



FINAL: March 4, 2019

Laboratory Methods and Services Committee Report/Minutes

AAFCO Mid-Year Meeting
 January 22, 2019 9:00 – 5:00 PM, Savannah, GA
 FINAL

Committee Recommendations

Committee recommendation summary or list.

- (1) None

Board Recommendations

Board recommendation summary or list.

- (1) None.

Association Actions

Association action summary or list.

- (1) None.

Committee Participants

Members Present:

Ametra Berry	Georgia Dept. of Agriculture
Sally Flowers	Nebraska Dept. of Agriculture
Teresa Grant	North Carolina Dept. of Agriculture
Casey Guccione	Kansas Dept. of Agriculture
Tai Ha	Nebraska Dept. of Agriculture
Gale Hagood	Mississippi Dept. of Agriculture
H. Dorota Inerowicz	Office of the Indiana State Chemist
Robin Johnson	Montana Dept. of Agriculture
Mary Koestner	Missouri Dept. of Agriculture
Mark LeBlanc	Louisiana Dept. of Agriculture
Patty Lucas	Florida Dept. of Ag and Consumer Services
Kristi McCallum	Colorado Dept. of Agriculture
Rebecca Moseley	Alabama Dept. of Agriculture
Lise-Anne Prescott	Canadian Food Inspection Agency
Aaron Price	Canadian Food inspection Agency
Robert Sheridan	New York Dept. of Agriculture
Brenda Snodgrass	Oklahoma Department of Agriculture
Michele Swarbrick	Minnesota Dept. of Agriculture
Nancy Thiex	Life Member
Sharon Webb	University of Kentucky Regulatory Services

Advisors Present:

Kyle Bennett	Neogen
Dan Berg	Eurofins
Andy Crawford	Consultant
Jeff Horst	Agri-King
Paul Mostyn	Westway Feed
Lars Reimann	Eurofins
Ken Riter	Nestle-Purina Analytical Labs
Lisa Ruiz	Eurofins NAC
Leo Schilling	Eurofins
Liberty Sibanda	Randex Food Diagnostics
John Szpylka	Mérieux NutriSciences

Committee Report

Committee Activities

ACTION: None

Sub-Committee Activities

ACTION: None

Committee Minutes

1.) Call to Order

The agenda was approved with minor changes due to the federal government shut-down.

Introductions – A sign-up sheet circulated to attendees

2.) Committee roster was reviewed and updated. Kristi McCallum added new members and advisors. The updated roster was sent to Jennifer Roland on February 4, 2019.

3.) FDA Cooperative Agreement – Robin Randolph of APHL gave a presentation, highlighting the following.

- APHL is continuing work started under the Association cooperative agreements through a 2-year bridge agreement with FDA.
- Continue to offer support and resources for laboratories seeking ISO17025:2017 accreditation.
- A newly revised white paper is coming soon. The revised white paper will comply with the new ISO17025:2017 standard.
- PFP Lab Best Practices Checklist, which is a companion to the white paper, is coming soon.
- Lessons learned from first labs transitioning over to 2017 standard are being captured to assist other labs facing the transition.
- Consultant (Yvonne Salfinger) is working with 10 laboratories towards ISO17025 accreditation.
- Continuing the Bioinformatics Training to help with the FDA Genome Trakr program.
- Working with FDA and the eLEXNET group on the possibility of a new data entry portal.
- Continuing work on Laboratory Curriculum Framework development, competency development, and beginning developing courses. A survey was sent to SME and laboratory contacts to assist in evaluation/validation in order to rate the appropriateness of the content for each entry level competency.
- Laboratories interested in hosting a *GOOD* Test Portions training should contact Nancy Thiex or Robyn Randolph. There is funding available for some training.

4.) State Laboratory LC/MS Capability Survey – Dr. Scott Teeter, Elanco Animal Health

- In 2011, there was a survey of State lab LC/MS capabilities. Several labs were developing LC/MS methods for drugs in feed; FDA/CVM requires assurance that state labs have, have access to, or a way to conduct LC/MS or LC/MS/MS methods before approving those methods, to ensure drug methods could be conducted by state labs if they are approved by CVM. In the 2011 survey, 27 US labs, plus Canada, responded. Since the meeting, a new survey was developed and was posted on AGLabs List Serv on February 28, 2019. The survey will support and guide the development of new methods.

5.) Moisture Best Practices Workgroup - Teresa Grant, Michael Richardson, Lawrence Novotny, Bozena Draczynska-Lusiak

Two studies were presented at this meeting by Michel Richardson and Bozena Lusiak. Each looking at comparing AOAC Karl Fisher (KF) (991.02) and AOAC Loss on Drying (LOD) methods for pet food and pet food treat samples in the 70-80% moisture range. The Karl Fisher (KF) method (991.02) is intended for samples in the 20-30% moisture range. One study showed that if you decreased the sample weight, the KF moisture values increased. The other study presented showed that extraction time and type of shaker makes a difference in moisture recovery with the overnight extraction and shaker giving the best results. It is recommended that the workgroup come up with an optimized KF method for wet pet food. Laboratory participation is needed to optimize the Karl Fisher method. Some questions remain about volume of sample and type of oven (i.e. convection). The objective is to find optimized conditions to present as best practices.

6.) Working Group updates

- a. Tylosin – Leo Shilling proposed that Tylosin should be removed from the methods needs list and the working group be dissolved. This would allow members to focus on new method needs. A discussion regarding this proposal led to laboratories reporting a sharp decline in requests for Tylosin analysis in each of their state labs. Colorado has seen a sharp decline in Tylosin samples – 0 last year, 1 in 2017; Kansas 2 in 2017 and 2018, Kentucky in 2017 and 2018. Sharon Webb said there had been a dramatic drop in Tylosin samples since the Veterinary Feed Directive (VFD) rules came into effect and that we may want to keep this in mind with the PT program as well. The members voted to disband the Tylosin WG which passed unanimously.
- b. CTC – Leo Shilling gave an update that this workgroup is close to forming a collaborative study group for the HPLC method with fluorescence detection.
- c. Fat soluble vitamins – Dorota Inerowicz, Michele Swarbrick and Ken Riter presented an update on this workgroup. Minnesota laboratory performed a study to measure particle size for guidance on the theoretical sample weight needed for analysis. Seven samples were received and they could visually see a difference. Michele presented that their lab removed cross-sections to view under the microscope. The range of particle sizes varied from <0.1mm to 1mm. The pre-mixes that were examined came from two different manufacturers. Microtrac Particle Analysis Lab performed particle size testing as well, but the results still need to be interpreted. Once the data is received from Microtrac, the minimum sample weight needed could be estimated and a single lab validation performed. Equations from Good Test Portions will be used to make these estimations, taking into account particle size, shape, density, etc.
- d. Multi-element metals – Robert Sheridan, Sharon Webb, Michele Swarbrick and LiseAnn Prescott reported that the Metals Working Group is currently working on a “Metals in Feed Guidelines”. The metals WG is meeting every 4-6 weeks and they are making good progress on the Good Practices for Elemental Analysis in Feed. The next chapter to work on is “Standards.” These best practices guidelines will be for ICP/OES and ICP/MS.
- e. Mycotoxins – Robert Sheridan, Sharon Webb, Kyle Bennett and Lei Tang
 - i. Dr. Liberty Sibanda from Radox Food Diagnostics gave a presentation on a multiplex mycotoxin assay using Biochip Array technology. This method has been validated using FAPAS Proficiency Tests samples and is published in the Journal of AOAC International Vol. 99, No. 4, 2016. Each test can analyze up to

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10 mycotoxins in a single run, single sample preparation. One test kit will contain 54 biochips for 9 calibration standards and 45 samples. Calibrations are good for 90 days. There is no sample clean-up and it takes ~30-minutes for sample preparation, the total time of analysis 2.5 hour including incubation and assay. In some instances, it has lower LOD than LC/MS/MS. The Z scores on FAPAS PT samples tested were in the -1 to -1.7 range. Each test costs much less than a sample ran using LC/MS. This method may be a good alternative for laboratories to test for mycotoxins in feeds and feed ingredients that may not have access to an LC/MS or cannot afford to run mycotoxins by LC/MS. Dr. Sibanda asked for laboratories that would be willing to test this biochip array technology in a structured study. Randox would provide the instrument, 1 test kit and training free of charge to participating laboratories. Several laboratories were interested in participating in the study. Kristi McCallum and Dr. Sibanda are coordinating the study to take place March-June. Samples for this study will be previously analyzed AAFCO PT mycotoxin samples. Results of the study will be given at the 2019 AAFCO Annual Meeting.

- f. Robert Sheridan reported that Romer/UK did a 31 lab validation for the LC/MS method that was published in 2015. It is on the AAFCO Feed Bin for download by laboratories interested. Robert Sheridan reported that he is looking in to the use of internal standards to improve the method. The mycotoxin WG is working on Best Practices for Mycotoxins by LC/MS.
 - g. Best practices for fiber and protein – Larry Novotny gave an update that the best practices guidance documents are available on the AAFCO website.
 - h. Laboratory Sampling – Nancy Thiex
Nancy Thiex reported that a small pilot study would be taking place on a sample preparation PT. Twelve laboratories are needed for this study. Please contact Nancy Thiex or Kristi McCallum if your laboratory is interested in participating.
- 7.) Quality Assurance Subcommittee – Srinu Chigurupati, Sharon Webb, Teresa Grant, John Szpylka and Kristi McCallum
John Szpylka gave a very informative presentation on the New Structure and Components of ISO/IEC 17025:2017 Standard. Dr. Szpylka presented the major difference between the 2005 versus the new 2017 standard. The broad picture is the same (reliable, defensible data), but the approach is different. In the 2005 standard, laboratories had to have fully documented, clearly defined procedures. The new 2017 standard is more flexible, less focused on the process outcome. If you were accredited to 2005, then 80% of the system elements comply with the new standard.
- 8.) Report on the AOAC Expert Review Panel on Sugars & Fructans – Nancy Thiex and John Szpylka
Nancy Thiex reported that a method was accepted as Official First Action (AOAC Method 2018.07) and the paper was published in JAOAC with supporting validation data. The method is based on 999.03 for Fructans Assay. Labs need to volunteer for the multi-lab two-year study validation. For the sugar profile, 3 methods were submitted to the call for methods, one of which was accepted as Official First Action. The sugar method was submitted with 130 pages of validation data (very thorough!) for a wide range of feed/food materials. The sugar method should appear soon in the OMA.
- 9.) Laboratory Needs Survey Results – Nancy Thiex



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The Laboratory Needs Survey was vetted and edited by the AAFCO Board of directors and Executive director. It was sent to the Feed Program with 36 responding and to the laboratory programs with 43 responding. It captured current capabilities, testing contracted and future testing needs as a result of FSMA and PCAF. Commonalities between the labs and feed program for method needs were the following:

Multi-analyte mycotoxins, vet drug residues, microbiological pathogens, vet drug formulation levels, multi-analyte pesticides and fat-soluble vitamins. Discrepancies between the Feed Program and the laboratory were reported as the Feed Program reporting the following: Prohibited materials, low level selenium, water soluble vitamins, amino acid profiles, dioxins and speciated metals.

10.) Method Needs Discussion – All Members and Advisors

Several members suggested that we need to review and update the current method needs statements posted on the AAFCO website. Method Needs Revisions/Ideas Discussed:

- Need to update the website to include method reference on completed methods
- Archive Carbodox, Bacitracin, MGA and Pyrantel tartrate from the website.
- Need to look at toxicity levels, not just LODs for some methods, like residue drugs. It may be helpful to look at the levels that Canada uses.
- Survey VFD Rules – Before and After (Aaron Price can resend the old survey and also look at the survey sent by the PT program) to get an idea of what laboratories are running or asked to run.
- Laboratories are not just seeing a dramatic decrease of VFD drug samples but they are seeing an increase in non-VFD drugs such as Lasalocid, Monensin and Decoquinatate.
- Dramatic decrease in CTC, OTC and Tylosin (VFD) across all state laboratories.
- APHL is drafting a survey of the feed laboratories to find out what their capabilities are.
- Consider getting some methods through other means than AOAC because of expense and time.

11.) Needs for Best Practices Guidelines – Lawrence Novotny

Moisture is being worked on. Nitrogen Factors, Fat, Fiber and Phosphorus Best Practice Guidances are finished and posted. Work on Minerals is underway by the Multi-element Metals Working Group.

12.) Update 2014 Quality Assurance/Quality Control Guidelines for Feed Laboratories to Comply with ISO17025:2017 Standard

A working group was formed to review and update the 2014 Quality Assurance/Quality Control Guidelines for Feed Laboratories. This new working group will review and update these guidelines to ensure the AAFCO QA/QC guidelines are in line with the new ISO17025:2017 standard to provide consistent, relevant guidelines to feed testing laboratories. The working group members are: Kristi McCallum, Sharon Webb, Gale Hagood, Sarah Dedonder, John Szpylka and Sally Flowers.

13.) Adjournment

Action Item Table

Responsible	Item #	Action	Timing / Status
K McCallum S Webb	2	Update committee roster based on recent changes and submit to AAFCO BOD	Submitted February 4, 2019
K McCallum S Webb	11	Initiate contact with and organize working group objectives, priorities and deadlines with members	Late Spring 2019



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Responsible	Item #	Action	Timing / Status
Dorota Inerowicz K McCallum S Webb N Thiex A Price	10	Get updated list of Methods Needs & Fitness for Purpose Statements to Jennifer Roland for AAFCO Website	End of 2019

Appendix

Attachments:

For a list of presentations given during this meeting, please see the AAFCO Laboratory Methods and Services committee website at the following link:

<https://www.aafco.org/Regulatory/Committees/Laboratory-Methods-and-Services#minutes>

Attendee List

Last Name	First Name	Affiliation	E-mail	Present
Bailie	Jenny	Milk Specialties	jbailie@milkspecialties.com	X
Bennett	Kyle	Neogen Corporation	kbennett@neogen.com	X - Advisor
Berg	Dan	Eurofins	dan.berg@eurofinsus.com.com	X - Advisor
Berry	Ametra	Georgia Dept of Agriculture	ametra.berry@agr.georgia.gov	X - Member
Blunt	Brittany	South Carolina Dept of Agriculture		X – By phone
Bowles	Elisabeth	Missouri Dept of Agriculture		X – By phone
Cox	Robin	Servi-Tech Laboratories		X – By phone
Crawford	Andy	Consultant	nutroandy@aol.com	X - Advisor
Flowers	Sally	Nebraska Dept of Agriculture	sally.flowers@nebraska.gov	X - Member
Gilbert	Kristen	New York Dept of Agriculture and Markets	kristen.gilbert@agriculture.ny.gov	X
Grant	Teresa	North Carolina Dept of Agriculture & Consumer Services	teresa.grant@ncagr.gov	X - Member
Guccione	Casey	Kansas Dept of Agriculture	Casey.Guccione@ks.gov	X - Member
Ha	Tai	Nebraska Dept of Agriculture	tai.ha@nebraska.gov	X - Member
Hagood	Gale	Mississippi State Chemical Laboratory	ghagood@mscl.msstate.edu	X - Member
Harold	Steve	Servi-Tech Laboratories		X – By phone
Haslag	Whitney	Missouri Dept of Agriculture	whitney.haslag@mda.mo.gov	X
Hill	Don	Pilgrim's	donald.hill@pilgrims.com	X
Horst	Jeff	Agri-King, Inc.	Jeff.Horst@agriking.com	X - Advisor
Huyghues-Despointes	Alexis	JM Smuckers	alexis.huyghuesdespointes@jmsmucker.com	X

Last Name	First Name	Affiliation	E-mail	Present
Inerowicz	Dorota	Office of the Indiana State Chemist	inerowic@purdue.edu	X – Member, Co- Chair
Johnson	Robin	Montana Dept of Agriculture	robinjohnson@mt.gov	X - Member
Johnson	Laura	AFB International	ljohnson@afbinternational.com	X
Kariuki	Solomon	University of Kentucky Div of Reg Services	skka222@uky.edu	X
Keavey	Brenda	West Virginia Dept of Agriculture	bkeavey@wvda.us	X
Kerner	Taylor	Nylabone	tkerner@centrul.com	X
Knapp	Brad	Wisconsin Dept of Agriculture		X – By phone
Koestner	Mary	Missouri Dept of Agriculture	mary.koestner@mda.mo.gov	X - Member
Leaphart	Adam	South Carolina Dept of Agriculture	aleaphart@scda.sc.gov	X
LeBlanc	Mark	Louisiana Dept of Agriculture	mleblanc@aqcenter.lsu.edu	X - Member
Levin	David	Eurofins Food Integrity & Innovation	david.levin@eurofinsus.com	X
Lucas	Patty	Florida Dept of Agriculture	patricia.lucas@freshfromflorida.com	X - Member
Lusiak	Bozena	Nestle-Purina PTC	Bozena.Draczynska-Lusiak@rd.nestle.com	X
McCallum	Kristi	Colorado Dept of Agriculture	kristina.mccallum@state.co.us	X – Member, Co- chair
Meissner	Lauren	Nylabone	lmeissner@tfh.com	X
Moore	Shane	Servi-Tech Laboratories		X – By phone
Moseley	Rebecca	Alabama Dept of Agriculture	rebecca.moseley@agi.alabama.gov	X - Member
Mostyn	Paul	Westway Feed	paulm@westwayfeed.com	X
Muenks	Quintin	Missouri Dept of Agriculture	quintin.muenks@mda.mo.gov	X – By phone
Nobo	David	Kansas Dept of Agriculture	david.nobo@ks.gov	X
Novotny	Lawrence	South Dakota - Retired	lawrence.novotny@sdaglabs.com	X - By phone
Percivill	Diamond	Office of the Texas State Chemist		X - By phone
Prescott	Lise-Anne	Canadian Food Inspection Agency	Lise-Anne.Prescott@inspection.gc.ca	X – Member By phone

Last Name	First Name	Affiliation	E-mail	Present
Price	Aaron	Canadian Food Inspection Agency	Aaron.Price@inspection.gc.ca	X – Member By phone
Randolph	Robyn	APHL	robyn.randolph@aphl.org	X
Reimann	Lars	Eurofins	larsreimann@eurofinsUS.com	X – Advisor
Richardson	Michael	Midwest Laboratories	mrichardson@midwestlabs.com	X
Riter	Ken	Nestle-Purina Analytical Labs	Ken.Riter@purina.nestle.com	X - Advisor
Rovney	Megan	Office of the Texas State Chemist		X – By phone
Royale	Randy	Servi-Tech Laboratories		X – By phone
Ruiz	Lisa	Eurofins NAC	lisaruiz@eurofins.com	X
Rygiel	Teresa	Florida Dept of Agriculture	teresa.rygiel@freshfromflorida.com	X - By phone
Salfinger	Yvonne	APHL	yhale@aol.com	X – By phone
Schilling	Leo	Eurofins Scientific	LeoSchilling@eurofinsus.com	X - Advisor
Sheridan	Robert	New York Dept of Agriculture and Markets Inspection	Robert.Sheridan@agriculture.ny.gov	X - Member
Sibanda	Liberty	Randox Food Diagnostics	Liberty.Sibanda@randox.com	X - Advisor
Smith	Lauren	University of Kentucky Div of Reg Services		X – By phone
Snodgrass	Brenda	Oklahoma Dep. of Agriculture Food & Forestry	brenda.snodgrass@ag.ok.gov	X - Member
Stadler	Taylor	Eurofins Food Integrity & Innovation	taylorstadler2@eurofinsus.com	X
Swarbrick	Michele	Minnesota Dept of Agriculture	michele.swarbrick@state.mn.us	X - Member
Swoboda	Christy	Romer Labs	christy.swoboda@romerlabs.com	X
Szpylka	John	Mérieux NutriSciences	john.szpylka@mxns.com	X – Advisor By phone
Teeter	Scott	Elanco	jsteeter@elanco.com	X
Thiex	Nancy	Life Member	Nancy.Thiex@gmail.com	X – Member By phone
Ware	Lee	Mississippi State Chemical Laboratory	lware@mscl.msstate.edu	X
Watkins	Victoria	Kansas Dept of Agriculture	victoria.watkins@ks.gov	X



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Last Name	First Name	Affiliation	E-mail	Present
Webb	Sharon	University of Kentucky Di. of Reg Services	sfwebb2@uky.edu	X – Member, Co-Chair
Weiss	Chris	IFPTI	chris.weiss@ifpti.org	X
Williams	Sara	Office of the Texas State Chemist	smw@otsc.tamu.edu	X – By phone
Zbornik	Jill	Tyson Foods	jill.zbornik@tyson.com	X