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Chile Enrique Amadori

Government assumes control of private oil industries

The six principal oilseed industries (85% of Chile's total extraction and refining capacity) and COMARSA, a private organization whose only shareholders and members are these firms and whose principal functions are to contract the oilseed crop, to import crude oil for domestic processing and to promote the quality and quantity of Chilean oilseed, were taken over by the government after a labor dispute that came to an end on Oct. 7, 1972. Many executives and technicians, some voluntarily and some not, have resigned their posts in these firms.

Oilseed production short of goal

The oilseed production and consumption schedule for 1972 called for 77,000 tons refining oil, but because of the loss in time due to labor disputes production totaled only 72,800 tons, of which 28,000 tons (38%) was national oilseed and the remainder was obtained from crude imported oil (mainly soybean oil) and soybean seed from the U.S. and China.

For 1973, a consumption of 84,000 tons refining oil has been estimated, of which only 20,400 tons (24%) will be produced from Chilean seed; the rest will be supplied by 50,000 tons crude oil, 20,000 tons soybean seed and 20,000 tons rapeseed, all imported.

In the last 2 years, consumption of vegetable oil has increased 10% annually. Formerly, the annual increase was 5%.

Explosion rocks solvent extraction plant

On December 8, an explosion occurred in the solvent extraction plant of the Compañía Industrial (INDUS) in Temuco, located in southern Chile. The explosion, which killed five workers, was touched off by an error in a routine plant inspection. The Belgian-made plant, Smet, capable of processing 200 tons in 24 hr, had been operating for only 2 years.

Pediatric Research Lab. studies nutrition

Since it was founded 10 years ago, the Pediatric Research Laboratory of the University of Chile School of Medicine, headed by Fernando Monckeberg, has concentrated on research in the field of basic and applied nutrition. Studies have been made on infant malnutrition, one of the major problems among Chilean children. In the search for solutions, a presscake meal of rape and sunflower has been prepared. Gross chemical composition, amino acid composition and the biological quality of the sunflower concentrate show that this product is a good protein source, suitable for human consumption (*Nutr. Bromatol. Toxicol.* 3:85[1967]).

Research on the rape presscake meal has yielded favorable results. With lixiviation with water for 30 min, a great decrease in the toxic elements of rape is achieved,

producing a better biological quality and a higher net protein utilization—from 39 in the original product to 69 in the detoxicated (*J. Sci. Food Agr.* 1973, in press).

A toxicity test was performed by feeding rats a prolonged diet, with rape presscake meal as the only protein source. The animals grew normally throughout this period. These results made possible the feeding of larger quantities of the mixture to poultry and pigs, without goitrogenic or growth-inhibiting effects.

In the area of protein deficiency, another study has been made with fish protein concentrate obtained by enzymatic hydrolysis of a hake (*Merluccius gayi*) whose primary characteristic is water solubility. The concentrate has high biological qualities, and its incorporation into the human diet is diverse and has good acceptability.

Unicellular protein research has led to the cultivation of the yeast *Candida utilis* on the molasses of beet sugar at IANSA (National Ind.). Test results have been published in *J. Sci. Food Agr.* 23:58L(1972).

Digna Ballester, an investigator at the Pediatric Research Lab., collaborated in the above report.

Czechoslovakia Jan Pokorný

VIIIth Symposium on Surface Active Agents and Detergents

The VIIIth Symposium on Surface Active Agents and Detergents, sponsored by the Czechoslovak Chemical Society, took place in Cholin, Bohemia, Nov. 22–23, 1972. Among the most interesting papers were the following: M. Ranny on properties and J. Novak on application of synthetic phosphatides; J. Hanzalova and coworkers on the reaction course of ethylene oxide with ricinoleic acid, and T. Peters on the kinetics of addition of propylene oxide in comparison to ethylene oxide. The hydrogenation of fatty acid nitriles to primary amines (M. Horak), the acidic hydrolysis of alpha-olein sulfonates (Z. Vodak), and the reaction of ethylene imine (M. Paulovic) were other subjects treated in the technological section.

The following papers were presented in the analytical section: gel permeation chromatography of surfactants (J. Coupek), NMR spectroscopy of detergents (M. Navratil), spectroscopic analysis of alkylphenol polyglycol ethers (Z. Vavrouch), determination of free fatty acids in nonionic detergents (M. Bares), determination of molecular weights of surface active agents (I. Zeman, L. Jiraskova), turbidimetric titration of anion active detergents (J. Zemanovic), analysis of alkylpolyglycol ether sulfate (M. Bares), and TLC of surface active agents (K. Obruba).

Role of lipids in nonenzymic browning

The role of lipids in nonenzymic browning was discussed as a section of the Symposium on Nonenzymic Browning of Food, held in Liblice, Oct. 16–18, 1972. Various oxidation products of lipids take part in the browning reactions of

fatty foods (J. Pokorný), especially in the case of highly unsaturated lipids, such as fish oil fatty acids (B.A. El-Zeany). Both carbonyl derivatives and free peroxidic radicals are responsible. The browning of phospholipid concentrates is due mostly to the primary amino group of phosphatidyl ethanolamine (P.T. Tai). Quinoid oxidation products of tocopherols also influence the formation of brown pigments (N.T. Luan). A. Rutkowski, Poland, discussed the effect of browning reactions on the nutrition value of rapeseed extraction meal.

Germany H.K. Mangold

Unilever Research at Hamburg

Unilever Forschungsgesellschaft (UFG) is one of nine research centers maintained by Unilever throughout the world. The center at Hamburg was established in 1965, when individual research units existing in different companies of the German Unilever group were united in a newly built institute at Hamburg-Bahrenfeld. Over 300 chemists, physicists, microbiologists, engineers and technical assistants are now working in laboratories provided with outstanding facilities and a pilot plant well equipped with modern processing units.

Research at Unilever is coordinated centrally by Research Division London directed by J.G. Collingwood. Each laboratory has its major sphere of work and is treating these problems in a world-wide approach. In the Hamburg laboratories, activities are chiefly in the field of packaging of fats and dairy products.

The laboratories at Hamburg are equipped with sophisticated instruments for chromatography, spectroscopy, mass spectrometry and radiochemical work. The diversity of research conducted at the UFG laboratories may be seen from the following survey: analysis of components of fats, oils and dairy products; synthesis of lipids and peptides; characterization of compounds responsible for odors and flavors; processing and technology of fats and dairy products; and research in the field of packaging.

An essential part of the work of UFG is devoted to consumer protection and environmental aspects. Work in this area includes the analysis of pesticides and mycotoxins, the isolation and characterization of compounds formed during heating of edible oils, testing of such compounds in animal experiments, and the selection of packaging materials under the aspects of food legislation.

UFG scientists are also active in specialists' committees of the German National Science Foundation (DFG), the German Chemical Society (GdCh), the German Society for Fat Science (DGF) and other national societies, as well as international organizations such as the Foods Section of IUPAC.

The capacities of the UFG have led to a potential which can become effective even beyond the scope of Unilever, provided priority and loyalty conflicts can be excluded. This prompted UFG, in 1971, to establish a subsidiary company, "Natec." This company offers, also to third parties, comprehensive services for research and development in the fields of natural science and technology.

Synthesis of Lipids

At the '71 and '72 meetings of the German Society for Fat Science (DGF), held in München and Giessen, respectively, much interest was shown in topics related to the chemical synthesis of lipids. A symposium, "Synthesis of Lipids of Biological Significance," was held at the '72 meeting. A collection of review articles based on talks given at this international symposium will be published in the journal, *Chemistry and Physics of Lipids*. This symposium issue will contain the following contributions: "Reactions

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