

METHODS COMMITTEE REPORTS

Committee on Residues and Related Topics

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Committee Actions

The Official Methods Board (OMB) and the AOAC standing committees are being reorganized. As part of this reorganization, September 18, 2007, was the last meeting of this committee. However, Committee G has 2 outstanding methods to be reviewed. On, September 20, 2007, a recommendation was made by the OMB to reinstate the Committee on Residues and Related Topics (G). The Committee members, as listed above, will receive new letters of appointment for a limited period of time in order to complete their review of the 2 outstanding methods for pesticides in soft drinks.

Five members of Committee G (James Bell, Steven Lehotay, Alex Krynitsky, Frank Schenck, and David Soderberg) have already served on the Pesticides in Soft Drinks Task Force. They are familiar with the work of the task force and experts in the area of pesticide residue analysis. The first collaborative study report, "*Determination of Low-Level Pesticide Residues in Soft Drinks and Sports Drinks by Liquid Chromatography with Tandem Mass Spectrometry*," Study Directors Kathleen Miller and Paul Milne, has been reviewed and approved by the statistician, safety officer, and General Referee. The review of this manuscript should proceed immediately. The second collaborative study manuscript has not been submitted for review.

The Chairs of the Chemical Contaminants and Residues in Food Community, Jo Marie Cook and Stephen Capar, anticipate that they will submit a collaborative study, "*Determination of Arsenic, Cadmium, Mercury, and Lead by Inductively Coupled Plasma-Mass Spectrometry in Foods after Pressure Digestion*," Julshamn, Maage, Norli, Grobecker, Jorhem and Fecher, *J. AOAC Int.* (2007) **90**, to the OMB as First Action. This collaborative study has already been validated and approved by the Nordic Committee on Food Analysis (NMKL). Metals expert, Milan Ihnat, will review the manuscript to assure that the study meets AOAC collaborative study criteria.

All members of AOAC and especially members of Committee G are invited to join the newly formed Chemical Contaminants and Residues in Food Community. It is hoped that experienced members of Committee G will play leading roles in this new Community. It is especially important to have General Referees and Study Directors participate in Community stakeholder subgroups. Community members can actively participate by e-mail and conference call without attending meetings in person.

The creation of the Chemical Contaminants and Residues in Food Community was accepted by the AOAC Board of Directors at its December 2006 meeting. The Terms of Reference for the new Community were accepted by the

Board at its August 2007 meeting after many revisions. The community has already been instrumental in bringing together seafood stakeholders. Seafood stakeholders have held 2 meetings, have prioritized method needs and are hoping to begin study on seafood methods in the upcoming year. The first face-to-face meeting of the Chemical Contaminants and Residues in Food Community was held on September 18, 2007, immediately before the meeting of Committee G.

During the past year, Committee G reviewed the collaborative study of Study Director Steven Lehotay on the method *Determination of Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate* (nicknamed QuEChERS) for pesticide residues in fruits and vegetables. The method was approved as First Action Official Method by unanimous approval of Committee G. Possible extensions to this method, including additional analytes and matrixes, have already been published in the literature.

Work of Committee G in the areas of radioactivity and metals has been transferred to the Community in order to engage stakeholders and prioritize method needs.

Jon Wong, U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, has been appointed as General Referee for the topic, "*Pesticides and Other Chemical Contaminants*." The role of General Referees in Committee I has not been defined but Wong has already taken a leading role as Chair of the Pesticides Subgroup within the Community.

General Referee Reports

Pesticides and Other Chemical Contaminants

General Referee Jon Wong, U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, 5100 Paint Branch Pkwy, HFS-706, College Park, MD 20740, Tel: 301-436-2172, Fax: 301-436-2632, E-mail: Jon.wong@fda.hhs.gov.

(1) **2002.03** *Pesticides in Nonfatty Foods Using SFE and GC/MS*: Method Advisor Steven J. Lehotay, U.S. Department of Agriculture, Agricultural Research Service, Regional Research Center, Food Safety Research Unit, 600 East Mermaid Ln, Wyndmoor, PA 19038, Tel: 215-233-6433, Fax: 215-233-6642, E-mail: Steven.Lehotay@ars.usda.gov. Adopted Final Action in 2005 and appears in the 18th Edition of *Official Methods of Analysis*. Discontinue topic.

(2) **2007.01** *Pesticides in Foods Using Acetonitrile Extraction and Partitioning with Magnesium Sulfate*: Study Director Steven J. Lehotay. The collaborative study was reviewed and adopted as a First Action Official Method of AOAC INTERNATIONAL. Discontinue topic.

(3) *Ultra-Trace Method for Pesticides in Bottled Soft Drinks*: Study Director Paul Milne, Pepsi Cola Co., Valhalla, NY 10595, Tel: 914-7424743, Fax: 914-749-3323, E-mail: pmilne@pepsi.com. Two collaborative studies have been conducted. A new committee has been requested to review these collaborative studies. One method has already been reviewed by the GR, statistician, and safety officer. This

method will be submitted to the newly formed committee for review. A report of the second study has not been completed. Continue topic.

(4) *Multiresidue Methods for Pesticides in Foods by GC/MS and LC/MS/MS*: Topic Advisor Guo-Fang Pang, Qinhuangdao Entry-Exit and Quarantine Bureau, No. 39 Haibin Rd, P.C. 066002, Qinhuangdao, People's Republic of China, Tel/Fax: 86-335-341-7119, E-mail: gfpang@heinfo.net. This Topic Advisor has proposed a collaborative study of the method, "*Multiresidue Method for the Determination of 450 Pesticide Residues in Honey, Fruit Juice, and Wine by Double-Cartridge Solid-Phase Extraction/Gas Chromatography-Mass Spectrometry and Liquid Chromatography-Tandem Mass Spectrometry*." Pang, Fan, Liu, Cao, Zhang, Fu, Li, Li, and Wu (2006) *Food Additives and Contaminants* **23**, 777–810. Pang has published 4 methods this year. This is a very important and timely topic for study. Recommend topic for Community consideration.

(5) *Chlorinated Dioxins*: Topic Advisor Douglas Hayward, U.S. Food and Drug Administration, HFS-336, 5100 Paint Branch Pkwy, College Park, MD 20740-3835, Tel: 301-436-1654, Fax: 301-436-2632, E-mail: douglas.hayward@cfsan.fda.gov. Recommend topic for Community consideration.

(6) *Determination of Residues of Triazines and Their Chloro-Metabolites in Raw Agricultural Commodities*: Topic Advisor Robert Yokley, Syngenta Crop Protection, Inc., PO Box 18300, Greensboro, NC 27409, Tel: 336-632-2142, Fax: 336-632-7645, E-mail: Robert.yokley@syngenta.com. The analysis of triazines continues to be an important topic. Recommend topic for Community consideration.

(7) *Miniaturized Methods*: Topic Advisor Frank Schenck, U.S. Food and Drug Administration, Southeast Regional Laboratory, 60 Eighth St NE, Atlanta, GA 30309, Tel: 404-253-1200, Fax: 404-253-1208, E-mail: frank.schenck@fda.hhs.gov. Recommend topic for Community consideration.

(8) *Post-Extraction GPC Cleanup for Pesticide Residues*: Topic Advisor Michael Halvorson, Gilson, Inc., 3000 Parmenter St, PO Box 620027, Middleton, WI 53562-0027, Tel: 608-828-3226, Fax: 608-831-4451, E-mail: mhalvorson@gilson.com. Extensive work on the GPC cleanup of fatty food matrixes is reported. Recommend topic for Community consideration.

Radioactivity

Edmond J. Baratta (retired), General Referee, formerly of U.S. Food and Drug Administration, Winchester Engineering and Analytical Center, 109 Holton St, Winchester, MA 01890.

(1) *Iodine-131 in Milk and Foods*: Work is needed in this area. Further action is contemplated. Transfer topic to a community. Discontinue topic.

(2) *Gamma Spectroscopic Determination of Cesium-137 in Milk and Other Liquids Using Solid State Intrinsic Germanium Detector*: Milk and juice samples have been evaluated by 10 and 19 laboratories, respectively, with favorable results. Discontinue topic.

(3) *Strontium-90*: Study Director Marina Silverstone, Washington Department of Health, Division of Laboratory Radiation, 1610 NE 150th St, Seattle, WA 98155-7224, Tel: 206-361-2894, Fax: 206-361-2899, E-mail: marina.silverstone@goh.wa.gov. A "Rapid Method for Analyzing Strontium-90 in Water" is being developed using Eichrom® cartridges. Discontinue topic.

(4) *Plutonium-239*: A promising method using ICP-MS should be studied further. Discontinue topic.

Metals and Other Elements

Milan Ihnat, General Referee, Pacific Agri-Food Research Centre-Summerland, Agriculture and Agri-Food Canada, Summerland, British Columbia, V0H 1Z0, Canada.

The General Referee for Metals and Other Elements suggested that the priority in this area is the integration of activities involving 5 analytical techniques of flame atomic absorption spectrometry (FAAS), inductively coupled plasma-atomic emission spectrometry (ICP-AES), ICP-mass spectrometry (ICP-MS), instrumental neutron activation analysis (INAA), and radiochemical separation neutron activation analysis (RNAA). The goal is to coordinate and integrate the 3 atomic spectrometric and 2 neutron activation topics to yield several integrated, comprehensive, multi-element analytical methods for *Elements in Foods, Feeds, Food Supplements, and Biological Materials Utilizing FAAS, ICPAES, ICPMS, INAA, and RNAA*. These 5 interrelated topics are believed to be of the greatest interest to the analytical/agricultural communities and are given the highest priority within this GR topic.

(1) **999.10** *Lead, Cadmium, Zinc, Copper, and Iron in Foods, Atomic Absorption Spectrophotometry after Microwave*: Method Advisor Lars Jorhem, National Food Administration, Box 622, S-751 26 Uppsala, Sweden, Tel: 46 18 17 55 00, Fax: 46 18 10 58 48, E-mail: lars.jorhem@slv.se. Adopted Final Action in 2005. Discontinue topic.

(2) **999.11** *Determination of Lead, Cadmium, Copper, Iron, and Zinc in Foods Atomic Absorption Spectrophotometry after Dry Ashing*: Method Advisor Lars Jorhem. Adopted Final Action in 2005. Consider whether a modification is required to the applicability statement in light of recent observations by the Method Advisor of the interference of tin on iron determination in fruit and

vegetables preserved in tin cans. Continue monitoring any reports from users of the Official Method.

(3) *Determination of Arsenic, Cadmium, Mercury, and Lead by Inductively Coupled Plasma-Mass Spectrometry in Foods after Pressure Digestion*: Julshamn, Maage, Norli, Grobecker, Jorhem, and Fecher, *J. AOAC Int.* (2007) **90**(3). Will be reviewed by Milan Ihnat for consideration as First Action.

(4) *Atomic Absorption Spectrometry*: Topic Advisor Milan Ihnat. Recommend topic for Community consideration.

(5) *Elements in Foods, Feeds, Food Supplements and Biological Materials by Inductively Coupled Plasma-Atomic Emission Spectrometry*: Topic Advisors Milan Ihnat and Ralph E. Sturgeon, Chemical Metrology, Institute for National Measurement Standards, National Research Council of Canada, Ottawa, ON K1A 0R9, Canada, Tel: 613-993-6395, Fax: 613-993-2451, E-mail: Ralph.Sturgeon@nrc.ca. Recommend topic for Community consideration.

(6) *Elements in Foods, Feeds, Food Supplements, and Biological Materials by Inductively Coupled Plasma-Mass Spectrometry*: Topic Advisors Milan Ihnat, Lu Yang, and Ralph E. Sturgeon. Recommend topic for Community consideration.

(7) *Lead in Wines*: Study Director Alan L. Reisig, Alcohol and Tobacco Laboratory, 6000 Ammendale Rd, Beltsville, MD 20705-1250, Tel: 240-264-1436, E-mail: Alan.Reisig@ttb.gov. Recommend topic for Community consideration.

(8) *Neutron Activation Analysis*: Topic Advisors Borut Smodis, Jozef Stefan Institute, Jamova 39, SI-1000 Ljubljana, Slovenia, E-mail: Borut.Smodis@IJS.SI and Jan Kucera, NAA Group Leader, Nuclear Physics Institute, Academy of Sciences of the Czech Republic, CZ-250 68 Rez near Prague, Czech Republic, Tel: 42-2-66172268, Fax: 42-2-6857003, E-mail: Kucera@ujf.cas.cz. Recommend topic for Community consideration.

(8) *Total Mercury in Food by Cold Vapor Atomic Absorption Spectrometry*: Topic Advisor Robert W. Dabeka, Food Research Division 2203D, Health Protection Branch, Health Canada, Ottawa, Ontario K1A 0L2, Canada, Tel: 613-957-0951, Fax: 613-941-4775, E-mail: Bob_Dabeka@hc-sc.gc.ca. Recommend topic for Community consideration.