APAG elects Mathieu president

The 11th General Assembly of the European Association of Fatty Acid Producing Companies (APAG), held May 22, 1986, in Windsor, England, elected Georges Mathieu of Oleofina S.A. as its president, to succeed E. Snoeck of Akzo Chemie B.V.

Mathieu, a native of Belgium, is managing director of Oleofina. He also is president of Detic, the Belgo-Luxemburgian association of producers and distributors of soap, detergents and other products.

Mathieu told delegates at the general assembly that the demand for fatty acids and glycerine in the foreseeable future should grow in line with current forecasts of economic growth in Western countries of about three percent a year in 1986 and 1987. He cited lower energy costs as another positive sign for the industry. In addition, except for the recently imposed quota on imports of U.S. tallow, natural oils and fats that provide renewable raw materials of the fatty acids industry are in plentiful supply, he said.

However, he warned that the marketing of fatty acids will continue to be highly competitive for European fatty acid-producing companies, with insufficient return on investments due to overcapacity in Europe and competition from other countries that benefit from the Generalized System of Preferences. Finished products from the latter, he said, are offered virtually duty-free entry into the European Economic Community (EEC) while raw materials from which similar finished products could be produced in Europe are subject to import duties. Some of those countries also levy local taxes to discourage exports of the raw materials and to favor added-value processing for subsequent export. Consequently, European producers have to contend with higher raw material costs and imports of fatty acids made from cheaper feedstocks.

Mathieu identified dependence on imports due to insufficient domestic supplies of renewable raw materials as a major obstacle faced by the European oleochemicals industry. However, he said, coordination of resources by the EEC, research establishments, universities, agriculture and industry may provide solutions to some of the problems facing the industry.

Presenting a paper on "Renewable Resources: Oils and Fats," E. McKeown of Unilever House, London, pointed out that the European oleochemicals industry, while large and important, also serves a number of other chemical and manufacturing industries. "It is therefore vital to the industry and to the wider community that its basic feedstocks are assured in cost, quality and continuity," McKeown said, adding that it is necessary to ensure that feedstock availability is economically and socially equitable, that feedstocks are suitable for present and future needs and that science and technology are developed to realize and extend their positions.

McKeown said feedstocks in the oleochemicals business are largely inedible or obtained as by-products from oils produced for food or animal feed. "Already conventional plant breeding techniques have led to strains with enhanced yields and with varied fatty acid distribution. Work on species new to Europe which can produce rare or even novel fatty acids such as cuphea, a source of medium chain fatty acids, is proceeding. Enhancement of these yields and adaptation for growth in temperate climates would be beneficial to the industry and open the way for new crops for agriculture in Europe."

McKeown discussed how traditional breeding methods could be speeded up, with opportunities for applying biotechnology in processing of oils and fats and in the modification of triglycerides and fatty acids.

"New horizons are appearing in biotechnology, and we may find that classical chemistry, enriched and strengthened by the effort devoted to petrochemical research, will find application in the treatment and modification of oils, fats and fatty acids and open up new fields for the oleochemicals business," he said.

Nonionic surfactant usage

A review of the use of nonionic surfactants in U.S. laundry detergents was presented by Jesse L. Lynn Jr. of Lever Brothers Co. at the AOCS annual meeting in May in Hawaii.

The nonionic surfactants commonly used in U.S. detergents are those formed by the addition of ethylene oxide to an alcoholic hydroxyl group, according to Lynn. Alcohol ethoxylates were introduced into the U.S. as textile chemicals shortly before 1940. Their first significant use in U.S. laundry products occurred in the 1950s. Today, over one-fifth of all detergents sold in U.S. supermarkets contain nonionics as their sole or major surfactant, Lynn said, noting that about four-fifths of all laundry detergents contain at least some nonionic surfactant.

Factors promoting this growth over the past 15 years have included phosphate restrictions, the introduction of detergent-softener products and the growth of heavy duty liquid detergents. Another factor has been the availability of consistent quality, cost-effective nonionics produced from relatively low-cost primary straight chain alcohols.

Alkyl ethoxylates have the general structure $RO(Ch_2CH_2O)_nH$. When used in laundry products, Lynn said, the R contains from 9 to 18 carbon atoms, usually 12 to 16. Since a single ethylene oxide (EO) group does not provide sufficient solubility for use in aqueous laundering, an average of 5 to 18 EO groups is present, usually 6.5 to 13, he said.

Because the hydrophilic chain is neutral, nonionic surfactants are not inactivated by calcium as is the case with linear alkylbenzene sulfonates (LAS) or soaps. According to Lynn, detergency of nonionic surfactants is essentially hardness-insensitive. Nonionic surfactants are often characterized in terms of their hydrophile-lipophile balance (HLB) number. At low HLB, the nonionic is essentially insoluble; detergency increases with HLB until the surfactant becomes too soluble and detergency declines.

According to Lynn, the most widespread use of nonionics occurs in mixed surfactant systems. Such mixed active systems help protect the anionic against precipitation as calcium salts and also provide better performance with a wider variety of soils.

Lynn said nonionics are naturally suitable for use in liquid laundry detergents because they are miscible with water over a wide concentration range. "The ability to modify both the hydrophilic and hydrophobic parts of the nonionic molecule will frequently permit the formulation to be 'fine tuned' for optimum detergency and stability," he noted, adding that their neutrality is also useful when formulating detergents that provide softening in the wash. Because anionic surfactants and cationic softeners interact to reduce detergency by the anionic and softening by the cationic, one approach has been to use a nonionic surfactant as the cleaning active in combination with a cationic for softening.

When used alone or in mixed active systems, nonionics generally have low suds profiles. Lynn noted that this is an advantage in Europe, where front loading machines predominate. In the U.S., consumers have preferred a higher suds profile for their top-loading washers. However, he added, the U.S. market appears to be moving in the direction of a lower suds profile.

Lynn noted that over the past several years, ethoxylation techniques have been developed, making peaked ethoxylates commercially available to detergent manufacturers. It has been suggested that these have a number of potential advantages over conventionally prepared ethoxylates. These include improved bulk handling characteristics, superior low temperature stability in heavy duty liquid detergents, improved odor, superior spray-drying efficiency and improved soil release of oily substances from synthetic fabrics when used in conjunction with soil release polymers such as methyl celluloses.

Toilet soap use in India

A report on toilet soap manufacture in India by K.S. Holla and R.R. Press of Tata Oil Mills Co. Ltd. notes that toilet soap consumption in India is expected to rise about 9.5% a year, to 374,000 metric tons (MT) by 1990, 580,000 MT by 1995 and 914,000 MT by the year 2000.

This, the authors add, will require expanding manufacturing capacity to approximately 735,000 MT by 1995 and 1,150,000 MT by the year 2000.

According to the report presented at a toilet soaps seminar conducted by the Oil Technologists' Association of India (Northern Zone) April 20, 1986, the largest growth potential is in rural markets.

The main raw native materials used in India for soap manufacturing, the report said, are rice bran oil, hardened rice bran oils and oils from mowrah, sal, neem, karanja and khakhan. Imported sources used include coconut and palm kernel oils. India currently has a total ban on the use of animal tallow. Also, groundnut is not permitted for soap manufacturing; it is solely used for edible purposes.

In urban sales of premium toilet soaps in 1984, the Liril brand manufactured by Hindustan Lever had sales of 3,500 MT, representing 24.4% of the market share. Mysore Sandal made by Karnataka Soaps sold 1,588 MT, or 11% of the market share, and Shikakai manufactured by Swastik sold 1,500 MT, representing 10.6% of the market. For the same year, Hindustan Lever produced the three top brands of popular toilet soaps—Lifebuoy, with sales of 36,000 MT and a 38.5% market share; Lux, with sales of 17,600 MT for an 18.6% market share; and Rexona, with 11,300 MT for an 11.9% market share.

Philippine task force

The Philippine Trade and Industry Minister, Jose Concepcion Jr., has appointed a task force on soap and detergent feedstock to study the impact of using either alkylbenzene or coco fatty alcohol in domestic detergent production.

According to the United Coconut Association of the Philippines, LMG Chemicals has been promoting the use of the former, while United Coconut Chemicals (Unichem) supplies the latter. Both companies are represented on the task force, along with the Soap and Detergent Association of the Philippines (SDAP), the National Pollution Control Commission, the Board of Investments, the Philippine Coconut Authority and the Philippine Chamber of Commerce and Industry's committee on industry.

S&D committee

ASTM's Committee D-12 on Soaps and Other Detergents will hold its annual standards development meetings Sept. 16–18, 1986, in New York, New York. The meetings will mark the 50th anniversary of the committee.

Arno Cahn of Arno Cahn Consulting Services and Luther Meyers, president of Test Fabrics Inc., will speak at luncheons held Wednesday, Sept. 17, and Thursday, Sept. 18, respectively.