

THE FOUR CORNERS...



By EUGENE MARSHACK, Chairman,
International Relations Committee;

JACOBO FURMAN L., CARLOS FARNER,
M. NAUDET, and BISERKA

MATIJAŠEVIĆ, Corresponding Secretaries

Chile Jacobo Furman L.

Agricultural Plan and Policies Regarding Oil Bearing Seeds

The Chilean Government has made public its Agricultural Development Plan for the years 1968-1980. This study has been prepared by the Office of Agricultural Planning of the Ministry of Agriculture. The Plan sets policies to be followed in promoting the development of Chilean agriculture.

With respect to oil seeds and the Fat and Oil Industry, the main aspects of the plan are the following:

1. The consumption of edible oil per capita will be increased from 6.7 liters in 1969 to 6.9 liters in 1971 and 7.4 liters in 1980. These numbers amount to a total consumption of 65,000 metric tons in 1969; 70,900 metric tons in 1971 and 95,800 metric tons in 1980.

To obtain these production levels, it will be necessary to harvest seeds at the amounts indicated in Table I.

TABLE I
Harvests Planned

Year	Sunflower seed, metric tons	Rape seed, metric tons
1969	51,600	119,000
1971	69,100	120,600
1980	94,500	163,400

2. The study mentions the existence of vast areas which are potentially apt for cultivating oil bearing seeds. These areas amount to 96,000 hectares which could be used for sunflower seed and 199,300 hectares for rape seed. Table II shows a project for the utilization of these areas in 1969, 1971 and 1980.

TABLE II
Potential and Planned Areas
(1,000 Hectares)

Seed	Potential Area	Planned Area		
		1969	1971	1980
Sunflower seed	96.0	34.2	41.7	45.0
Rape seed	199.3	66.0	79.1	86.0

To reach the production levels indicated in Table I, the agricultural yields pointed out in Table III, should be obtained.

TABLE III
Agricultural Yields
(Kilograms/Hectare)

Seed	1969	1971	1980
Sunflower	1,510	1,660	2,100
Rape	1,400	1,520	1,900

The Plan indicates that the attainment of these goals would allow the country to stop importing edible oils by 1971.

Fatty Acids in Chicken Feed Rations

The use of fatty by-products in the feed of poultry has not been a common practice in Chile.

Since soap is losing its share in the market because of increased demand for detergents, new uses for the soap-stock are being investigated.

To study the use of fatty acids from this soap-stock in the feed of broilers, some investigations were carried out at La Platina Experimental Station of the Ministry of Agriculture. This work was done by Tomás Mac Auliffe (Agronomist) and his staff composed of Néstor González and Enrique Bergquist (both Veterinary Doctors).

The findings of their investigation can be summarized as follows:

1. Up to 3% of vegetable fatty acids can be used in the feed of broilers.

2. It is possible to replace corn in the feed of broilers at the ratio of 1:4, covering the difference with bran. This means that 12 parts of corn can be replaced by 3 parts of fatty acids.

3. The fatty acids tested were obtained from the soap stock of rape seed oil, sunflower seed oil and grape seed oil. The results obtained were exceptionally good. The order of effectiveness of the fatty acids was the following: fatty acids obtained from grape seed, fatty acids obtained from sunflower seed, and fatty acids obtained from rape seed.

4. Finally, the investigators point out that under the present working conditions, no toxic effects have been observed.

Round Table Discussion on Rape Seed Meal

A round table discussion on the uses of rape seed meal as a component of the feed of poultry, hogs and cattle, was held at the Association of Veterinary Doctors in Santiago.

This meeting was jointly sponsored by the Institute of Agricultural Investigation and by Comarsa S. A. The latter is a private organization of most of the Fat and Oil Industries of the country.

The following papers were presented:

"Report on the Uses of Rape Seed Meal in the Feed of Egg-Laying Poultry and Broilers" by Néstor González (Veterinary Doctor) and Ricardo Costabal (Agronomist); "Report on the Use of Rape Seed Meal in the Feed of Cattle" by Juan Duleic (Agronomist); and "Uses of Rape Seed Meal in the Feed of Hogs" by José Potonjack (Veterinary Doctor).

A very interesting open discussion was held after these topics were covered.

France M. Naudet

Centenarian of Margarine

Exactly 100 years ago, on July 15th, 1869, Mege Mouriès applied for the first patent for margarine fabrication.

In commemoration, the 12th General Meeting of International Federation of Margarine Associations (IFMA) was held in Paris, last June, with Heing Seibel (R.F.A.)

president, and Kitchen (U.K.) vice-president. During the three day-session, six general reports covering various aspects of margarine problems, from agriculture to nutrition, were presented.

Some weeks (21-24 April) before, the annual "Journées d' Information" de l'Institut des Corps Gras were also devoted to Margarine.

More than 200 persons attended this three days short course followed by a free discussion day. The meeting has been placed under the honorary presidency of Maurice Toy-Riont, president of the "Chambre Syndicale de la Margarinerie et des Industries de Corps Gras Alimentaires."

The reports presented were the following:

Evolution and prospect of production, by M. Carrière ((CSMICGA)-Paris).

Evolution and prospect of the availability of raw materials, by P. Worms ((CETEMA)-Paris).

Choice of raw materials and formulation of the fatty portion, by R. Toy-Riont (Toy-Riont refinery-Marseille).

Emulsifying agents, by R. Baticle (Kodak-Pathé-Paris).

Antioxygens-Vitamins etc. . . . , by J. P. Ostendorf (NAARDEN-Hollande).

Modern trends in processing, by P. Blanc (Astra-Calvé-Paris).

Packaging, by Auvinet (S.E.P.-Paris).

Storage and conservation, by H. Korp (Margarinbolaget A.S.-Stockholm).

Classical analytical controls, by A. Prévot (ITERG-Paris).

Rheological properties, by M. Naudet (University of Marseille).

Bacteriological problems, by Mrs. L. Coignerei-Devillers (COBAC-Paris).

Sensorial analysis, by Dr. Le Magnen (CNRS-Paris).

Some physiological aspects, by Dr. Darcet (School of Medicine-Paris).

A particular nutritional problem, by P. Métais (University of Strasbourg).

Various classes of margarine, by E. Jahan (IMACE-Bruzelles).

Actual legislation and prospect, by E. Souverain (Paris).

These reports, as well as the free discussion, will be included in a booklet to be published in the next months.

During this meeting, Prof. Frazer and Mr. Trottmann, past-president of the Association française des Techniciens des Corps Gras, were presented the Chevreul Medal.

Guatemala Carlos Farner

Fats and Oils Outlook in Central America

The outlook for the Central American oil and fat industries remains one of very strong competition. There continues to be a shortage of cottonseed at least in Guatemala and El Salvador. On the other hand, most factories are working under 75% of their capacity because of a slowly expanding market. This situation would seem to discourage the installation of new equipment. However, there is a new refining plant consisting of a continuous neutralizing plant, De Laval, a continuous bleaching plant, and a continuous deodorizing plant being installed at San Pedro Sula by the United Fruit Company. In Guatemala a new continuous refining plant will be installed in a few months and there are plans for the acquisition of a new margarine plant. The United Fruit Company, which owns one plant in Costa Rica, has also bought another in Nicaragua and they are making arrangements to purchase one more in El Salvador and another in Guatemala. They will undoubtedly make some changes and add to their equipment.

As far as research is concerned, there continues to be an increase in investigations in many aspects of the technology of oil fats and derivatives and also some very interesting basic research.

Several oilmills in Central America are working hard to produce a cottonseed meal suitable for human consumption. So far, only the plants which have pre-press and solvent extraction have been capable of producing a meal

which barely meets the standards of the Instituto de Nutrición para Centro America y Panamá (INCAP) (Nutrition Institute for Central America and Panama). Two oilmills in Guatemala, one with V. D. Anderson expellers and the other with French screw presses have begun investigations to produce this type of meal. In all the plants the problem of gossypol seems to have been solved. It is easily fixed during the cooking operation. The quality of the protein is not as good as INCAP would like it to be. They are mainly concerned with the low solubility of nitrogen. It is well known that in the fixation of gossypol this pigment reacts with the protein, but the low solubility that has been found in most of the meals cannot be accounted for only by the reaction with gossypol. There are definitely additional reactions that occur between the proteins and other minor compounds (probably sugars) during cooking and subsequent drying. This problem has proven to be beyond solution in straight screw press operation. However, major improvements have been made and in some instances, solubilities of 60% have been obtained. One oilmill is still working on this problem. Another solution which seems to have great possibility of success is glandless cottonseed. This year a few cotton growers will experiment planting 200 acres of this new type of cottonseed. With glandless cottonseed straight solvent extraction without cooking should produce an excellent meal for human consumption.

Yugoslavia Biserka Matijasević

Yugoslavia Holds Congress on Nutrition

The Yugoslavia Congress on Nutrition was held in Zagreb in June 1969. About 800 research workers, who presented more than 400 papers, attended. With the exception of three plenary sessions dealing with the state of nutrition and with its prospects, the Congress was divided into special sections, a symposium and panel discussions. The papers and discussions dealt with the production and examination of individual food products, the use of additives, the nutrition of school children and youth, the education of food industry workers, the organization of scientific work, and the production of food industry equipment.

The Oils and Fats section included 11 papers from the oil industry. They dealt with the following subjects: The Application of Active Ventilation During Sunflower Storage, Changes of the UV Spectrum During Oil Bleaching, The Use of Bone Fat, The Application of New Procedures in Oil Refining, The Winterization of Sunflower Oil, The Packing of Edible Oil Into Packages Made From PVC Films, The Identification of Oil in the Fishing Industry and The Characteristics of Grape Seed Oil. Synopses of all papers will be published by The Society for the Improvement of the Nutrition of the Croatian People.

Meetings of Chemical Engineers Working in the Oil Industry

During the last six months, chemical engineers working in the oil industry gathered several times at professional meetings organized by the Association of Vegetable Oil Producers. Some common problems were discussed at these meetings. The purpose of one of the meetings was to gather together chemical engineers dealing with the production of vegetable fats and margarine. This meeting was held in Titov Veles where, besides the existing oil factory, a plant for margarine production was established in 1968. This new margarine factory (Schröder plant) is the fourth of its kind in Yugoslavia. Some of the papers presented dealt with the organization of control in margarine production and the elaboration of some methods for the examination of vegetable fats. The papers from the meeting will be printed in the "Bulletin of Vegetable Oils and Fats." This journal is published four times a year by the Association of Vegetable Oil Producers, Belgrade.

The meeting held in March 1969 dealt with the problem

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Meetings

AOCS National Meetings

- Oct. 5-8, 1969—Minneapolis, Leamington Hotel.
April 26-30, 1970—New Orleans, Jung Hotel.
Sept. 27-Oct. 1, 1970—Chicago, Conrad Hilton Hotel.

AOCS Section Meetings

- North Central Section—Nov. 19, 1969, Swedish Club, Chicago, Ill.
Northeast Section—Sept. 23, 1969, Whyte's Restaurant, New York; Oct. 28, 1969, Franklin Motor Inn, Philadelphia, Penn.

Other Organizations

- Sept. 7-11, 1969—XIIIth International Conference on the Biochemistry of Lipids, Eugenides Foundation, Athens, Greece.
Sept. 8-9, 1969—Society of Cosmetic Chemists National Seminar, Riverfront Inn, St. Louis, Mo.
Sept. 8-12, 1969—International Symposium on Conformational Analysis, Universite Libre de Bruxelles, Brussels, Belgium.
Sept. 16-18, 1969—Massachusetts Institute of Technology, Conference on Amino Acid Fortification of Protein Foods, Kresge Auditorium, Cambridge, Mass.
Sept. 23-25, 1969—8th Annual Meeting of ASTM Committee E-19 on Chromatography, Sheraton Hotel, Philadelphia, Pa.
Oct. 3, 1969—Annual Meeting of the Canadian Committee on Fats and Oils, the Prairie Regional Laboratory of N.R.C., Saskatoon, Canada.
Oct. 19-22, 1969—19th Canadian Chemical Engineering Conference, The Canadian Society for Chemical Engineering, and 3rd Symposium on Catalysis, Physical Chemistry Division, University of Alberta, Edmonton, Alberta, Canada.
Oct. 27-30, 1969—Instrument Society of America, 24th International Instrumentation-Automation Conference and Exhibit, Astrohall, Houston, Texas
Nov. 2-7, 1969—Society of Cosmetic Chemists Arden House Conference, Joint Sponsorship with Columbia University College of Pharmacy, Arden House, Harri-man, N.Y.
Dec. 1-5, 1969—32nd Exposition of Chemical Industries, The New York Coliseum, New York, N.Y.
Dec. 2, 1969—Society of Cosmetic Chemists Annual Scientific Meeting and Medal Award Dinner Dance, Americana Hotel, New York City.
* March 1-6, 1970—21st Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Cleveland Convention Center, Cleveland, Ohio.
* July 7-9, 1970—International Association of Seed Crushers, the Royal Garden Hotel, London, England.
* Sept. 20-23, 1970—International Conference on the Science, Technology and Marketing of Rapeseed and Rapeseed Products, Chantecler Hotel, St. Adele, Quebec.

* Additions to previous calendar

• Four Corners

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of oil filtration. Dr. Wilke, a well-known expert of the Seitz Werke firm gave two lectures about the most modern developments in the field of filtration, with special emphasis on sunflower oil filtration and up-to-date technical solutions realized by the firm. The lectures were followed by discussions about the problems in filtration, especially the problems concerning winterization of sunflower oil.

The purpose of the May 1969 meeting, was to inform the chemical engineers of the most modern advancements of De Smet S.A. in the field of vegetable oil refining and extraction.

Dr. Van Der Voort spoke on continuous deoderization and refining in miscela.

Last year our chemical engineers heard Dr. B. Braae, a well known expert in oil refining lecture. He gave two talks on Alfa Laval AB firm's methods of oil refining and fat fractionization. Dr. Jacini, professor and director of the Stazione Sperimentale per l'Industria Degli Olii e Dei Grassi, Milano, was also in Yugoslavia last year. He lectured on a new way of oil neutralisation. Such lectures given by famous experts enable the engineers to become better acquainted with modern technological solutions. They contribute to better mutual understanding among experts from many countries and the useful exchange of opinions on the problems and production of oils and fats.

1970 Pittsburgh Conference

The Twenty-First Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy will be held in Cleveland, Ohio, March 1-6, 1970. The headquarters for the meeting will be the Cleveland Convention Center. An estimated 300 papers on all phases of Analytical Chemistry and Spectroscopy will be presented. Symposia on the following subjects are now being arranged: SSP Award Symposium on Absorption Spectroscopy, Goblenz Society Symposium on Laser Raman Spectroscopy, Analytical Techniques on the Horizon, Polymer Characterization, Analytical Chemistry—A Fading Discipline?, Computers in the Analytical Laboratory, High Speed Chromatography (Gas and Liquid), Analyses of Gases and Vapors, Recent Developments in X-ray and Optical Spectroscopy, Analytical Techniques in Space, and Molecular Spectroscopy of Minerals and Related Inorganics.

International Committee Holds Annual Meeting in Paris

The International Committee of Surface-Active Agents (C.I.D.) held its annual meeting in Paris on May 6, 1969 under the chairmanship of Mr. Tarring of the United Kingdom. Twelve countries were represented.

After having heard the reports from the President and from the three Technical Commissions (Analysis, Experimentation and Terminology) the C.I.D. renewed its membership for a period of four years and elected the following officers: Honorary President, Mr. Tarring (United Kingdom); President, Dr. Dürig (Switzerland); Vice-President, Dr. Kooijman (Holland); Joint Treasurers, Mr. Köhler (Switzerland) and Mr. Wolfers (Belgium). The three Technical Commissions will be headed by: Dr. Van der Vet (Holland), Analysis; Mr. Roussos (France), Experimentation; and Dr. Lascaray (Spain), Terminology.

It was announced that the Sixth International Congress of Detergency will be held in Switzerland in 1972. An invitation was extended by the Soviet Committee to hold the Seventh Congress in the U.S.S.R. in 1976.