The Committee met on October 28, 2019 at the Rhode Island Convention Center in Providence, Rhode Island, from 1 pm until 6 pm. There were 54 members and 81 guests for a total sign-in of 135 participants.

The new chair, Linda Logan and vice chair Karyn Havas introduced themselves and welcome the audience. Three previous resolutions from 2018 were reviewed.

Time-Specific Paper.

There were no time-specific presentations this year because Juan Lubroth our invited speaker was also invited to be the plenary speaker

Presentations & Reports

FAO Global Response to African Swine Fever
Juan Lubroth
FAO CVO

Dr. Lubroth gave an overview of the many factors that lead to the introduction of ASF into Georgia in 2007 and the subsequent spread throughout Russia and other neighboring countries. The European countries are fencing off their countries to prevent movement of wild boars and feral swine whom are known to be carries of the virus and pose risk of introduction of the virus. This effectiveness of the fences in preventing large boars from digging under fences or breaking through fences remains to be seen. The recent appearance last year of ASF in Belgium is a mystery but maybe related to wild boar movement.
May focal populations of Chinese in large cities across the world demand food products from home and sometimes these products enter countries illegal, Case in point was the UK outbreak of FMD in 2001. The source of introduction of ASF into China is not known but may have been due to Chinese workers returning from Russia or Africa who brought back pork products. It is well known that ASF can remain viable for months in salt cured pork products. The virus can remain indefinitely in frozen infected pork products. The outbreaks in China have been extensive in all provinces and have lead to an estimated depopulation or death of over 250 million swine. Environmental impact of disposal of this large number of swine is staggering. Furthermore, the survival of ASF in meat and carcasses poses a huge risk and if improperly buried could continue to be a source of virus for many months. FAO has in very recent years stood up new ECTAD offices throughout the world thus giving FAO more of a presence on the ground for animal health assistance for countries needing assistance with TADs. The global turn-over of chief veterinary officers is estimated to be up to 30% a year. Therefore, there is a constant need for capacity building in countries where TADs are an issue and where veterinary infrastructures are weak. FAO has developed a number of media materials available electronically and in hard copy on issues related to farm biosecurity, carcass disposal and approaches to surveillance and disease control. ASF has spread rapidly in Asia and is causing economic havoc. The pressure of the Asia outbreaks are leading to new ASF vaccines appearing on the market and new methods for diagnostics and targeted control. The vaccine efficacies are not yet known. Rapid point of care (penside) diagnostics are being developed and validated throughout the world. ASF has disrupted trade of pork products and live animals and has caused devastating economic impact and soaring costs for meats especial for pork due to the shortages. Furthermore, pork products are being illegally exported from some countries that may be carrying ASF virus. The issue of swill feeding to swine is undoubtedly a continued high-risk practice that can lead to further outbreaks. Farm biosecurity practices and movement control are paramount to controlling the disease. The drop in the inventory number of swine is affecting food security in Asia.

**USDA APHIS IS Report on Activities in South Asia Perspective**

**Dr Conrad Estrada, USDA APHIS IS**

African swine fever (ASF) was reported in Vietnam in February of 2019, and spread rapidly in Vietnam and in other countries in South East Asia, including Cambodia, Laos, Burma, Philippines, and East Timor. Vietnam has been severely affected by ASF. It’s estimated that 5 million pigs have died or been depopulated because of ASF, out of a pre-outbreak pig population of 28 million. Unregulated trade with China has been identified one of the mayor risk factors for ASF translocation. Limitations on enforcement of border controls, and pig and pig product movement between provinces makes the work of the animal health authorities very difficult. There’s little knowledge on how to manage ASF, there are challenges to have a national disease database, and there’s a fragmented animal health structure. APHIS has identified three areas of cooperation with Vietnam. Animal disease management, development of surveillance tools, and enhancement of diagnostic capabilities. This complements other existing regional and country specific efforts to bring U.S. expertise to South East Asia, and also to find opportunities for the development of existing diseases control strategies in the US, including transmission studies, pathways analysis, diagnostic validation of new diagnostic and sampling techniques, and potentially vaccine field trials when a vaccine.

**FADRU FMD Research and African Swine Fever Vaccine Candidates**

**Dr. Luis Rodriguez**

**USDA ARS PIADC**

Dr Luis Rodriguez discussed foot and mouth disease (FMD) research conducted at FADRU and highlighted the virus-host interactions – persistence – transmission work conducted by J. Arzt and C. Stenfedt and their teams. He discussed the successes of the FMD-LL3B3D vaccine development conducted by E. Rieder and J. Hardham of Zoetis and that this would be the first FMD vaccine produced in the USA. Dr. Rodriguez reviewed the research of M. Borca and D. Gladue on African swine fever and their efforts to identify vaccine candidates. They are exploring live attenuated viral vaccines and subunit vaccines with accompanying DIVA diagnostic tests. They have licensed and are developing three vaccine candidates using different platforms.
Risk of African Swine Fever Virus in Imported Feed Supplements  
Dr. Scott Dee  
Pipestone Vet Service

Dr. Scott Dee presented compelling evidence that imported ingredients for animal feed could be a source of inadvertent exotic virus importation. Retrospective studies and epidemiologic evidence suggest that PEDV may have been imported into the US in this manner from a country that had PEDV. There is a growing body of evidence that soy meal is a good media for viral survival. Feed storage and manufacturing facilities could become contaminated with exotic viruses that subsequently could lead to the risk of disease outbreaks in US livestock. Research shows that ASF could survive for 30 days in soy-based products. We know the US imports soy products from infected countries such as China, Ukraine and Russia and these could pose risks. There is a growing body of experimental evidence suggesting that feed and feed ingredients (soy-based products in particular) may serve as vehicles for the transport and transmission of FADs such as ASFV. This ongoing work is the product of multiple research organizations over the past 5 years. The application of Responsible Imports across the swine industry is driving change in the management of this risk. A national (“CFIA-like”) program, based on policy, is needed to unite these independent efforts. In summary soy-based feed ingredients may be a vehicle of transmission – multiple research institutions are looking at this issue. Commercial companies are adopting responsible imports to minimize this hole in our biosecurity program.

FAO Update on Global Animal Health Programs for Transboundary Diseases  
Dr. Juan Lubroth  
UN FAO CVO

Dr. Lubroth explained the concept of the Global Framework for the Progressive Control of Transboundary Animal Disease. This was established as a result of the major outbreaks of Foot and Mouth Disease in UK, South America and was a partnership with the OIE and now serves as an umbrella approach to TAD threats. Further information on FMD was presented by the EUFMD. Veterinarians are working in many international organization. Dr Lubroth gave a brief FAO-GLEWS updates on RVF, ASF, AI, MERS, Ebola. He explained that now that Rinderpest was eradicated and the Rinderpest virus was being held in many laboratories across the world that there had been a major effort by FAO and AU IBAR to locate these labs and request all governments to either destroy the virus or send them to several selected locations for safekeeping. In Africa the location is PANVAC in Ethiopia. South Africa is the only known country to not have comply and continues to hold the virus in their veterinary research institute. The efforts to sequester the virus in safe locations have concentrated on Ministries of Agricultural holdings and it is not known about holdings of Ministries of Defense or Science and Technology. The recent FAO celebration of achievements listed the eradication of Rinderpest as the leading FAO achievement since its inception. Asia has many priority diseases including ASF, FMD, PPR, Hemorrhagic septicemia and HPAI. There have been massive vaccination programs for H5N1 but other H5 and H& viral types of emerged and are impacting production and health. In Africa recent issues with African horse sickness, equine influenza and strangles continue to impact equid populations across north and sub-Saharan Africa. Classical swine fever eradication continues in many South and Central American countries. Dr Lubroth mentioned the status of several South American countries but confirmed that the disease was still endemic in Cuba, Dominica Republic and Haiti, two countries that are very close to our door step.

Sudan is experiencing a confirmed outbreak of Rift Valley Fever in livestock and humans. The FAO, UNHCR and WHO are all assisting. Sadly humans remain the sentinels since surveillance in ruminants is so poor. The recent rains and floods are impacting this part of East Africa.

Dr. Lubroth highlighted recent missions in Asia to assist with African Swine Fever awareness and control. He shared some links to educational materials on emergency management and risk assessment developed by the FAO and partners.

Update on European Commission for the Control of Foot and Mouth Diseases (EUFMD)  
Dr. Fabrizio Rosso
FAO EuFMD

Foot-and-mouth disease (FMD) remains the first transboundary animal disease (TAD) threat to European livestock production. A single introduction usually has extremely serious, and frequently catastrophic, impacts. The European Commission for the Control of Foot-and-Mouth Disease (EuFMD), under a framework of co-ordination with European Commission (DG-SANTE), FAO and OIE, plays a significant role in reducing the risk and ensuring better preparedness for the Member nations. The EuFMD, one of FAO’s oldest Commissions, came into being in 1954, with the pledge of the six founding member nations to the principles of a coordinated and common action against Foot-and-Mouth Disease. The EuFMD has established an internationally respected capacity for efficient delivery of training and in-country support to FMD Progressive Control Programmes, and most recently, in modelling of FMD control measures to guide emergency planning.

At present EuFMD has 39 Member States with a workplan structured into three pillars:

- **Pillar I:** IMPROVE readiness for FMD crisis management by Members
- **Pillar II:** REDUCE risk to Members from the European neighbourhood through improved control in neighbouring regions
- **Pillar III:** SUSTAIN and support the GF-TADs Global Strategy against FMD

The EuFMD manages an innovative and over-expanding program of training courses (http://www.fao.org/eufmd/training/en/), which aim to build capacity in emergency preparedness for incursions of FMD into free countries. Furthermore, EuFMD training aims to equip veterinary services in countries not currently FMD-free with the skills needed for progressive control of the disease.

*Real time training* courses provide a unique opportunity to gain first-hand experience in the diagnosis and investigation of FMD outbreaks. Over 800 participants from more than 50 countries have benefitted from these courses since 2009. The Real Time courses play a vital role in developing a cadre of personnel who have seen field cases of FMD and have detailed knowledge of FMD diagnosis and outbreak investigation. Additionally, trainees play an important role in raising awareness of FMD through cascade training when they return to their home countries, promoting vital early detection of the disease.

The EuFMD has developed a new e-learning capacity (https://eufmdlearning.works/) which substantially increases the reach and depth of the training programme with several courses available for FMD free and endemic countries. These courses have also utilized new approaches to enhance access in areas of poor connectivity such as through establishing networks on Whatsapp for course delivery.

Specific assistance is provided to Member nations to improve emergency preparedness through the GET Prepared toolbox (tools to assess preparedness capacity and address gaps) and EuFMDiS (European Foot-and-Mouth Disease Spread Model). In addition, non-EU countries are supported to participate in the laboratory proficiency testing scheme (PTS) organized by the EU Reference Laboratory, to assess and prove their testing competences.

Under Pillar II, regular support is provided to European neighbouring countries in Middle East, North Africa and West Eurasia through workshops, training, diagnostic material and backstop support in order to assist their progression along the Progressive Control Pathway for FMD control and enhance early warning surveillance, notification and early response. A specific programme is implemented to assist integrated disease surveillance focused on specific risk locations in order to provide updated risk information, optimize the veterinary service resources and improve the effectiveness of control measures implemented.

Under Pillar III, a key feature of support to the GF-TADs FMD working group and global strategy is the development of a new system of PCP Support Officers (PSOs) who provide individual country support in PCP advancement. Improvements to surveillance in endemic countries are being promoted through increased use of lateral flow devices and environmental sampling and through the strengthened global surveillance support. A Public Private Sector Platform for vaccine security is being built to identify and promote solutions to improve security in access to effective vaccines.
Our programme, HOLD-FAST, has been endorsed for the period 2019-2023. It keeps the focus on FMD risk reduction and extends the scope of the preparedness and risk reduction activities to other TADs which pose an immediate threat to the member nations. The strategy will utilize the successful EuFMD training platform to cover the specificities of other TADs, and applies existing generic tools (spread modelling, simulation exercise support, and risk based surveillance) to improve preparedness for the additional threats. In the neighbourhood, early warning of FAST diseases should be greatly enhanced by multi-pathogen surveillance programmes in high risk hot-spots, and through support to greater networking between European and neighbourhood experts and reference centres. At global level, the EuFMD will continue to underpin the OIE and FAO (GF-TADs) Global Strategy, using its expertise in delivery of world-class online training programmes, and it is expected that these will catalyze development of training on Peste des Petits Ruminants and other TADs by GF-TADs partners.

**GAO Report: Foot and Mouth – USDA Response to a Potential Outbreak Could be Strengthened**

Dr. Christine C Feehan  
Government Accountability Office (GAO)

Since 2001, FMD outbreaks abroad have cost billions of dollars. A U.S. outbreak would likely halt exports of all livestock products, and could have serious economic consequences. GAO identified 11 areas of challenges that USDA would face in responding to an FMD outbreak, including surveillance, diagnostic capacity, depopulation, vaccination, and others. USDA has identified corrective actions to help address these challenges, through experience with outbreaks of other diseases, learning lessons from abroad, and conducting outbreak exercises. However, it has not followed its procedures for prioritizing the corrective actions and many remain incomplete. GAO recommended that USDA prioritize and monitor these corrective actions to track their completion.

**Classical Swine Fever in the Caribbean: A Risk to the Hemisphere**

Dr. Wendy Gonzalez  
DIGEGA, Dominican Republic

The Caribbean region has a high risk of diseases occurrence due to factors such as the increase of movement (tourism), vulnerability to natural disasters such as hurricanes and storms, the diversity of livestock production (backyard and industrial). Similarly, the lack of surveillance data and limited diagnostic capacity makes diseases control difficult in the Caribbean a region. The CaribVET is a structured network conformed by 34 countries and collaborating organizations. Its objective is to coordinate the most important activities for disease surveillance in the Caribbean region. Within its structure is the Swine Disease Working Group (SDWG), this is responsible for coordinating actions for the surveillance and control of the CSF in the affected Caribbean countries, as well as providing links with experts and specialized institutions. CSF is affecting in 3 countries in the region, Cuba, Haiti and the DR. Affected countries are taking actions for their control and subsequent eradication. However, challenges such as the presentation of different clinical signs and the presence of persistently infected animals make this objective more difficult to achieve. The CaribVET has projects to support countries in the surveillance of the CSF. Likewise, it is working on the coordination of actions to be taken in the region in the face of the threat of emerging diseases such as ASF.

**Update on Virulent Newcastle Disease Outbreak**

Dr. Amy Delgado  
APHIS IS CEAH

Virulent Newcastle Disease Virus has a long history in the U.S. First identified in 1944, the virus has caused several large outbreaks in Southern California with economic impacts ranging from 56 to 160 million dollars. In 2018, the virus was detected in backyard birds in Southern California leading to the implementation of vigorous control efforts including depopulation, quarantine, enhanced surveillance and epidemiologic trace backs, and significant efforts on education and outreach. To date, 471 cases of vNDV have been suspected or confirmed, which include 454 backyard exhibition bird premises primarily in
Alameda, Los Angeles, San Bernardino, Riverside, and Ventura Counties, CA. A total of 10 positive premises are commercial and backyard non-commercial laying chicken premises. As of Oct 8, over 1.2 million birds have been depopulated, with over 200,000 premises visits conducted and over 9,000 laboratory submissions. As of October 21, 2019, the last depopulation of an infected premises occurred on 8/31/2019. A series of epidemiologic investigations and studies were undertaken collaboratively with bird owners, State and university agriculture personnel, and the USDA’s Agricultural Research Service (ARS). Results from these investigations are available online: 

Genetic analysis supports a single introduction into California followed by secondary spread. Following introduction into CA, divergence of the virus into two sub-groups appeared early on and, where epidemiologic data is available, has been useful to gain insights on virus spread. Although geospatial clustering of virus sub-groups has been observed, the presence of different virus sub-groups in each of the major affected areas indicates virus movement within, and between, affected areas. The affected counties in CA have a high density of backyard flocks, but such flocks are not typically registered, and their exact locations are unknown. Using a Bayesian hierarchical model, previously identified socioeconomic and demographic variables found to be associated with urban poultry ownership were used to estimate the probability of backyard flocks in this area.

Further epidemiologic investigations were used to understand transmission within and between flocks in affected areas. Analyses of surveys conducted at case, control, and dangerous contact premises identified flock size, ownership of exhibition birds, high proportions of roosters in flocks, and the use of housing that allows contact with wild birds to be risk factors for vND in this population. An epidemiologic investigation into the 10 vND infected commercial and backyard noncommercial laying chicken premises and 28 control premises found that some factors and management practices were shared across infected farms; however, the significance of these similarities was difficult to interpret given the small number of infected farms and the study design. All cases and controls reported vaccination of their flocks for vND. To better understand the transmission dynamics of vND within flocks, experimental data available from peer-reviewed literature and unpublished data provided by the USDA, ARS, Southeast Poultry Research Laboratory (SEPRL) was used to estimate the mean latent period for this virus (0.40 days) and the mean infectious period (4.33 days) in unvaccinated birds. Based on these values, the estimated time to detect vND in an unvaccinated, 50-bird backyard flock based on observation of increased mortality (two or more dead birds within a 3-day period) is from 4 to 7 days. Building on this work, a stochastic within-flock vND transmission model was developed to predict the prevalence of infectious birds and cumulative mortality over time for both vaccinated and unvaccinated flocks. In large, vaccinated flocks, it may take 14 to 22 days after the onset of infectiousness for the cumulative mortality to reach 2% of the starting flock size. In contrast, in an unvaccinated backyard flock, a 50% cumulative mortality may be seen within a week. This information was used to help guide on-farm surveillance and monitoring efforts.

Release of control areas was completed in October of 2019, and sampling to support risk-based surveillance for disease freedom is currently on-going, in combination with discussions for longer term outreach and public education efforts in this high risk area.

National Bio and Agro-Defense Update
Dr. Kim Dodd
USDA APHIS VS PIADC

USDA APHIS Foreign Animal Disease Diagnostic Laboratory (FADDL) is a national and international reference laboratory for foreign animal diseases including foot and mouth disease, African swine fever and classical swine fever. FADDL is currently located on Plum Island; over the course of the next few years, it will transition to the new National Bio and Agro Defense Facility (NBAF). The new facility will support expansion of the FADDL mission to include emerging and zoonotic infectious diseases, including BSL4 agents. Throughout the transition, FADDL remains focused on enhancing foreign animal disease preparedness, with a current focus on expanding African swine fever diagnostic capabilities.

USDA ARS Foreign Animal Disease Research Strategies
Dr. Roxanne Motroni
**USDA ARS National Program Leader Animal Health**

Dr. Roxann Motroni, National Program Leader for Animal Health, USDA Agricultural Research Service (ARS) presented on workforce development efforts and workforce needs for the National Bio and Agro Defense Facility (NBAF) as well as for the ARS animal health program.

The USDA Agricultural Research Service serves as the intramural research arm of USDA. It houses 690 projects within 16 national programs and employs close to 2,000 scientists. The Animal Health National Program (NP103) delivers scientific solutions for animal health concerns. It currently has 38 projects ranging over 7 different research components and has an annual budget of $80.9M. There are currently 85 scientists within the Animal Health program and 99 students or post-docs currently in training within the national program. The NBAF program falls within the biodefense component of the ARS program along with the Southeast Poultry Research Laboratory (SEPRL), National Animal Disease Center (NADC), Arthropod-Borne Animal Disease Research Unit (ABADRU), Plum Island Animal Disease Center (PIADC) and the Animal Disease Research Unit (ADRU).

The ARS Animal Health science program aligns with the National Biodefense Strategy by ensuring a skilled work force with expertise on emerging diseases as well as laboratory facilities capable of handling high containment pathogens, this is highlighted by the construction of the NBAF facility as well as the modernization of SEPRL.

**FAO IIAD ISAVET Program for Targeted African Countries**

**Dr. Heather Engleking Simmons**  
**TAMU IIAD**

The ongoing challenge of Transboundary Animal Diseases (TADs), Zoonotic and Emerging Infectious Diseases (ZEIDs) has proven to be a stress test for veterinary epidemiology capacity, globally. More than half of the 108 OIE Member Countries surveyed have fewer than 35 public sector veterinarians per million inhabitants (Bonnet et al. 2011). Field veterinary epidemiologists equipped with animal health and veterinary epidemiology skills are needed across multiple livestock production systems and value chains. The Frontline ISAVET Program develops transferable and critical thinking skills in the veterinary workforce to deal with TADs and ZEIDs in a One Health approach. The program targets 8 core domains, 14 competencies and 51 skills to create animal-health specific frameworks for veterinary epidemiology capacity development. The program targets 14 Global Health Security Agenda (GHSA) countries in Africa: Burkina Faso, Cameroon, Cote d’Ivoire, Democratic Republic of Congo (DRS), Ethiopia, Ghana, Guinea, Kenya and Liberia.

Pilot trainings have been held in Uganda (English) and Senegal (French) for the 4-week course and 3-month in service training. In addition, pilots for the Training of Trainers (ToT) and Training of Mentors (ToM) will occur in Kenya (English) and Cameroon (French) in the 2019. Implementation and roll-out at the country level will occur in 2020 through 2021 to train over 800 veterinarians and veterinary paraprofessionals in Africa.

Resource materials developed include seven manuals (English and French) that provide input into the three components of the program: 1) trainee, 2) trainer, and 3) mentor. Monitoring and evaluation (M&E) has been conducted across all components of the program. The intent of the program are to reduce the impact of animal diseases (including zoonoses), assure consumer protection, increase efficiencies in animal production through reduction in losses and increase farmer income levels and promotion of safe trade.

**Committee Business:**

One resolution entitled ASF/CSF surveillance program and tissues for official surveillance program and tissues for official ASF testing in NAHLN laboratories was presented voted on and forwarded. We streamlined and focused the wording of the resolution.
The United States Animal Health Association urges the Animal and Plant Health Inspection Service (APHIS) to validate and approve the items listed below. Collectively, these efforts aim to enhance the cost-effectiveness, sustainability, and breadth of coverage provided by the ASF/CSF Surveillance Program.

USDA ASF/CSF Surveillance Program at USDA NAHLN Labs:

- Validate methods and implement a provision for using pooled samples for ASF/CSF PCR testing from case-compatible diagnostic case submissions.
- Revise the premises identification number (PIN) requirement so as not to exclude cases from the ASF/CSF Surveillance Program.

FAD diagnostic capabilities and capacities at USDA NAHLN Labs:

- Continue to expand the number of ante-mortem sample types (e.g., oral fluids, processing fluids, swabs, serum) approved for FAD diagnostic testing that are well suited for herd level detection and high-throughput test methods at veterinary diagnostic laboratories.
- Expand the number of assays, testing methodologies (nucleic acid and antibody detection, and sequencing analysis) and reagent supplier options approved for FAD diagnostic testing conducted at USDA NAHLN labs.

Two other resolutions were shared by the USAHA Committee on Animal Emergency Management but the committee felt one resolution on CWD was not our committee purview and the other resolution on poultry compartmentalization we referred to the Global Health and Trade committee. No formal action was taken.