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The Committee met on October 2, 2011 at the Adam's Mark Hotel in Buffalo, New York, from 12:30 p.m.-5:00 p.m. There were 39 members and 15 guests present.

USDA-APHIS Report Johne's disease Program Updates for FY 2011

Michael Carter, USDA-APHIS-VS

In FY 2011, as of August 25th, State reported activities included 105,042 cattle tested by serum ELISA, 64,792 cattle tested by milk ELISA, and 11,530 cattle tested by fecal culture or PCR. There were 4,145 enrolled herds (3,418 dairy and 727 beef) of which 322 are test negative herds (196 dairy and 126 beef). Herds enrolled as test negative herds are progressing through to level 4. There are 84 Johne's program level 1 (52 dairy and 32 beef), 102 Johne's program level 2 (57 dairy and 45 beef), 23 Johne's program level 3 (9 dairy and 14 beef), and 113 Johne's program level 4 herds (78 dairy and 35 beef). This represents an overall continuing decline in most categories.

In FY 2011 USDA-APHIS-VS received \$3.4 million for Johne's disease activities. This continued reduction in federal funding has resulted in a change in focus for the program. Current VS Johne's disease program objectives include: (1) maintaining the uniform program standards for the Voluntary Bovine Johne's Disease Control Program; (2) conducting laboratory approvals through the National Veterinary Services Laboratories; (3) vaccine and test kit approval and monitoring through the Center for Veterinary Biologics; and (4) supporting educational and outreach activities.

National Johne's Working Group (NJWG) Report

Jamie Jonker, National Milk Producers Federation, and Chair.

This report is included at the end of this Committee Report.

JDIP Education Update - Multistate Initiative

Ken Olson, Johne's Disease Integrated Program

JDIP Outreach activities, future plans and preliminary results of a survey on state activities were highlighted. JDIP held its 2011 annual conference in conjunction with the Joint Annual Meeting (JAM) of the American Dairy Science Association and the American Society of Animal Science. This was the second time this has been done. The JAM provides JDIP with greater visibility and assures that the 23 abstracts presented in oral and poster sessions will have international distribution. They are also available on www.jdip.org. During the past year JDIP also used displays to reach audiences at the JAM, AABP and USAHA meetings. Trade media contacts were made at World Dairy Expo and collaborators assisted in distributing information to attendees. Three educational modules on milk ELISA (Basics, Field and Lab Technicians) were recently released in collaboration with National DHIA and the vet school at the

University of Wisconsin. Funding is being sought to complete another module for on-farm risk assessments. JDIP representatives visited congressional staff in September to voice support for agricultural research funding and share information on JDIP as an example of the effective use of funds as well as the need for on-going funding. It was noted that JDIP is in its final year of funding under the existing USDA-NIFA CAP grant. Plans are underway, and support was requested, for establishment of a multi-state initiative on mycobacterial diseases (Johne's and bovine TB) that could at a minimum help maintain the existing JDIP research and outreach network. Preliminary results were presented on a survey of state designated Johne's coordinators (DJC) relative to current state programs. Funding cuts are having a major impact in many reporting states with several indicating the program was basically on hold. On the positive side, five states reported receiving state funds that help support program activities and milk ELISA use through DHIA continues to increase. A final note was the need for greater dialogue between state officials; industry and academia on ways to move forward even with reduced funding.

National Johne's Disease Education Initiative

Teres Lambert, NIAA

The National Johne's Disease Education Initiative continues to directly and indirectly help educate producers about Johne's disease. The following tactics were carried out between April and September 2011:

- Researched, wrote and disseminated spring and summer issues of the dairy and beef e-newsletters (One national copy of each issue is disseminated to targeted national audiences, including breed associations and cooperatives, and is posted on the NJEI website and 50 state-customized copies are sent to respective state DJC contact for dissemination within states and posted on state websites).
- Updated Short Guidelines for Dairy and for Beef and included these with the summer newsletters. Updated and redesigned "How to do Risk Assessments and Develop Management Plans for Johne's Disease" to reflect revised Voluntary Bovine Johne's Disease Control Program.
- Rewrote Handbook for Veterinarians and Beef Producers and the Handbook for Veterinarians and Dairy producers, reflecting changes to the updated Voluntary Bovine Johne's Disease Control Program. Designed Handbook to increase eye appeal and readability. (Major project involving Dr. Patton, Dr. May, Dr. Wheeler and USDA/APHIS/VS, with nine versions before approved.)
- Reprinted dairy version of Johne's prevention/control brochures and the sheep Q&A booklets.
- Attended Agricultural Media Summit and interacted with media to encourage increased visibility about Johne's disease. Excellent response from media.
- Updated National Johne's Disease Education Initiative logo to reflect inclusion of "Disease" in the name. Adjusted all items that carry this logo: PowerPoint template, newsletter templates, letterhead, etc.
- Maintained and updated the Johne's Education website: www.johnesdisease.org. Website is averaging 63 different visitors per day, going to an average of seven pages per visit.

USDA-APHIS-VS-NVSL Serum and milk check test results

Jeff Nelson, USDA-APHIS-VS-NVSL

In 2011, 84 laboratories (11 international and 73 USA laboratories) took the Johne's disease serologic proficiency test and 48 laboratories took the Johne's disease milk ELISA proficiency test. This year NVSL approved 35 labs to perform the Prionics ELISA and 49 labs to perform the IDEXX ELISA for serum testing. NVSL also approved 48 labs to perform the milk ELISA. It was noticed that there was a decrease in the number of individuals that are approved to perform the Prionics serologic ELISA, 41 in 2011 vs. 52 in 2010. We saw a slight decrease in the number of labs approved for the milk ELISA in 2011 compared to 2010, 48 vs. 50.

USDA-APHIS-VS-NVSL fecal check test results

Suelee Robb-Austerman, USDA-APHIS-VS-NVSL

In 2011, 62 laboratories (6 Canadian, 3 European Union, 1 New Zealand and 52 USA laboratories) took the Johne's disease fecal proficiency test, similar to 2010 number of 61. This year, we approved 48 labs for direct PCR, compared to 50 in 2010. Twenty-nine laboratories were approved for liquid media, unchanged from 2010. We saw a slight decrease in the number of labs approved for solid media, 21 vs. 23. We continue to see an increase in the number of labs that take and pass the pooling assay, 62 in 2011 vs. 52 in 2010. False positive results with direct and confirmatory PCR continue to be the major cause of inaccuracy and failure.

National Demonstration Herd Project Update

Charles Fossler, USDA-APHIS-VS-CEAH

The National Johne's Demonstration Herd Project (NJDDHP) in the United States was initiated to evaluate the long-term feasibility and effectiveness of management-related practices designed to control Johne's disease on dairy and beef cattle operations. The NJDDHP was started in 2003, but final herd enrollment numbers were not reached until 2005. Participation required a risk assessment and herd testing to be completed for each herd on an annual basis. Data collection for all herds ended in September 2010. Analysis on the final data is ongoing at the Centers for Epidemiology and Animal Health and at four universities. At least five years of test results were collected from 58 dairy herds and 19 beef herds at the conclusion of the project. Results to date indicate that, for both beef and dairy herds, prevalence of *Mycobacterium avium* subspecies *paratuberculosis* (MAP) in the third through seventh years of participation was significantly lower than prevalence during the first year of participation. Analysis on the final data set using Poisson regression was undertaken to identify areas from the risk assessment most important with regard to MAP prevalence in dairy herds. This analysis showed that high risk scores for feeding pooled colostrum to calves, possible manure contamination of milk or colostrum, and additions obtained from non-tested herds were associated with a greater risk for cattle to be MAP-positive. These results suggest that management efforts initiated since the beginning of the project have been effective in reducing MAP prevalence. Results also suggest that avoiding the feeding of pooled colostrum, avoiding manure contamination of milk or colostrum fed to calves, and obtaining additions from herds known to be test-negative should receive primary consideration with regard to control of Johne's disease on dairy operations.

JDIP Diagnostics and Vaccination Update

Scott Wells, University of Minnesota

JDIP Community-Based Test Evaluation Project

Comparing diagnostic tests for Johne's disease has always been challenging. JDIP is working to address the challenges that exist on two fronts. The initial effort focused on developing a modified version of the Standards for Reporting of Diagnostic Accuracy (STARD) that is relevant to paratuberculosis (Johne's disease) in ruminants. The new guidelines, called STRADAS-para TB, (Standards for Reporting of Animal Diagnostic Accuracy Studies for paratuberculosis) were published in the August issue of the journal Preventive Veterinary Medicine (volume 101:18-34).

The second portion of the project is now underway under the direction of Ray Sweeney (U of Penn) and Murray Hines (U of GA, Tifton Diagnostic Lab) and will include a "head-to-head" comparison of diagnostic tests. Goals of the project are to: 1) create a repository of well-characterized samples for use in the studies of Johne's disease diagnostic test accuracy; and 2) use samples collected to create the repository to compare performance of multiple diagnostic tests for paratuberculosis in dairy herds. Holstein herds participating in Dairy Herd Improvement Association (DHIA) system and not using paratuberculosis vaccine are eligible for inclusion in the study. Eligible animals in these herds will be those in lactation 2 and greater, and lactating at the time of sample (milk, feces and serum) collection. Infected and non-infected herds will be included in the study.

Once all the samples have been banked in the repository, test sets will be sent to the four laboratories that are participating in the head-to-head comparison of tests:

- Antel BioSystems – Serum ELISA and milk ELISA
- Cornell Animal Health Diagnostic Center – TREK and qualitative PCR
- Johne's Research Laboratory (U of Penn) - HEYM and Tetracore PCR
- Johne's Testing Center (UW-Madison) – MGIT

Results will be available in 2012. Samples in the repository will be available for future use by other researchers.

The APHIS-JDIP Vaccine Project

There is a strong interest among many producers and veterinarians in having a more effective vaccine available to help combat Johne's disease. The JDIP Vaccine Project, sponsored in part by USDA APHIS VS, was established to help in this effort. The objective of the project is to gather candidates showing vaccine potential and submit each to a consistent, rigorous, three phase screening process designed to identify those with the greatest potential for commercial development. The first two phases are now complete. Of the eighteen knockout mutants submitted, eight were identified as having the best attenuation in the macrophage portion of study and were moved into Phase II, the mouse trial. The five mutants showing the best protection from challenge have now been moved forward into the final phase of the vaccine project, Phase III, the goat model. Phase III is being conducted in the lab of Dr. Murray Hines II at the University of Georgia. A total of 80 goat kids are being used on the five test and three control groups. Results of this work will be available next fall. Additional information about the project is available on the JDIP web-site (www.jdip.org).

DHIA QC Certification efforts

Jay Mattison, National DHIA

Jay Mattison reported on Dairy Herd Information Association quality control efforts in DHI laboratories performing Johne's milk ELISA testing.

Committee Business

Committee reviewed mission statement; motion passed by unanimous vote to maintain mission statement as written.

A motion was made and passed by unanimous vote to combine Johne's Committee and NJWG meetings into one meeting on Sunday afternoons for future USAHA meetings.

REPORT OF THE NATIONAL JOHNE'S WORKING GROUP (NJWG)

Jamie Jonker, Chair
National Milk Producers Federation

Scott Wells presented a review of the National Johne's Strategic Plan that was adopted in 2008. Mike Carter presented an update on the USDA program and future funding plans. Ken Olson reported on States activities with Johne's disease. Karen Jordan presented a summary from meetings with the key Congressional and Executive Branch representatives on Johne's disease. David Kelton gave an overview of the Canadian Johne's disease Control program. Jason Lombard discussed needs for the NAHMS 2014 Dairy Studies via conference call. Derek Belton gave an update on the New Zealand Johne's disease program. Ken Olson updated the group on DHIA initiatives with Johne's disease. The meeting closed with a group discussion on next steps in how to move the program forward with reduced funding for the program.