Codex Committee on Fats and Oils

AOCS member Timothy Mounts, research leader for vegetable oil research at USDA's Northern Regional Research Center in Peoria, Illinois, is the alternate head of the U.S. delegation to the Codex Committee on Fats and Oils. Mounts, who also represented AOCS at the February 1987 meeting of the committee, has written the following report for JAOCS.

The Codex Committee on Fats and Oils held its 13th meeting in London, England, Feb. 23-27, 1987. An extensive agenda of items of concern to the fats and oils industry was considered; the most significant, perhaps, was the agreement of the committee that fatty acid composition, as determined by gas liquid chromatography (GLC), should be a mandatory, rather than advisory, criteria in standards.

Mandatory GLC fatty acid range had been recommended at an earlier meeting of the committee, but was rejected by the full Codex Alimentarius Commission at its 15th session for two reasons: developments in germplasm manipulation might yield oils with different fatty acid compositions; and many developing countries do not have the equipment or trained technicians to determine GLC fatty acid ranges. The U.S. delegation emphasized that U.S. consideration of adoption of the standards would occur only if the GLC fatty acid ranges included in the standards were made mandatory. In deciding that the ranges should be mandatory, rather than advisory, the committee noted that if plant breeding or genetic engineering produced an oil with a fatty acid composition significantly different from the original oil, a new standard should be developed. For example, a standard for low erucic acid rapeseed oil was developed separately from the standard for rapeseed.

The committee also noted that the determination of fatty acid ranges by GLC is no longer considered exceptional; that GLC is regarded by most chemists as the most technologically useful method for characterizing an oil; that most countries routinely use GLC for quality control purposes; that many oil characteristics, such as iodine value and saponification value, which are already mandatory criteria, are almost entirely dependent on the fatty acid composition of an oil; and that GLC analytical techniques are required to determine a number of the mandatory criteria already incorporated into Codex standards for edible oils.

The following revisions to fatty acid ranges for some major oils were approved by the committee:

Soybean oil: C18:0, 3.0-5.5; C18:1, 18-26; C18:2, 50-57; C18:3, 5.5-10; C20:0, <0.6; C20:1, <0.5; C22:0, <0.5; C24:0, <0.5.

Peanut oil: C18:3, <0.3; C22:1, <0.3.

Sunflowerseed oil: C18:1, 14-35; C18:2, 55-75; C18:3, <0.3.

Corn oil: C12:0, <0.3; C14:0, <0.3; C16:0, 9-14; C18:1, 24-42.

Rapeseed oil: C<14:0, <0.1; C14:0, <0.2; C18:2, 11-23; C18:3, 5-13.

However, the committee decided to retain the current requirement for C22:1 of <5% in the standard for low erucic acid rapeseed oil, rather than to adopt the proposed limit of <2%. It was agreed that the level of <2% was a desirable objective, but there was concern that the lower level might restrict world trade at this time.

The committee stipulated that samples with composition lying outside the fatty acid ranges determined by GLC are not in compliance with the standard. If the sample composition is within the mandatory fatty acid ranges, supplementary nonmandatory criteria may be used to confirm that it is in compliance with the standard. The committee agreed that a review of the fatty acid ranges was required on a permanent basis, with amendments being made as considered necessary; it directed the United Kingdom secretariat to implement such a review.

Another major effort of the committee was the consideration of a draft international code of practice for storage and transport of edible oils and fats in bulk. The draft was prepared by the delegation of Malaysia as modified in accordance with comments received from participating countries. Promulgation of the code should assist in upgrading procedures in the shipment and handling of edible oils.

The committee determined that consideration of a draft standard for black currant seed oil was premature. There is little international trade in this oil, and it is covered by the general standards for fats and oils. If appropriate, an individual standard could be considered in the future.

Food additive provisions of all Codex Standards for Fats and Oils were amended to reflect recent decisions of the FAO/WHO Joint Expert Committee on Food Additives. The following food additive maximum levels were established:

Colors: beta-carotene, 25 mg/kg; annatto extracts, 20 mg/kg; curcumin or turmeric, 5 mg/kg; canthaxanthine, 25 mg/kg; methyl or ethyl esters of beta-apo-8′-carotenoic acid, 25 mg/kg.

Flavors: Natural flavors and their identical synthetic equivalents, except those known to represent a toxic hazard, and other synthetic flavors approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavor lost in processing, or for the purpose of standardizing flavor, as long as the added flavor does not deceive or mislead the consumer by concealing damage or inferiority, or by making the product appear to be of greater than actual value.

Antioxidants: propyl gallate, 100 mg/kg; BHT, 75 mg/kg; BHA, 175 mg/kg; TBHQ, 120 mg/kg; any combination of propyl gallate, BHT, BHA and TBHQ, 200 mg/kg, with individual limits not exceeded; natural or synthetic tocopherols, 500 mg/kg; ascorbyl palmitate and ascorbyl stearate, 500 mg/kg, individually or in combination; dilauryl thiodipropionate, 200 mg/kg.