

## USAHA/AAVLD COMMITTEE ON FOOD AND FEED SAFETY

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The Committee met on October 9, 2020 virtually, from 12:00 p.m. to 2:00 p.m. There were approximately 100 attendees present.

### Time Specific Paper

Megin Nichols, Centers for Disease Control and Prevention (CDC) presented a time-specific paper on Outbreak of Multi-Drug Resistant Salmonella Infections Linked to Contact with Pig Ear Pet Treats. The paper, in its entirety, is included at the end of this report.

### Vet-LIRN Update

Olga Ceric, Food and Drug Administration (FDA)

The Veterinary Laboratory Investigation and Response Network (Vet-LIRN) promotes human and animal health by collaborating with veterinary diagnostic laboratories to provide scientific information, build capacity for routine and emergency response testing, and promote professional development. The FDA Vet-LIRN Program Office has one director, four veterinarians, three consumer safety officers, one microbiologist, and one veterinarian liaison with Office of Surveillance and Compliance (OS&C). The Vet-LIRN laboratory network is composed of more than 40 state and university veterinary diagnostic laboratories in the U.S. and Canada.

Vet-LIRN investigates consumer complaints. Recent investigations have resulted in detecting excessive choline in cat food which resulted in a voluntary recall, excessive vitamin D in dog food products resulting and recalls, raw food recalls related to a variety of bacterial contaminants including *Listeria*, *Salmonella*, and Shiga toxin-producing *E. coli* (STEC) 0128, and continued investigation of dilated cardiomyopathy in dogs consuming "grain free" dog food products. Additionally, Vet-LIRN has organized several Proficiency Tests (PT) and Inter-Laboratory Comparative Exercises in 2020, including a liver aflatoxin International Collaborative Effort (ICE), campylobacter in dog feces ICE with polymerase chain reaction (PCR), an unknown toxicant PT, and SARS-COV2 ICE with PCR. Delays are expected for future ICE and PT programs due to COVID-19 response.

### Risk and Response to Disease Introduction Through Feed: The use of feed additives

Scott Dee, Pipestone Veterinary Service

Feed ingredients for swine, in particular soy, are imported into the U.S. from countries including China and Ukraine. Viral nucleic acids have been detected in commercial feeds, including porcine epidemic diarrhea virus (PEDV) [U.S.], Senecavirus A (SVA) [Brazil], and African swine fever virus (ASFV) [China]. Additives have the potential to reduce viral pathogen contamination of feed. Products from a dozen manufacturers were tested. Mitigated versus non-mitigated feed were fed to swine during the experiment period. Feed samples and antemortem and postmortem samples of oral fluid, tonsils, serum, and rectal swabs were taken from animals and body condition, mortality, and average daily gain were recorded.

Animals on mitigated feed had enhanced health and performance despite viral challenge, but FDA approval is needed.

### **Live Bird Markets and the Risk of Zoonoses**

Jarra Jagne, Cornell University

The first human cases of highly pathogenic avian influenza (HPAI) H5N1 were detected in Hong Kong in 1997 in 18 patients and six of them died. Chickens on farms and live bird markets (LBMs) identified as the primary source of the virus were depopulated in large-scale exercises. In 2003, the virus resurfaced again in Asia and by 2006 had reached 62 countries around the world. To date, 455 deaths out of 861 cases have been confirmed, producing a high case fatality rate of over 50%. Humans are infected from direct contact with virus in secretions or from blood and feces during slaughter and processing. The disease in humans is characterized by bilateral pneumonia and severe respiratory distress. Many studies have shown that HPAI viruses are common both in avian species and in the environment of LBMs. The high density of poultry and a variety of avian hosts allow LBMs to support and maintain amplification and dissemination of avian influenza viruses. HPAI H5N1 virus is endemic in Indonesia, Vietnam and Egypt. These countries have high risk factors such as the presence of many LBMs, having high domestic duck populations, large numbers of small flock owners and a poultry sector with complex value chains. In addition, live bird markets are not well organized into distinct and separate areas based on function and chickens and other avian species are sourced from numerous locations. Mixing of avian species in the same cage is common as is the lack of cleaning and disinfection. LBMs still pose a threat with the appearance of newer zoonotic viruses such as H7N9.

### **CDC's Food Systems Working Group: COVID-19 response, rolls, and resources**

Mary Pomeroy, Centers for Disease Control and Prevention (CDC)

The Food Systems Working Group (FSWG), a team within the Community Interventions and Critical Populations Task Force at CDC, describes their work within the COVID-19 response. The presenter discusses the FSWG's mission and objectives and highlights activities the group has been engaged in to supported efforts in slowing the spread of COVID-19. A brief review of various food systems-related tools and resources are provided, including guidance for meat processing workers, facility assessment checklists, and links to key CDC webpages.

### **Committee Business:**

The Committee discussed 2019 Resolution number 18 on valid sampling methods and protocols for feed and feed ingredients.

The Committee also discussed a future Salmonella symposia as part of the USAHA/AAVLD meeting, separate from the Committee on Food and Feed Safety.

Due to time considerations, the committee decided to continue business via email and future quarterly conference calls.

## **Outbreak of Multi-Drug Resistant Salmonella Infections Linked to Contact with Pig Ear Pet Treats** Megin Nichols, Centers for Disease Control and Prevention (CDC)

CDC, public health and regulatory officials in several states, and the U.S. Food and Drug Administration (FDA) Center for Veterinary Medicine investigated a multistate outbreak of multidrug-resistant human Salmonella infections linked to contact with pig ear pet treats. Salmonella strains included were Cerro, Derby, London, Infantis, Newport, Rissen, and I 4,[5],12:i:-.

Public health investigators used the PulseNet system to identify illnesses that may have been part of this outbreak. PulseNet is the national subtyping network of public health and food regulatory agency laboratories coordinated by CDC. Deoxyribonucleic acid (DNA) fingerprinting is performed on Salmonella bacteria isolated from ill people by using a standardized laboratory and data analysis method called whole genome sequencing (WGS). In this investigation, WGS showed that bacteria isolated from ill people were closely related genetically. This means that people in this outbreak were more likely to share a common source of infection.

A total of 154 people infected with the outbreak strains of Salmonella were reported from 34 states. Illnesses started on dates ranging from June 10, 2015 to September 13, 2019. Ill people ranged in age from less than one year to 90 years, with a median age of 40 years. Seventy (45%) ill people were female. Of 133 ill people with information available, 35 (26%) were hospitalized. No deaths were reported.

WGS was conducted to identify any predicted antibiotic resistance in 110 isolates from ill people and 102 isolates from pig ear treat samples. A total of 164 isolates had predicted antibiotic resistance or decreased susceptibility to one or more of the following antibiotics: amoxicillin-clavulanic acid (<1% of 164 isolates), ampicillin (53%), azithromycin (<1%), cefoxitin (<1%), ceftriaxone (<1%), chloramphenicol (33%), ciprofloxacin (50%), fosfomycin (2%), gentamicin (27%), kanamycin (2%), nalidixic acid (26%), streptomycin (33%), sulfisoxazole (30%), tetracycline (58%), and trimethoprim-sulfamethoxazole (27%). No antibiotic resistance was predicted for 48 (23%) isolates. Testing of 13 clinical isolates using standard antibiotic susceptibility testing methods by CDC's National Antimicrobial Resistance Monitoring System (NARMS) laboratory provided comparable results (fosfomycin and kanamycin were not tested by this method). If antibiotics were needed, infections related to this outbreak may have been difficult to treat with some commonly recommended antibiotics and may have required a different antibiotic choice.