

**Codex unit
approves
GLC identification**

There was good news and bad news for the U.S. delegation to the meeting last fall of the Codex Alimentarius Fats and Oils Committee.

The good news is that a proposed method for identifying oils by GLC was accepted for possible adoption, including a resolution commending the U.S. delegation for the proposal. The method was proposed by William H. Tallent, director of the Northern Regional Research Center at Peoria, Illinois, and alternate head of the U.S. delegation. The method involves plotting GLC analysis of an unknown oil on standard graph paper, then placing a series of coded transparencies over the graph paper until a match is found. The system could become a mandatory standard of identity for Codex.

Because of the accord on the transparency system, Dr. Tallent said, a second "decision-tree" method was not proposed. Some delegates told Dr. Tallent they would use the transparency method in their classes, Dr. Tallent said. A paper on these methods will be presented during AOCS St. Louis meeting, Dr. Tallent said, and a manuscript is being prepared for submission to *JAOCs*.

The bad news for the U.S. delegation was the resistance to its efforts to expand the list of additives permitted under the general standards for fats and oils. General standards apply to fats and oils for which individual standards have not been established. The U.S. had sought approval for a compromise proposal allowing a wider variety of additives in fats and oils to be used in manufactured foods, with a more restrictive limit on additives for fats and oils destined for direct consumption with relatively little processing (margarines, salad oils).

The U.S. did succeed in obtaining a clarification that the general standards will apply only to fats and oils for which the committee has not developed specific standards. Thus, the specific standards for soybean oil, cottonseed oil, and other individual oils, will take precedence over those in the general standards.

Europeans are reluctant to permit use of an additive in fats and oils that is not approved for use in the end food product in which the fat or oil is to be used, Dr. Rex Sims, AOCS representative to Codex, reports, even if the additive would form a negligible percentage of the final foods.

"It all depends on your point of view, I guess," Dr. Sims said. "We've been wrong a few times (on additives). Maybe they're just years ahead of their time."

In other general action, the committee approved draft standards for coconut oils, palm oil, palm kernel oil, rapeseed oil, and babassu oil. These also will be considered by the full commission this spring and, if approved, go to governments for comment (Step 6 of the 10-step Codex approval process).

A discussion of reduced fat margarines drew support for a standard for "Minarine" to be defined as a product with 39 to 41% fat content. Products with other fat content

could be labeled as "Reduced Fat Margarine (XX % fat)," with the appropriate percentage figure being used. The members stressed that labeling on such products should not deceive potential consumers as to content.

Dr. R.P.A. Sims, Canadian representative to Codex, foresees major discussions coming on labeling requirements. There are those, he says, who want to require quite detailed information on labels, down to *cis-trans* content and saturated and unsaturated content. Dr. Sims also pointed out that the Soviet Union for the first time sent a representative to the Fats and Oils commission meeting, as did Egypt, Peru, Tunisia, and Zaire. Countries represented in the past but not represented at the 1976 meeting included India, Israel, the Ivory Coast, the Philippines, and Portugal, he reported.

Dr. Rex Sims' report on the Codex Alimentarius Fats and Oils Committee meeting follows this article, along with reports on other groups involved in setting international standards for fats and oils or analytical methods of fats and oils groups. ●

**Ninth Session
of the
Codex Committee
on Fats & Oils
London
November 28-December 2, 1977**

(Note: Dr. Rex J. Sims of General Foods Corp. in White Plains, NY, is AOCS' official representative to the Codex Alimentarius Fats and Oils Committee. The following is his report to AOCS on the Nov. 29-Dec. 2, 1977, meeting of that committee.)

This session was attended by representatives of 30 countries and observers from 9 international organizations. The chairman was A.W. Hubbard of the United Kingdom. I was present as an advisor to Dr. R.W. Weik of FDA, who headed the U.S. delegation, and also to represent The American Oil Chemists' Society.

I. Report of FAO/WHO on the Role of Fats and Oils in Human Nutrition

A group of experts had considered the above subject and had prepared a report. The experts' conclusions were:

1. Short-term intake by experimental animals of oils high in erucic acid (e.g., rapeseed) causes transient diffuse myocardial lipidosis. Accumulation of triglycerides in the heart is directly proportional to the amount of erucic acid in the diet. Similar but milder effects have been noted with partially hydrogenated marine oils high in docosenoic acids.
2. Long-term intake of high-erucic rapeseed oils by the rat induces necrotic lesions leading to fibrotic changes in the heart muscle.
3. Some laboratories report similar effects, but less severe, when oils low in erucic acid are fed to rats. There may be some factor other than erucic acid in rapeseed responsible for this effect.

4. It would seem prudent for populations in which fat constitutes a high proportion of dietary energy to reduce erucic acid intake by consuming oils in which the erucic acid content is reduced by genetic manipulation or by blending with other fats and oils.

At present, the above problem does not affect the U.S. directly since rapeseed and marine oils are not consumed in our country; but it may have an adverse effect on U.S. exports of marine oils.

II. General Standard for Edible Fats and Oils

After considerable pressure from the U.S. delegation, the Committee had agreed to broaden the scope of the standard to include not only oils for direct human consumption but also those going to form part of ingredients in manufactured products. However, the Committee still refuses to include bulk shipments of crude oils not suitable for direct consumption. Since these constitute a large percentage of the oils in international trade, the U.S. considers this refusal a severe limitation on the usefulness of the standard. An additional problem remains that the list of permitted additives is quite restricted (emulsifiers, antioxidants) and can include only those allowed by Codex in the finished product that is to be manufactured. It was agreed that specific commodity standards override the general standards.

III. Food Additives

Both dimethyl polysiloxane and oxystearin were endorsed over objections by several delegations who wished to restrict use of defoamers to oils designed specially for deep fat frying, and to eliminate crystal inhibitors altogether. But the U.S. was successful in getting TBHQ included without formal objection and polyglycerol esters as an additional crystal modifier. In the latter case, the Committee insisted the U.S. provide technological justification for the need of this additive. Since oxystearin may be delisted in the future, based on new toxicological data, we should press to get polyglycerol esters included.

IV. Contaminants

Several countries proposed that limits be set for residues of hydrogenation catalysts permitted in finished oils. The U.S. considers this unnecessary since at levels above 1-2 ppm the oils develop a gray color. We proposed that either this limitation be omitted, or, that all processing aids such as filter aid, bleaching clay, alkali, and citric acid be also added. These are much more difficult to control. It was decided that the proposals on contaminants be submitted to governments for comments, and this subject be reopened at the next session.

V. Labeling

The Committee decided to include provisions for both date marking (minimum durability) and instructions for storage conditions. In the case of mixtures, the individual oils must be named in order of decreasing level, but no actual percentages of each need be given.

VI. Low Fat Spreads

In recent years various low fat spreads have come on the market, including those containing milk fat alone or combinations of milk fat with vegetable fat. The Committee decided to refer the decision to the Commission on which of these should be covered by our committee. It was also decided that the term "Minarine" should be restricted to products with a fat content of 39-41% ($\frac{1}{2}$ the level of normal margarine). Countries would be free to use some other name for this product provided it did not mislead the consumer. All other products not falling in the

range 39-41% fat would be designated as "Reduced Fat Margarine" with a statement of the percentage fat content.

VII. Colors and Antioxidant Synergist

Maximum levels for carotene (25 mg/kg), bixin (20 mg/kg), norbixin (20 mg/kg), annatto (20 mg/kg), turmeric (20 mg/kg), and curcumin (5 mg/kg) were set. Calcium sodium salt of EDTA was allowed at 100 mg/kg. Carotenes were limited to the beta isomer, and all levels are calculated basis the pure substance.

VIII. Low Erucic Rapeseed Oil

A standard for low erucic rapeseed oil (max 5% erucic acid) will be added, but with this oil the term for "direct consumption" will be included. Canada objected to this reservation since it does not apply to other oils and because the Codex Committee on Fats and Oils deals only with oils for direct consumption.

IX. Olive Oil Standard

There was a discussion of analytical methods for measuring total and individual tocopherols in this oil, but no satisfactory method has been settled on as yet. Likewise methods for sterols and fatty acids in position 2 of the glyceride molecule are still being developed.

X. Identity Characteristics Based on GLC Ranges

W.H. Tallent of USDA, Director of NRRC at Peoria, presented a simplified visual method for determining the identity of various oils. It will soon be published in *JAOCs*. This method was well received by the Committee and should find general acceptance as part of the individual standards. One area of weakness is with the lauric oils (coconut, palm kernel, babassu) which will require Reichert and Polenske values for complete identification. The Tallent method also cannot identify the components of mixtures and the extent of adulteration with a less expensive oil. But this problem is restricted largely to olive oil where other methods (e.g., sterols) are available.

The method will be discussed at the meeting of the general Codex Alimentarius Commission this spring and, if approved, will then be sent to individual governments for comments — Step 6 of the 10-step process for approval and adoption.

XI. Marine Oils

The Committee agreed that no standard is necessary at this time since there is no significant trade in marine oils for sale direct to the consumer.

It was tentatively agreed that the next session would be in London in November/December, 1978.

AOAC seeking award nominees

The Association of Official Analytical Chemists is seeking nominations for its 22nd Harvey W. Wiley Award and its 13th annual AOAC Scholarship Award.

The Wiley award is to recognize outstanding contributions to analytical methodology important to government regulatory agencies. The \$500, two-year scholarship award is for a college student in his third and fourth years of undergraduate study. Further information on nomination procedures is available from Luther G. Ensinger, AOAC, Box 540, Benjamin Franklin Station, Washington, DC 20044. Nominations are due by April 1, 1978.