

## METHODOLOGY

### Soaps and Detergents

A collaborative study is planned for an improved method to determine the color of LAS. Meanwhile, the review of the subsection on fatty alkyl sulfates in Section D of the methods has been completed. The review of the remainder of Section D should be completed by the 1989 annual meeting. George Bat-taglini is chairman.

### Aflatoxins

The AOAC method for the preparation and evaluation of aflatoxin standards was edited into AOCS format, approved by the UMC and appears in the *1988 Additions and Revisions to Methods*. This is the last of the series of six aflatoxin methods to be included in the methods book. Art Walkling is chairman.

**Tocopherols in Deodorizer Distillates**  
Committee activities have been suspended until there is further interest in validating the tocopherols

in deodorizer method (Ce 7-87) as an official method. Charles Marks is chairman.

### AOM Alternatives

Results of a study comparing Oil Stability Index (OSI) vs. AOM are being evaluated. Generally, there is good correlation between OSI and AOM; however, AOM has to be run exactly. A major problem with the AOM method is that air pressure is not specified. A standard should appear in the current version of the method. The OSI method will be proposed for consideration for adoption by the UMC. Mark Matlock is chairman.

### Bleaching Methods

There has been no activity since the 1988 annual meeting. The UMC has proposed that the committee consider developing a method for bleaching clay evaluation, using such parameters as titratable acidity, residual acidity, pH, particle size and pore size (determined by

methylene blue, magnesium chloride adsorption or fatty quaternary ammonium salts). Chairman is David Wolfe.

### Physical Methods

Methods under consideration are melting point by DSC on fats and oils; relative viscosity by Brookfield on oils, margarine, salad dressing; fat crystal structure by optical microscopy on fats melting above 25°C; firmness by Instron on margarine and shortening; and fat crystal structure by X-ray diffraction on fats melting above 25°C. Chairman is Art Walkling.

### Trace Metals

There are no active projects, and a chairman is needed. The current approved methods are under review by William McShane of Kraft Foods.

### Jojoba Analysis

There has been no activity since May 1987. Chairman is Ralph Price.

## PUBLICATIONS

### Book reviews

**Nutrition and Immunology (Contemporary Issues in Clinical Nutrition, Vol. 11)**, edited by Ranjit K. Chandra (Alan R. Liss Inc., 41 East 11th St., New York, NY 10007, 1988, 352 pp., \$96).

Since the original observations that protein-energy malnutrition in children leads to impaired immunocompetence, the field of nutrition and immunology has expanded to examine the effects of many single nutrients on immune responses. This volume reflects that expansion by providing chapters on the role of many vitamins, trace elements and lipids in the modulation of immunity.

The introduction by R.K. Chandra, "Nutritional Regulation of Immunity," includes a brief description of the immune system before

going on to a general discussion of nutrition and immunity. This description of the immune system and information in chapters on "Lymphokines and Monokines in Protein-Energy Malnutrition" (by Laurie Hoffman-Goetz) and "Plasma Inhibitory Factors in Protein Caloric Malnutrition" (by Lekan S. Salimonu) provide good background for readers with little knowledge of immunology. They should aid such readers to understand the remaining chapters and to gain a good general knowledge of this rapidly emerging area of nutrition.

The next chapter, on "Lipid Modulation of Immune Responses," includes a discussion of the role of eicosanoids in immunity. Next, Ronald R. Watson and James A. Rybshi discuss immunological response modification by vitamin A and other retinoids. The B vitamins and their effects on specific and nonspecific immune re-

sponses are discussed by Adrienne Bendich and Marvin Cohen. Adrienne Bendich provides the next chapter on antioxidant vitamins and immune responses. The nutrients covered are vitamin E and vitamin C, vitamin E and selenium, vitamin E and lipids, and  $\beta$ -carotene.

Chapter 8, by P. Bhaskaram, emphasizes studies on human populations with iron deficiency anemia. Adria R. Sherman and Leslie Helyar follow this with a chapter on iron deficiency, immunity and resistance to disease in early life. Susanna and Ward F. Cunningham-Rundles discuss modulation of immune responses by zinc. The next chapter—"Trace Element Deficiencies and Immune Responsiveness in Humans and Animal Models," by Mark P. Fletcher, M. Eric Gershwin, Carl K. Keen and the late Lucille S. Hurley—includes sections on iron, zinc, copper and manga-

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nese, selenium and other minerals. It also includes sections on mineral interactions and trace minerals and cancer.

The final three chapters move away from discussions of single nutrients and into infections, disease states and immunity. H.M. Coovadia discusses immunoparesis caused by viral and bacterial infections. The next chapter—"Immunologic Aspects of Diabetes Mellitus," by Nadir R. Farid—deals with both the human Type I diabetes and animal models of Type I. The editor concludes with a chapter entitled "Effect of Overnutrition and Immune Responses and Risk of Disease."

This volume provides a good start for those seeking a knowledge of the field of nutrition and immunity. It is well produced, but it is too highly priced for many individuals.

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**Supercritical Fluid Extraction and Chromatography: Techniques and Applications** (ACS Symposium Series 366), edited by Bonnie A. Charpentier and Michael R. Sevenants (American Chemical Society, 1155 Sixteenth St. NW, Washington, DC 20036, 1988, 253 pp., \$59.95 US and Canada, \$71.95 elsewhere).

This ACS Symposium Series volume is based on a collection of papers presented before the Division of Agricultural and Food Chemistry at the 193rd ACS national meeting in Denver, Colorado. As with many books based upon symposium proceedings, there is a diversity of subject matter from chapter to chapter. Fortunately, editors Charpentier and Sevenants have been successful in coordinating the individual contributions into a coherent, readable book that deserves serious consideration as an addition to the oil technologist's library. Of the 13 chapters comprising the volume, seven contain subject matter which should be of interest to readers of *JAOCS*.

The introductory chapter by Lira on the physical chemistry of

supercritical fluids is adequate, but some correlation between the presented theory and end-use application would have been of more benefit. The chapter by Krukoni on processing with supercritical fluids—with its heavy emphasis on schemes for extracting/fractionating fish oils and enzyme activity in the presence of supercritical fluid—is particularly germane to *JAOCS* readers. Coupling of adsorbent technology into seed oil extraction pilot plants is discussed by King et al. with a particular emphasis on evaluating suitable sorbents and utilization of the derived experimental data in process design.

Additional processing concepts are advocated by Rizvi et al. in a chapter concerned with concentrating omega-3 fatty acids from fish oil. Such novel approaches as "hot finger" fractionators and urea clathration combined with supercritical fluid extraction offer the technologist additional latitude in developing better end products. Marantis' contribution on the development of commercial processing plants contains some rather obvious background material for the technical specialist. However, the presented schematics of Pittsburgh-Des Moines extraction units make the chapter worthwhile reading.

The final six chapters are devoted to supercritical fluid chromatography or related tandem instrumental methods. Chester's discussion of capillary supercritical fluid chromatography applied to the food industry may prove of interest to some readers, but there are no cited chromatograms of oil samples. The chapter contributed by researchers at Lee Scientific contains a number of useful capillary chromatographic separations of vegetable and citrus oils. Although supercritical fluid chromatography is not a panacea for the separation of many complex triglyceride mixtures, its greatest merit may lie in the field of quality control of commercial oil mixtures, as demonstrated by the low-temperature separations of underivatized solutes in the above chapters.

The chapter authored by

Procter & Gamble scientists on supercritical fluid chromatography-mass spectrometry should be of interest to many scientists due to its emphasis on interfacing techniques and illustrated spectra and chromatograms of surfactant mixtures. A similar discussion also is presented on the chromatography and mass spectrometry of carotenoids in supercritical fluid carbon dioxide. These hyphenated methods are gaining in popularity, since supercritical fluid extraction often results in mixtures containing many previously unextracted components.

In summary, the reviewer is pleased to recommend the purchase of this volume to researchers involved with the development of supercritical fluid extraction processes and analytical techniques. The combination of these two topical areas within a single book, in which over 50% of the written material is concerned with oleochemicals, should allow the reader to assess the potential of this technology to their particular problem.

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## New books

**Antiperspirants and Deodorants** (Cosmetic Science and Technology/7), edited by Karl Laden and Carl B. Felger, Marcel Dekker Inc., 270 Madison Ave., New York, NY 10016, 1988, 440 pp., \$99.75 US and Canada, \$119.50 elsewhere.

**Effective Writing Strategies for Engineers and Scientists**, by Donald C. Woolston, Pat Robinson and Gisela Kutzbach, Lewis Publishers Inc., PO Drawer 519, Chelsea, MI 48118, 1988, 160 pp., \$24.95.