

## REPORT OF THE USAHA/AAVLD COMMITTEE ON ENVIRONMENT AND TOXICOLOGY

Co-chairs: Dr. Gary Osweiler, IA  
Dr. Wilson Rumbleha, MI

David C. Ailor, DC; A. Catherine Barr, TX; Karyn L. Bischoff, NY; Tim J. Evans, MO; Frank D. Galey, WY; Tam Garland, TX; L. Wayne Godwin, FL; Ramesh C. Gupta, KY; Jeffery O. Hall, UT; Jeffrey J. Hamer, NJ; William R. Hare, MD; John P. Honstead, CO; Steve B. Hooser, IN; Laurent O'Gene Lollis, FL; Randall A. Lovell, MD; Travis P. Mays, TX; David L. Meeker, VA; Gavin Meerdink, IL; Michelle S. Mostrom, ND; Lee M. Myers, GA; Eileen N. Ostlund, IA; Elizabeth J. Parker, DC; Robert H. Poppenga, CA; John Rathje, IA; Jane F. Robens, MD; Nick Schrier, CAN; Lori Smith, KY; Patricia A. Talcott, WA; Kerry Thompson, DC; Larry J. Thompson, MO; Gary M. Weber, MD.

The Committee met on November 13, 2010 at the Minneapolis Hilton Hotel in Minneapolis, Minn., from 3:30 to 6:30 p.m. There were 20 members and 16 guests present.

Dr. Rumbleha called the meeting to order at 3:30 p.m. and indicated the meeting agenda was available at the back table and that the only change to the agenda was that Dr. Christopher Melluso (instead of Dr. Randall Lovell) would provide the Report on Adverse Food Events to the FDA.

Dr. Rumbleha also indicated that a sign-in sheet was available. The following 36 attendees signed the sign-in sheet:

Ahna Brutlag, Pet Poison Helpline; Anita Kore, 3M (Minnesota Mining and Manufacturing); April Hodges, FDA/CVM/Division of Surveillance; Birgit Puschner, University of California at Davis; Bob Poppenga\*, University of California at Davis, CAHRS; Brent Hoff\*, University of Guelph; Catherine Barr\*, Texas Veterinary Medical Diagnostic Laboratory; Chris Melluso, FDA/CVM/Division of Surveillance; Cynthia Gaskill, University of Kentucky, Veterinary Diagnostic Laboratory; Dick Huston; Dwayne Hamar\*, Colorado State University, Veterinary Diagnostic Laboratory; Elizabeth Krushinskie, Mountaire; Frank Wilson, USDA; Gary Osweiler\*, Iowa State University; Gavin Meerdink\*, retired from University of Illinois; Glenda Davis; Jeffery Hall\*, Utah State University; Joe Kendall, Edmonton, Alberta, Canada; John Reagor\*, Texas Veterinary Medical Diagnostic Laboratory; Josh Oliver Karyn Bischoff\*, Cornell University; Larry Thompson\*, Nestle Purina; Lori Smith\*, University of Kentucky, Veterinary Diagnostic Laboratory; Michelle Mostrom\*, North Dakota State University, Veterinary Diagnostic Laboratory; Mike Murphy, FDA/CVM/Division of Surveillance; Nick Schrier\*, University of Guelph; Paula Imerman, Iowa State; Ramesh Gupta\*, Murray State University, Breathitt Veterinary Center; Randall Lovell\*, FDA/CVM/Division of Animal Feeds; Sandra Yi, University of Illinois, Veterinary Diagnostic Laboratory; Steve Hooser\*, Purdue University, Animal Disease Diagnostic Laboratory; Tam Garland\*, Texas Veterinary Medical Diagnostic Laboratory; Travis Mays\*, Texas Veterinary Medical Diagnostic Laboratory; Walter Hyde, USDA/APHIS; William Hare\*, USDA/ARS; Wilson Rumbleha\*, Michigan State University, DCPAH

\* denotes Committee Member

Dr. Steven Halstead, State Veterinarian of Michigan, presented "Kalamazoo River Oil Spill and the Livestock Industry: Perspectives from the State Veterinarian." Dr. Halstead chronicled the local, state and federal efforts following the breakage of a pipe line owned by Enbridge Energy Partners on July 26, 2010 and the subsequent leakage of approximately 800,000 to 1,000,000 gallons of crude oil into the Kalamazoo River. This oil spill affected approximately 25 miles of shore line from Telmidge Creek (a tributary of the Kalamazoo River) to the Morrow Pond Dam across the Kalamazoo River. Dr. Halstead provided several slides on the efforts to capture and save wildlife (Canadian geese, muskrats, turtles, beavers, opossums, raccoons, rock doves, meadow voles, etc.) that were covered with crude oil. The Kalamazoo River is still closed for use as a water source for livestock, for fishing, and for recreational use by the public. Testing of fish and other wildlife and of river and ground water for the various fractions of the crude oil (including volatiles) continues. The current estimated cost for the cleanup of this oil spill is 400 million dollars.

Dr. Randall Lovell presented "Update on New Guidelines for DON (vomitoxin or deoxynivalenol) in Feedlot and Dairy Cattle." Dr. Lovell summarized 4 published studies which showed that feeding a complete diet containing 10 ppm DON on an 88% dry matter basis did not produce any adverse effects in feedlot cattle, pregnant heifers, and lactating beef cows. Based on these 4 studies and a review of published residue studies of DON and its metabolites in tissues and milk, FDA increased its 1993 advisory levels for DON in feedlot cattle, beef cattle, and dairy cattle older than 4 months. These new advisory levels for DON in grains, grain by-products, distillers/brewers grains, gluten feeds/meals and total cattle rations are found at <http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/NaturalToxins/ucm120184>

Dr. Christopher Melluso presented "Report on Adverse Food Events to the FDA." Dr. Melluso presented background information about the RFR (Reportable Food Registry) and the number of reports received by the FDA during the first year this system was operational. Dr. Melluso also provided the major website – [www.fda.gov](http://www.fda.gov) – for people to use to access the RFR.

Dr. Rumbelha led the "Roll Call: Mycotoxin Reporting from the States." Slightly to moderately elevated levels of DON and zearalenone were reported in corn, wheat and/or barley and their byproducts from several northern US states and southern Canada this year. Aflatoxin was the predominant mycotoxin of concern in corn, cottonseed and grain sorghum from drought stricken portions of the southern U.S. Elevated ochratoxin A levels were reported in 3 horse feed samples. Elevated DON levels were associated with feed refusal in swine. Elevated fumonisins (76 ppm) were found in donkey feed that was associated with a case of ELEM (equine leukoencephalomalacia). High ergovaline levels along with 6-12 ppm DON were reported in dairy cattle feed in herds with lower than normal milk production.

Dr. Michael Murphy presented "Drugs Used to Treat Animals with Toxicoses." Dr. Murphy presented information on the 7 drugs that are approved by the FDA to treat toxicoses in animals. Information on the prevalence of toxicoses, on what is a drug, and on extra label drug use requirements (labeling, record keeping, compounding, etc.) were just some of the data provided.

Dr. Catherine Barr presented "Laboratory Current Testing Capabilities." Dr. Barr had an excel file that provided a database of the analytical toxicology tests performed by most of the diagnostic labs in the US as well as contact information for the labs. Items that need to be updated in a timely manner in this database include the prices charged for these tests, especially for out of state clients, along with the instrumentation used for each test. Dr. Barr indicated that a form provided by Dr. Beth Lautner deserves consideration for use when entering information into this database in the future.

Dr. Catherine Barr and Dr. Walter Hyde presented "Update on Proficiency Testing (PT) and Potential Role of NSVL in PT." Dr. Barr indicated that almost all of the 23 diagnostic labs that responded to a recent survey were able to analyze for metals in various matrices. Fourteen of these labs analyzed for vitamin E in serum. Eight labs analyzed for anticoagulants and eight labs checked for ocular nitrate/nitrite levels. Six labs conducted a GC/MS organic screen. Dr. Barr indicated that Dr. Hall from Utah State University was getting set up to send out a liver sample for a proficiency test on copper in the near future (likely in January 2011). Dr. Hall indicated that the proficiency test may also ask labs to check for vitamins A and/or E in the freeze dried liver samples they received. There was discussion from the attendees to provide not only the analytical results from this proficiency test, but also to include the toxicological assessment of these results from each participating lab.

Dr. Walter Hyde indicated the NVSL wants to build closer relationships with the diagnostic labs and is quite interested in being a non-involved facilitator of this proficiency testing (PT) because the PT program is quite valuable in supporting accreditation and for obtaining/maintaining ISO17025 certification. Dr. Hyde also is interested in working on a multi-institutional proposal for providing training opportunities for toxicology interns/residents. Dr. Hyde indicated there are funding challenges for both the proficiency testing and the training opportunities, but believes the USDA, FDA, NIH and/or user fees are funding sources that need to be contacted/considered.

Dr. Gary Osweiler presented the "Annual Toxicology Reporting Proposal." Dr. Osweiler indicated this is a voluntary system and the information is presented in a manner so that states/producers cannot be individually

identified. Dr. Osweiler discussed some of the issues and problems with a retrospective survey and hopes that one day a prospective study where toxicology results are reported annually can be developed. Dr. Osweiler indicated that state veterinarians may be able to provide valuable assistance in some toxicology cases.

Dr. Wilson Rumbelha presented "State Reporting Requirements for Toxicology and Associated Issues." Dr. Rumbelha led the discussion on differences in reporting requirements for toxicology cases between states and on confidentiality issues of reported results. Dr. Hall discussed the difficulties involved when a diagnostic lab receives samples from another state and there are not uniform reporting requirements between these states. If the samples had originated in Utah, then Dr. Hall would have been required to report the results to the state veterinarian, but since these results were not reportable in the other state Dr. Hall was bound by the confidentiality requirements in that state. Dr. Murphy indicated that Minnesota recently added toxicoses in food producing animals as reportable events to the state veterinarian and that the model veterinary practice act is being reviewed by the AVMA. Several attendees indicated that the development of model language for the reporting of toxicological events would be of value.

Following a 5 minute break, there were 22 members present for the business portion of the committee meeting, which was led by Dr. Osweiler.

Dr. Osweiler first indicated that members of a joint committee are approved by the executive boards of both groups. Chairs of Joint Committees are appointed by the presidents of both groups in consultation with committee chairs in their respective organizations. Chair terms are not more than 5 years. Only committee members can introduce resolutions or vote on items of business. Committee reports are submitted to the Board of Directors and resolutions are submitted to the Committee on Resolutions and Nominations. Chairs of Joint Committees appoint subcommittees as necessary.

### **Committee Business**

**Old Business.** The committee name has been finalized and is the USAHA/AAVLD Committee on Environment and Toxicology. This joint committee needs to develop a mission statement. The mission statement for the USAHA Committee on the Environment was presented. No one knew of any mission statement for the AAVLD Committee on Mycotoxins and Veterinary Analytical Toxicology. The mission statements between these 2 committees need to be melded into a new mission statement for this joint committee.

**New Business.** Dr. Osweiler presented a rough first draft of a mission statement for this joint committee and it was soon realized that a subcommittee needed to be formed to develop a mission statement. Dr. Jeffery Hall moved and it was seconded by Dr. Rumbelha that Dr. Larry Thompson, Dr. Bob Poppenga, Dr. Dwayne Hamar and Dr. John Reagor be recommended to serve on the Mission Statement Subcommittee to the Presidents of the USAHA and AAVLD. Following discussion, this motion was approved by a unanimous voice vote.

Several members indicated that a Proficiency Testing Subcommittee deserved consideration. Dr. Larry Thompson moved and Dr. Brett Hoff seconded that Dr. Catherine Barr, Dr. Nick Schrier, Dr. Jeffery Hall and Dr. Walter Hyde be recommended to serve on the Proficiency Testing Subcommittee to the Presidents of the USAHA and AAVLD. During discussion of this subcommittee it was indicated that this subcommittee should consider proficiency testing in as broad a manner as possible and that issues related to toxicology reporting (model language for reporting of toxicological events, QA/sample exchange, etc.) should also be addressed by this subcommittee. Following discussion, this motion was approved by a unanimous voice vote.

Dr. Hall indicated that he planned to develop a resolution to present to the joint committee next year on the importance of uniform state/provincial requirements for the reporting of toxicants. Dr. Rumbelha and Dr. Hoff indicated they would like to join Dr. Hall on this informal working group.

Dr. Reagor moved and Dr. Thompson seconded a motion to adjourn. Following discussion, this motion was approved by a unanimous voice vote.