonseed oil		1,000
Linseed meal	(	515,000
Sunflower seed meal	(or	260,000
Peanut meal	(Expeller	120,000
Cottonseed meal	(	80,000
		975,000

Local consumption of edible oils and fats is divided as follows: liquid vegetable oils: 220,000 tons/year (per capita: 10 kg/person/year), animal fats: 70,000 tons/year (per capita: 3.17 kg/person/year). Butter: 38,000 tons/year (per capita: 1.73 kg) margarine: 10,000 tons/year (per capita: 0.5 kg).

The "Instituto Argentino de Grasas y Aceites" (I.A.G.A.—President: Rodolfo Antonissen, Chile 1192, Buenos Aires) is a nonprofit society, devoted to research; it is of great assistance to the industry and has trained an extensive staff through development courses. It has two research laboratories, and it issues a monthly bulletin (information about fats and oils) and a magazine.

One of the research centers—C.I.G.A. (Centro de Investigaciones Grasas y Aceites), that is supported financially by I.A.G.A. and I.N.T.I. (Instituto Nacional de Tecnología Industrial) is mainly devoted to development of new products from tung oil. These investigations are sponsored by the Pan-American League of Tung. At next meeting of AOCS one of the works carried out by this center will be presented.

The second I.A.G.A.'s investigation center is devoted fundamentally to linseed oil. Here in Argentina, tests were carried forward concerning the P.A.T. (Phosphoric Acid Test) method proposed for linseed oil foots.

During 1966, I.A.G.A. presented three courses: oils and fats technology, analytical techniques in the fats' field (theory and practice) and sampling techniques.

Oilseed industry leaders in 1963 founded the "Instituto Argentino de Oleaginosos" (I.A.D.O.) to improve and encourage diversification of cultivation of oilseeds and to import varieties suited to Argentine soils. Its performance in this activity is coordinated with the "Instituto Naconal de Tecnología Agropecuaria" (I.N.T.A.) which is a department of the Agricultural Ministry.

Recently, I.A.D.O. distributed selected soybean seeds and safflower seeds to extend cultivation of these oilseeds in Argentina.

Central America . . . . . Carlos Farner N.

From an economic point of view the five Central American countries of Guatemala, El Salvador, Honduras, Nicaragua and Costa Rica must be considered a definitely integrated area. The common market of this area has reached a high level of development due to its remarkable success; yet many finished products are still imported from outside of this area. In this sense it could be said that industry is just beginning in Central America. This does not mean that the existing industries are backward or inefficient. Precisely due to the fact that most existing industry is relatively new, processes and equipment are the best and most modern that money can buy.

The oils and fats industry is one of the most important in Central America. The area is self-sufficient in edible oils. Tallow is the only fat which is imported in large

quantities. In fact 90% of all tallow used in the soap industry is imported from the US. Some drying oils are also imported for the emerging paint industry.

Cottonseed and palm constitute the bulk of the oil-bearing materials for the edible oil industry with sesame and copra being used in very small quantities. If the world demand for cotton remains strong and if a solution is found for the problems of increasing insect resistance to pesticides (affecting mainly the plantations of Guatemala and El Salvador), Central America will be in a position to export vegetables oils within one or two years. Last year cotton plantations in Guatemala and El Salvador were reduced to almost one half of their last three years' average; in spite of this no vegetable oils will be imported into Central America this year. This season, with some Government help and with better prices for cotton and cottonseed, a sizeable increase in acreage is expected. Further, oil millers are helping farmers plant more sesame, and soya is being planted on some experimental plantations.

Due to circumstances which cannot be discusesd at this point, the oils and fats industry has expanded in the last three years beyond its local sources of raw materials and beyond its local market. Much excellent and expensive equipment has been bought. Most mills can crush 200 tons or more of cottonseed per 24 hours. The existing equipment includes modern high capacity screw presses, solvent plants and excellent preparation equipment. Almost every oil mill has it own refinery and finished product plant. Most of the equipment is continuous. There is even one continuous winterizing plant.

The future for the Central America oils and fats industries can be stated in one sentence: They are very strongly competitive. This is a clear sign that at least in this activity Central America is way up the road of development.

Great Britain . . . . . Harold Jasperson

The 19th Annual Oil & Colour Chemists' Association's Technical Exhibition was held in London for a week beginning March 13, 1967. 11,500 people attended, including a significant increase in overseas visitors and representatives from 30 overseas countries. A wide variety of technical items were shown, with emphasis on fast-drying media for coil coating, textured masonry finishes and vinyl acetate/ethylene copolymers.

The 16th Annual General Meeting of the Oils and Fats Group of the Society of Chemical Industry was held on May 2nd to appoint Officers for the forthcoming session and to hear the Address of the retiring Chairman, W. D. Raymond, O. B. E., who spoke on "The Contribution of British Science and Industry to the Improvements of Tropical Fats and Oilseeds." He will be succeeded by B. J. F. Hudson, who is the Head of the Unilever Research Laboratory, Welwyn, Herts.

The fund which was opened in 1966 to establish a Hilditch Memorial Lecture has been well supported but is not yet closed pending receipt of donations from overseas. The first lecture entitled "Oils and Fats in the '70's" will be delivered in Liverpool on July 13th by J. G. Collingwood during the 86th Annual Meeting of the Society of Chemical Industry.

India . . . . . K. S. Krishnan

OTA Convention

The 22nd Annual Convention of the Oil Technologists' Association of India and Symposium on Problems and Prospects of Oil, Soap & Detergent Industries were held on Jan. 14–15, 1967 at the Crystal Room, Taj Mahal Hotel, Bombay.

The convention was attended by about 450 participants, including K. F. Mattil of Swift & Co, USA; Carmelo Vaccarino of G & S Vaccarino Co, Sicily; and G. A. Frampton of Sharples Process Engineers Ltd, England.

Five technical sessions were held covering the following subjects:

Cottonseed Utilization; Refining of Oils; Soaps and Detergents; Current Research in Oils, Fats, Soaps, Detergents; Packaging.

The final session (No. VI) consisted of a panel discussion conducted by P. L. Tandon, J. S. Badami, B. P. Godrej, M. A. Wadud, G. Khandwala, T. M. Vishram and Dr. Sadgopal, who gave expert views on availability of raw materials, export of finished products, requirements of machinery, and trade-practices.

The two days' proceedings were ably summed up by J. G. Kane, who emphasized their common theme, viz., acute shortage of oil-bearing-materials and remedial measures to be taken.

On the evening of Saturday, January 14, the delegates and guests were entertained with a delightful program of dances by Kumari Yamini Krishnamurthy and his troupe.

Visits to the factories of M/s. Hindustan Lever Ltd. and Fertiliser Corporation (Trombay) were arranged on Monday, January 16. These were highly instructive.

The entire convention was very well conducted, thanks to the energetic Secretary, C. B. Khanpara, and his team of enthusiastic and able organizers of OTA, Western Region. The program was an outstanding success.

OTA Digest

The OTA, Western Region, has made a remarkable contribution to the Oil Technologists in general and to the members of the OTA in particular by publishing the *OTA Digest.*

The Notes and News and the Technical Digest presented under classified headings are indeed very useful, for, there appears to be no easier way for oil technologists in India to keep abreast of the rapid developments that are taking place in the science and technology of oils, fats and allied products.

Over sixty journals are covered in the "Technical Digest," reporting on the following topics: 1) Analytical Methods; 2) Instrumentation; 3) Oil-Bearing Materials; 4) Oil Milling and Solvent Extraction; 5) Refining of Oils and Fats; 6) Hydrogenation; 7) Edible Fats; 8) Soap Making; 9) Fatty Acids and Derviatives; 10) Detergents; 11) Perfumery; 12) Cosmetics and Toilet Preparations; 13) Paints and Varnishes; 14) Plants, Machinery and Engineering; and 15) Miscellaneous.

N. V. Bringi, Editor, and his devoted team on the editorial board and digest-panel have indeed made a valuable contribution with this new venture.

Executive Council for 1967

The Annual General Meeting of OTA was held in the Crystal Room of Taj Mahal Hotel, Bombay, on Sunday, Jan. 15, 1967. The following were elected to the Executive Council for 1967:

President: Kishan Narain; Vice-Presidents: D. R. Dhingra; J. G. Kane; Dr. Sadgopal; Hirdey Narain; Executive Secretary: Rajeshwar Prasad; Joint Secretaries: P. R. Gupta; K. G. Tandon; Treasurer: Jai Narain; Editor: A. C. Gupta; Members: T. R. Sheshadri; Raj Bans Bahadur; Atma Ram; T. R. Sharma; K. P. Bhargava; K. G. Mathur; P. P. Gupta; K. S. Krishnan; C. B. Khanpara; T. V. Subbarao; Shiv Raj Bahadur, K. S. Murti.

Solvent-Extracted Oils for Edible Use

The availability of edible oil in the country is expected to increase as a result of decision announced by the Government on the use of the residual oil extracts.

So far, only oil obtained by extraction through "ghanis" or expellers could be used for edible purpose. Oils obtained by the further extraction of the residual oil left in the oilcake by means of a solvent could not be used, as these were not deemed to be edible.

An official Press Note, issued by the Union Ministry of Food and Agriculture March 21, 1967, said that after a careful examination in consultation with an expert committee, the Government has decided that there need not be any objection to solvent-extracted oil being used for edible purposes, provided the oil-bearing materials were fresh, clean and without extraneous materials.

Further, only a good-grade solvent conforming to the accepted international standards should be used for the

extraction and the oil so obtained should be refined and deodorized before use.

To ensure compliance with requisite conditions and to obviate the risk of raw or semirefined oils being offered for edible purposes, the Government has issued a statutory order, called the Solvent-Extracted Oil, De-oiled Meal and Edible Flour (Control) Order.

The order prohibits the sale of raw semirefined oil except to registered processors engaged in the manufacture of vanaspati or refined oil or other oil-based industrial products.

The order also makes it necessary for all producers of solvent-extracted oil to ensure that after March 17 the products manufactured by them and the raw materials and solvent used by them strictly conform to the prescribed standards of quality and packing.

In this context the Indian Standards Institution, New Delhi, have already published the following standards for the guidance of industry and trade: I.S. 3471E–1966 for Solvent Extracted Coconut oil; I.S. 3472E–1966 for Solvent Extracted Cottonseed oil; I.S. 3473E–1966 for Solvent Extracted Groundnut oil.

Japan . . . . . Teruzo Asahara

New Edition of "Analytical Procedures"

The Japan Oil Chemists' Society has completely revised the old edition of *Analytical Procedures for Fats and Oils*; the new edition was published late in 1966 as a 268-page book. The official U. S. Methods (AOCS) and German method (DIN) were referred to, in order to make this volume an international one on standard methods. The new *Procedures* is considered authoritative, and is now used as a standard reference for analysis in Japanese industry.

Biodegradability Standard for Household Detergents

The Biodegradability Division of the Japan Oil Chemists' Society submitted a report on the "Standard Biodegradability Test Method" to the Ministry of International Trade and Industry (MITI) in late March of 1966. It was then reviewed and approved through public hearing by the Japan Industrial Standard (JIS) Committee as an official JIS method and became effective April 1, 1967.

This method is the shake culture method and is almost the same as the Presumptive Test of SDA's test procedure, but it has been confined only to biodegradability of LAS or to a mixture of LAS and ABS so far. Procedures for other surfactants are still being investigated by the Biodegradability Division.

The Synthetic Detergent Committee, one of the advisory organizations for the Minister of MITI, suggested the biodegradability standard of household detergent in Japan and submitted this report to MITI on Feb. 10, 1967. On the following day, MITI presented a letter to four major alkylbenzene suppliers as well as to the Japan Household Synthetic Detergent Manufacturers' Association. The letter stated that the Chemical Industry Bureau of MITI would take necessary measures to make the standard universal and asked suppliers and detergent producers for their cooperation to accomplish this end.

Two-Stage Changeover in Detergent Industry

The biodegradability standard changeover suggested in this report involves a two-stage progression: the first step aims at converting over 80% by the end of the 1968 fiscal year; in the second step, by the end of the 1970 fiscal year, if not sooner, this standard will be raised to over 85%. In Japan, the fiscal year ends in March of the following year.

As mentioned above, the JIS method is confined only to alkylbenzene sulfonate detergent, but for the time being, it is applicable to commercial household detergents, since alkylbenzene sulfonate, whether LAS or ABS, is a major active component.

However, this biodegradability standard does not restrict individual detergent products in the market, nor any detergent producers, but only specifies that as an average of biodegradability of all detergents marketed in Japan, 80% or 85% or more shall be converted by the close of each target year.

As for individual detergent products, if a producer tried to market it as a biodegradable one, then it is suggested, in this report, that biodegradability of over 80% would be preferable for the time being.

If we made a literal interpretation of this report, it could be understood that any detergent producer could sell ABS detergent if biodegradability were not claimed, since no regulative nor compulsory restriction is involved in this report.

However, it also seems very likely that since MITI will make some effort at guidance of the detergent industry to direct it into marketing a more biodegradable product, each individual detergent product would be changed brand by brand in the future, voluntarily or by competition between detergent producers.

What has actually happened now is that some producers have begun to use higher alcohols (natural and synthetic) and others have tried to use alpha olefins as new possible sources for biodegradable actives as well as linear alkylate.

Poland . . . . . H. Niewiadomski

Due to the rapid increase of margarine consumption in Poland in recent years many factories for the oil industry had to be developed. At present the capacity of the industrial establishments meets the demands of the market, but there are not enough stores and silos for keeping seeds of oil plants. Considerable funds are now being invested to overcome this deficiency.

In 1966 large silos for keeping seeds in factories were completed in the southwestern and southern regions of Poland. At present, silos are being built in factories located in Warsaw, and they will be completed this year. An oil-hardening plant is being developed in southern Poland. It will begin operation at the beginning of 1968. At the same time the existing equipment is being modernized. It is worthy of mention that the Warsaw factory is introducing the continuous method for the extraction of seeds. Because of this method, the factory will be able to process twice as much raw material than is now possible with its bath equipment; at the same time the margarine quality will be improved. For the same reasons much equipment is being modernized in other plants. It is expected that the Polish oil industry will deliver approximately 137,000 tons of margarine in 1967 to the market, i.e., several hundred tons more than in 1966.

The rape plant, grown almost exclusively in Poland, yielded a crop of 435,000 tons in 1966; the production of rapeseed oil amounts to 84% of all oils produced in Poland.

Because of the importance of this raw material for the oil industry there is an intensive increase of scientific activity which takes place together with the increasing culture of the rape plant and the development of its industry. Thus, one of the main fields of research work is the chemistry and technology of rapeseed oil. This fact was the reason for organizing an International Symposium for the Chemistry and Technology of Rapeseed Oil and other Cruciferae Oils at Gdansk, set for Sept. 19–23, 1967. Representatives from such main rapeseed-producing countries as Canada, India, Pakistan, Japan, France, German Domecratic Republic, German Federal Republic, Sweden, Czechoslovakia and others have planned to participate. A total of 16 countries will be represented at the Symposium. About 100 scientists, including those from Poland, will take part in the Symposium. They have submitted about 50 papers which will be read at the following sections: 1) Cruciferae Seeds as Industrial Raw Material; 2) Chemistry, Biochemistry, Analysis; 3) Technology of Edible Fats; 4) Technology of Nonedible Fats; 5) Food and Fodder Value of Products from Cruciferae.

Prominent specialists have been invited from Canada, Japan, France, Sweden, Holland, German Democratic Republic, and Poland and asked to give eight introductory

plenary lectures. Those lectures will give a review of the present state of knowledge in the various fields and actual topics which still call for research.

After the technical meeting the participants will visit two great oil plants at the ports of Gdansk and Gdynia and will become acquainted with the work in progress at the Fats Chemistry and Technology Department at the Gdansk Technical University.

Proceedings of the Symposium will be published later in English.

At the end of the meeting an excursion will be organized to the beautiful lake region near Gdansk, i.e., the so-called "Kashubian Switzerland."

On the way back from Gdansk, the participants will have the opportunity of visiting Poland's capital, Warsaw, and its scientific institutions concerned with the chemistry and technology of fats, namely the Institute of Fats Industry and the Institute of General Chemistry.

Sweden . . . . . Helmut Korp

Fats and Oil Proceedings Available

Proceedings of the Fourth Scandinavian Symposium on Fats and Oils, held in Turku, Finland, Aug. 31–Sept. 3, 1965, are now in print (Almqvist & Wiksell, Gamla Brogatan 26, Stockholm C, Sweden. Pages, 315. Price, about S. cr. 75). The Symposium was divided into four sessions: Composition of Fats and Oils; Fat Oxidation During Processing; Storage and Transportation; Oxidation of Fats in Food Products; Milk Fat and Its Processing.

New Grants for Medical Fat Research

The Swedish margarine Industry has granted more than 2 million S. cr. since 1960 for Heart and Vascular Research. This year approximately 250,000 S. cr. has been made available to a group of nine scientists.

Short Course for NMR-Analysis at Karlshamns

AB Karlshamns Oljefabriker and Varian Co., USA, are co-sponsoring a short course in NMR as an analytical tool in organic chemistry. The dates of the session are Sept. 9–14, 1967.

Helmut Korp Moves to Margarinbolaget

Helmut Korp, Vice President of Marketing of AB Karlshamns Oljefabriker, Karlshamns, Sweden, has been appointed technical director at Margarinbolaget AB, Stockholm. He will be responsible for research, new product development, and quality control.

New Literature

A new technical bulletin on the reformulation of coatings that will be required of the coatings industry to comply with Rule 66 has been issued by THE DOW CHEMICAL COMPANY. Rule 66 is part of a comprehensive law adopted by the Los Angeles County Air Pollution Control District in July, 1966, to control air pollution. It establishes the maximum amounts of certain photochemically reactive solvents that may be released into the atmosphere. (Public Relations Department, Dow Chemical Co., Midland, Mich.)

• *Obituaries*

Word has been received of the recent death of J. F. ZIESERL (1952A), Branch Manager, Industrial Chemical Sales Division, West Virginia Pulp and Paper Co., 35 E. Wacker Dr., Chicago.

H. M. ABBOTT (1935), retired vice president of Harchem Division of Wallace & Tiernan Inc., died suddenly April 10, 1967.

New Orleans Meeting . . .

(Continued from page 280A)

Awards Luncheon Attended by 600

Outstanding achievement in research in the fats and oils field was recognized at the Wednesday noon Awards Luncheon.

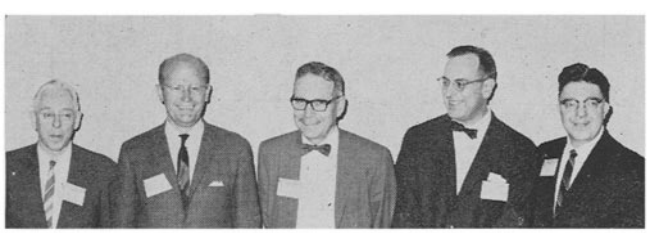
The Bond Award Gold Medal, which honors excellence in both content and delivery of a given presentation in either of the Society's annual meetings, was presented to H. Y. Lew, Chevron Research Company, Richmond, Calif. The winning presentation was made at the 1966 Fall Meeting in Philadelphia, and is entitled, "Acid" Pyrolysis-Capillary Chromatographic Analysis of Anionic and Nonionic Surfactants."

One of the two Honorable Mention Awards in the Bond Award Competition was given to L. D. Williams, of Anderson, Clayton & Co., for his paper, "Distribution of Monoesters Resulting from the Esterification of a Mixture of Glycols and Polyols." An Honorable Mention Award was also given to Sister Paul Michael Slakey, University of Michigan, Ann Arbor, who presented her work on "The Structure of Rat Liver Triglycerides."

Special distinction this year went to A. C. McConnell, Woodson-Tenent Laboratories, Little Rock, Arkansas, who was named winner of both the Smalley Cup and the Barrow-Agee Cup. The Smalley Award honors proficiency in the determination of moisture, oil and nitrogen in the Check Sample Program; the Barrow-Agee cup is presented for the best rating in cottonseed analysis and is sponsored by Barrow-Agee Laboratories, Inc. The person receiving either of these trophies three years in succession retains it permanently.

A total of six winners selected under the MacGee Honored Student Program were present at the luncheon in New Orleans to receive recognition for their current research

Session K, Symposium on Surfactant Analytical Methods. Left to right: A. E. O'Donnell; H. O. Locke; W. F. McClune; R. D. Ring; T. H. Liddicoet, Chairman; B. E. Gordon; A. B. Herrick; N. T. Crabb and E. G. Steinle.



Session G, Symposium on Composition and Analysis. Left to right: C. Y. Hopkins, H. W. Kircher, H. E. Carter, C. F. Krewson, and Chairman I. W. Wolff.

National Meeting Planning Committee, recently activated to work with Local Committees in programming AOCS Spring and Fall Meetings, meets under the leadership of Vice-President-Elect J. C. Cowan.