

# Four Corners



Chairman, International Relations — Eugene Marshack    Corresponding Secretaries — J. Pokorný

## Czechoslovakia . . . . . Jan Pokorný

### Meeting on Technology and Analysis of Fats and Oils

Czechoslovak Oil Chemists convened on May 23-24, 1979 in Mezná, Bohemia. Several review papers and more than 20 original papers were presented in two sections. M. Malenický et al. reported on differences between the oil content determined by laboratory extraction and the yield of oil by pressing and extraction of oilseeds. The differences were due to lower content of phospholipids extracted in the laboratory. J. Beneš discussed the purification of phospholipids, mainly by fractionation with acetone. Results on the processing of zero erucic acid rapeseed by pressing and extraction in an Ex-Technik plant were compared by J. Čmolík et al. with those obtained by processing high erucic rapeseed. No significant differences were observed. P. Redlich et al. evaluated the effect of solvents and other analytical conditions for the determination of residual oil in extraction meals. The quality of hexane was of particular importance.

Hydrogenated rapeseed oil and mixtures of rapeseed and palm oils were found suitable as cocoa butter substitutes (J. Dědek et al.). Soft margarines consisting of oil and low melting hydrogenated oil possessed a consistency equivalent to that of margarines containing additions of high melting hydrogenated oil (J. Čmolík and P. Štern). J. Neužil discussed new equipment for completely continuous manufacturing of margarine. Interesterified mixtures of vegetable oils with lard were found satisfactory for the production of liquid bakery shortenings (W. Schwarz and E. Märes).

The sensory analysis of fats and oils needs further refining to differentiate between closely related samples. The method of flavor profiles was found suitable for the evaluation of rancidity degree of edible oils and soft margarines and for the differentiation of off-flavors of various vegetable oils (J. Pokorný). The flavor profiles of sunflower, soybean, and zero erucic acid rapeseed oils showed characteristic changes during the storage and accelerated storage of both crude and refined oils (A. Marcin et al.).

Sources of contamination of fat and oil products by various microorganisms were discussed by D. Hronová.

Great attention was focused on emulsifying agents. The residual content of calcium oxide affects the yield of monoglycerides in emulsifiers in significant degree (E. Märes et al.). The composition of monoglycerides influences the suitability of the products for various emulsified cosmetic preparations (M. Zahradník et al.) and for the production of ice creams (T. Vacová et al.). Distilled monoglycerides based on peanut oil fatty acids were found advantageous for the production of peroral cosmetic and pharmaceutical preparations (K. Kubičková et al.). The composition of alkyl polyethylene glycol ether emulsifier affects the stability of various fat and oil emulsions (M. Barěš et al.). Polycondensates of formaldehyde with diethylene glycol and coconut fatty acids were recommended as nonionogenic emulsifiers for various purposes (H. Pelechová et al.).

J. Zajíc et al. reported on the effect of temperature on the discoloration of distilled fatty acids. The most volatile, relatively nonpolar fraction contained the majority of dark substances. Vrzáček et al. reported on their experiments

with optimum drying conditions of metallic soaps. J. Jirkovský described the project of a new equipment for glycerol manufacture (capacity of 1 T per hour). Interesterification products of high erucic rapeseed fatty acids with pentaerythritol were proposed as a substitute of sperm oil for the processing of jute (E. Pilařová et al.). Esters of lauric acid with Alphol 16 were recommended as a substitute of cetaceum for the restoration of old parchments (J. Skalský et al.).

In his address, Dr. Souček, the new president-elect of Czechoslovak Oil Chemists, discussed the development of the fat and oil industry and the importance of research and development work in the near future.

### Commission of Fat and Oil Analysis

The Commission belongs to the Committee of Food Analysis of the Czechoslovak Academy of Agricultural Sciences. The program for 1979 includes the determination of fatty acid composition by GLC, the analysis of oxidation products in lard and in edible oils, the determination of tocopherols, and the analysis of chlorinated pesticide residues. The Commission collaborates with the respective commissions of ISO and IUPAC. ●

### Wiley award to Canada's McKinley

The AOAC's 22nd Harvey W. Wiley Award will be presented to W. Perce McKinley, director general of the Food Directorate for Health Protection Branch, Canada, during the Association of Official Analytical Chemists' 93rd Annual Meeting to be held Oct. 15-18, 1979, in Washington, D.C.

The \$750 award is given annually to a scientist who has made outstanding contributions in developing or validating analytical methods for foods or related areas. Dr. McKinley also is president elect of the AOAC.

Five persons will receive 1979 Fellows of the AOAC awards. They are the FDA's Alfred D. Campbell, Walter Hoal, Damon Larry, Robert W. Weik, and EPA's Robert W. Storherr. ●

### Protein market study available

The vegetable food protein industry should grow from a \$403 million market to \$701.9 million (in terms of 1977 dollars) according to a market study report by Frost & Sullivan.

Food processors will turn to vegetable proteins to cut ingredient costs, extend shelf life and improve nutrition, the firm said. Soy protein had a 60% share of the market in 1977; whey protein, 33%; and yeast, 7%, Frost & Sullivan said.

While consumers have been slow to accept analogs, soy/beef blends have become widely used in institutional feeding and are beginning to "make some headway in the fast food field," the firm said. Use in processed foods also is expected to rise, the firm said, noting snack foods pose a potential growth market if processors seek to improve nutrition and move their products out of the "junk food" category.

Further information on the 204-page report is available from Frost & Sullivan Inc., 106 Fulton St., New York, NY.