LMSC Working Groups

AAFCO Mid-year Meeting - Mobile AL January 19, 2022

Kristi McCallum, AAFCO LMSC Co-chair

Background –
In 2021, new LMSC working groups were established to address new priorities and method needs

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New Working Groups – how were these established?

- In 2020, Hazards and Contaminants Survey was sent to State Agriculture regulatory programs (results presented at 2021 AAFCO MY)

- Based on the Hazard and Contaminants survey results, a Laboratory Capability survey was sent to State Agriculture laboratories in 2021 (results presented at 2021 AAFCO Annual)

- The results of both surveys were used to create new LMSC working groups

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2022 LMSC Working Groups

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Introducing the 2022 LMSC WG…(light fanfare)

- Moisture
- Metals
- Mycotoxins
- Fat Soluble Vitamins
- Microbiological
- Toxins (Dioxin/Pentobarbital)
- Drug Residues
- Pesticide Residues
- Hemp*

*Need based on future State legislative addition of hemp in animal feed – presentation after this

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Structure and Priorities of each Working Group

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Moisture WG – Pet Food

- Lawrence Novotny is the Moisture WG lead
  - K. Broten, MN
  - C. Childers, MS
  - B. Lusiak, Nestle Purina Pet Care
  - B. Schuld, Eurofins
  - L. Tang, FDA
  - M. Dicken, Eurofins
- The next phase of the project will be to have labs analyze pet foods samples for moisture by Karl-Fischer titration using variations on solvent extraction techniques.
- WG can always use more people.
- If anyone is interested in becoming involved, please have them contact me at actup@brookings.net.

Metals WG – includes nutritional and toxic metals

- Dr. Sharon Webb is the Metals WG lead
  - M. Swarbrick, MN
  - W. Hoek, NY
  - M. Titley, CFI
- Continue to work on Best Practices – status of document?
- ICP methods
  - Collaborative study?
  - AOAC
  - Share method with other state labs that need it
- Training is needed for labs that need it – develop in-lab training and offer to State lab based on need
- ICP/MS for toxic metals – not all labs have this capability, may need methods from those that do, need training

Mycotoxin WG

- Need a lead volunteer for this WG
  - R. Moseley, AL
  - K. Gilbert, NY
  - D. Inerowicz, OISC
  - K. Bennett of Neogen no longer part of LMSC – will be replaced?
- Continue with Best Practices – status of document?
- Methods exist and most labs reported ability to analyze for mycotoxins routinely
- Training is needed for labs that need it – develop in-lab training and offer to State lab based on need
  - LCMSMS, HPLC
  - Randox
  - ELISA (Neogen)

Microbiological WG

- K. McCallum is lead
  - A. Swinford, FDA
  - D. Wu, OISC
  - L. Smith, UKY
- Microbiological methods are well established
- Method need for probiotics (lactic acid bacteria enumeration)
- Training is needed for labs that do not currently or are just starting microbiological analysis of animal food
- Resource sharing and help to labs is needed

Fat Soluble Vitamin WG

- D. Inerowicz and Dr. Ken Riter are Leads
  - S. Webb, UKY
  - D. Kondratko, CO
  - M. Swarbrick, MN
  - M. Koestner, MO
  - R. Johnson, MT
  - W. Li – OTSC
  - L. Novotny, SD (retired)
- Presentation by Dr. Ken Riter – updates on FSV WG

Toxins – Dioxin/Pentobarbital

- T. Phillips is lead – we need volunteers for this WG!
- Need methods to develop lab capability (FDA methods?)
- No labs (according to survey only) have this capability and/or methods
- Training will be needed once methods are established
- Lots of work to do here

Drug Residues

- L. Schilling is temporary lead – need lead that can commit (please)
  - J. Brunkhorst, Trilogy Labs
  - S. Chigurupati, FDA
  - T. Phillips, MD
  - BJ Bench, Tyson
- Methods are available and LMSC has had several presentations in the past on this topic
- Potential for QTOF screen?
- Determine method that is best suited?
- Best Practice document?
- Training is needed for labs that need it – develop in-lab training and offer to State lab based on need

Pesticide Residues

- K. McCallum, CO is lead
  - S. Flowers, KS
  - M. Swarbrick, MN
  - T. Phillips, MD
  - J. Verreth, MT
- Methods are available on LC/MS/MS and GC-MS/MS – most State labs have a pesticide residue program but may not have resources to test?
- Potential for QTOF screen?
- Determine method that is best suited – is this needed?
- Best Practice document
- Training is needed for labs that need it – develop in-lab training and offer to State lab based on need

Hemp in Animal Feed

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Background

- Currently, the use of hemp in animal feed is not allowed
- The Hemp Feed Coalition and other industry groups are advocating the use of spent hemp biomass in animal feed based because of the high protein, fatty acids, minerals and fiber. https://hempfeedcoalition.org/
- AAFCO Position Statement (excerpt)
  - "The emergence of animal food with hemp byproducts in the marketplace has accelerated with the passage of the 2018 Agricultural Improvement Act, commonly referred to as the "Farm Bill." While the 2018 Farm Bill expanded the legal production of hemp in the United States, the use of hemp and its byproducts in animal food fall under the jurisdiction of the Food and Drug Administration (FDA). In addition, lawmakers are being lobbied to consider legislation allowing the use of hemp in feed ingredients." https://www.aafco.org/Portals/0/SiteContent/Announcements/AAFCO_HempUpdate-9-21.pdf

- In 2015, AAFCO asked the hemp industry to submit/present information and/or data for scientific review that could be used to establish definitions for animal foods to ensure the safety of the ingredient for the intended use and intended species.
  - To date, the industry has submitted data related to the use of hempseed cake in laying hens; the data is under review as of September 2021.
  - https://www.aafco.org/Portals/0/SiteContent/Announcements/Guidelines_on_Hemp_in_Animal_Food_July_2020.pdf

- AAFCO hopes more data will be submitted for additional hemp by-products such as hemp oil, meal and whole hemp seeds for additional animal species.

Potential Impact on Testing Laboratories

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Proactive Steps by LMSC

- Bring awareness to laboratories on the issue itself and provide updates during LMSC meetings so that laboratories are well-informed
- Discuss the need for methods to analyze animal feed for THC and cannabinoids
- Form a LMSC Hemp WG to begin method validation or matrix extension method validations for existing methods
- LMSC co-chair has already reached out the APHL to assist with these efforts

Thank you!
Stay safe and well ☺

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