



# SCWDS BRIEFS

A Quarterly Newsletter from the  
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## CWD News, May 2014

New chronic wasting disease (CWD) information has developed on multiple fronts since our last update in July 2012 (SCWDS BRIEFS Vol. 28, No. 2). On April 29, 2014, USDA-APHIS-Veterinary Services (APHIS-VS) finalized the 2012 interim final rule that established the voluntary CWD herd certification program to control the spread of CWD in captive and farmed cervids. Two changes were made to the interim rule in response to public comments: The final rule amended the definition of "herd plan" to indicate that such a plan will set out the steps to be taken to control the spread of CWD from a CWD-positive herd, rather than eradicate it; and a definition was added for a "recognized slaughtering establishment."

On May 9, 2014, APHIS-VS published its revision of the *CWD Program Standards* in the Federal Register. The program standards offer optional guidelines to facilitate compliance with the CWD final rule establishing the herd certification program. The revision contains four changes from the standards published for public comment at the end of 2013. More than 300 comments were received prior to the March 31 deadline. The changes that were made are: (1) APHIS is included as a signatory on herd plans for CWD-positive, -exposed, or -suspected herds; (2) the word 'restricting' replaced 'prohibiting' in the definition of quarantine; (3) owners are required to immediately report the entry of wild cervids into a captive cervid facility (in addition to escapes of captive animals as was required previously); and (4) APHIS also may make exceptions to testing requirements due to extenuating circumstances (in addition to appropriate state agencies as was previously indicated). The program standards will be reviewed at least annually and amended as necessary. More information on the CWD final rule and program standards can be found through <http://www.aphis.usda.gov/wps/portal/aphis/orfococus/animalhealth>.

Among free-ranging cervids, CWD has been detected in two new states, bringing the number of states in which CWD has been found in wild deer or elk to 18. In March 2013, the Pennsylvania Game Commission

announced there were three CWD-positive whitetails taken by hunters during the 2012 hunting season in Bedford and Blair counties. Three additional road-killed deer from Bedford County have tested positive since the initial announcement. It is believed that the disease spread from the area in West Virginia where CWD first was detected in wild deer in 2005 and appears to be endemic. The spread of CWD from this endemic focus to wild deer in nearby Maryland was reported in 2011 and in Virginia in 2010.

On April 9, 2014, the Iowa Department of Natural Resources announced that a wild deer from Allamakee County in the northeastern corner of the state had tested positive for CWD. It had been harvested by a hunter during the 2012 deer season. It is believed that the disease spread via movement of live animals from the CWD-endemic area in the adjacent portion of Wisconsin.

Among captive cervids, CWD has been found in two white-tailed deer herds in Pennsylvania and one in Wisconsin since our last update. In October 2012, CWD was found in a 3.5-year-old doe that died in a CWD-certified facility in Adams County, Pennsylvania, that had been monitored for more than five years. A second deer tested positive among the deer remaining in the facility, and one animal escaped during the depopulation procedures. The escaped deer was collected two months later, tested, and CWD was not detected in the animal. The subsequent epidemiological investigation resulted in quarantines on 32 Pennsylvania premises, and facilities in seven other states were impacted. One captive whitetail that escaped in 2012 from an Indiana facility that had imported it from Pennsylvania remains unrecovered.

In December 2013, the Wisconsin Department of Agriculture, Trade, and Consumer Protection announced the detection of a CWD-positive deer in a facility in Marathon County. This 5-year-old buck had been on the premises for 37 months, and another deer born in this facility tested positive for CWD earlier this spring according to Dr. Paul McGraw, Wisconsin State Veterinarian. The epidemiological investigation continues into this situation.

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In April 2014, the Pennsylvania Department of Agriculture announced that CWD had been detected in a 5-year-old captive whitetail that died on a farm near Reynoldsville. The epidemiological investigation is ongoing, but preliminary information provided by the Pennsylvania Department of Agriculture indicates that the positive animal had been acquired through the 2013 dispersal sale of a farm that had been monitored for CWD for over 10 years and had achieved certification status. Thirty-nine herds in Pennsylvania received 79 deer through the dispersal sale, and animals went to nine other states. According to Dr. David Griswold, Assistant Director of the Pennsylvania Bureau of Animal Health, one additional animal identified through the epidemiological investigation has tested positive for CWD in another Pennsylvania herd, which also has been dispersed. Animals from this herd went to at least four herds in Pennsylvania, as well as to three other states.

Regarding research, we will highlight just a few of the many developments that have occurred in the last two years, and include citations to the full papers. Two independent groups investigating the possibility that plants may take up CWD prions and play a role in the transmission of the disease have come up with differing results. One possible explanation for the differences could relate to methodology. A group in Wisconsin submitted an abstract for presentation at the 2013 annual meeting of The Wildlife Society, but it was not presented due to the government shutdown. The results of this study have yet to be published, but the abstract by Johnson et al. has received considerable attention. Using the model plant *Arabidopsis thaliana*, as well as alfalfa, barley, and tomatoes, the authors state that their results “*suggest that prions are taken up by plants and that contaminated plants may represent a previously unrecognized risk of human, domestic species and wildlife exposure to CWD and scrapie agents.*” However, a Canadian group, looking at wheat and using different methods to detect CWD prions concluded that results of their study suggest “*that if prions are transported from the roots to the stems it is at levels that are below those that are detectable by western blot, IDEXX or Bio-Rad diagnostic kits*” (Rasmussen et al, *Prion* 8(1):136-142, 2014).

Aerosol transmission of CWD to white-tailed deer was demonstrated experimentally using a prion dose 20-times lower than used in previous oral inoculation trials, suggesting that inhalation may facilitate the transmission of CWD and possibly other prion diseases (Denkers et al, *Journal of Virology* 2013 Feb, 87(3):1890-2). Using the Reeves muntjac deer as a model for mule deer and white-tailed deer, researchers demonstrated vertical transmission of CWD from doe to fawn and indicated that their results suggest that this transmission occurred *in utero*. The

authors also observed that maternal CWD infection resulted in a lower percentage of live-birth offspring (Nalls et al, *PLoS One* 2013 Aug 14, 8(8):e71844). (Prepared by John Fischer)

## Welcome to the Gene Pool

There has been an enormous surveillance effort in response to the perceived threat of a Eurasian highly pathogenic H5N1 avian influenza A virus (IAV) entering North America via wild birds. Fortunately, there has been no indication that the virus has been introduced, but we wonder what might happen to the virus if it did make it to our shores in migrating birds? Researchers at SCWDS recently looked at another IAV subtype to try to answer this question.

In 2010, scientists at The Ohio State University (OSU) reported the isolation of several H14 IAVs from long-tailed ducks and a white-winged scoter in Wisconsin. The H14 subtype initially was identified in 1982 from mallards sampled in the former Soviet Union by researchers with Saint Jude Children’s Research Hospital in Memphis, Tennessee, but a H14 IAV had not been isolated globally for almost 30 years. It is unknown where or how H14 viruses were maintained from 1982 to 2010, but since the recent detection in Wisconsin, H14 IAVs have been reported by researchers at OSU, the University of California, Davis, Universidad del Valle de Guatemala, and SCWDS. Viruses were recovered from waterfowl sampled in Missouri during 2010, Guatemala and California during 2011, and Texas during 2013. Infected species included mallard, northern shoveler, and blue-winged teal.

The detection of a new subtype of IAV in North America and the apparent success of this introduction provided a rare opportunity to better understand the fate of a “newcomer” to the North American IAV population that already includes viruses exhibiting extensive genetic and antigenic variation. We attempted to capitalize on this opportunity to answer two questions: (1) Have these viruses changed genetically since introduction? (2) Is this virus as fit to replicate in waterfowl as our North American IAVs?

The H14 viruses isolated in 2010 contained a mixture of genes indicating that some reassortment between North American and Eurasian IAVs already had occurred. Since 2010, these viruses have continued to evolve through point mutations and extensive genetic reassortment with existing North American IAVs. The extent of this reassortment is readily apparent with the neuraminidase (NA) gene, because the North American viruses recovered to date include five subtypes; H14N2, H14N3, H14N5, H14N6, and H14N8. All of these NA genes are of North American

origin. Like the NA genes, the internal genes of all of the isolates recovered after 2010 also are North American, and the variation present in these genes indicates extensive reassortment with native viruses.

The most recently detected H14 virus, an H14N5 isolated from a blue-winged teal in Texas during 2013, replicated in mallards as efficiently as a North American H3N8 IAV. Virus could be detected from cloacal and oropharyngeal swabs, but the highest viral titers were obtained from cloacal swabs. This shedding pattern is typical of low pathogenicity IAVs in ducks and indicates that the H14 viruses are well adapted to persist in North America.

Overall, the H14 viruses appear to have done well in North America. They have been detected almost every year since 2010, and in ducks, they replicated as well as our North American viruses. As new viruses, they apparently were “welcomed” to North America with open arms (or wings). Genes were freely exchanged and shared, and except for the unique hemagglutinin surface protein, the recent H14 isolates are full members of the North American gene pool.

This work was done as part of a graduate research project conducted by Andrew M. Ramey. Andy is employed with the U.S. Geological Survey, Alaskan Science Center, in Anchorage, Alaska, and currently is working on his PhD with SCWDS. It is noteworthy that all of the H14 viruses that were included in his study were isolated by researchers that are or have been affiliated with the National Institutes of Health Centers of Excellence for Influenza Research and Surveillance. Results of this study recently were published in *PLoS One* and can be found at: Ramey AM, et al. 2014. Genomic Characterization of H14 Subtype Influenza A Viruses in New World Waterfowl and Experimental Infectivity in Mallards (*Anas platyrhynchos*). *PLoS One* 9(5):e95620. doi: 10.1371/journal.pone.0095620. (Prepared by Dave Stallknecht and Andy Ramey)

## Rabies in Ferret-Badgers in Taiwan

In June 2013, the wildlife infectious disease surveillance program at the National Taiwan University received three ferret-badgers (*Melogale moschata*) that had been found dead. Ferret-badgers are small, nocturnal carnivores native to low mountainous areas in central and eastern Taiwan; they often are hunted or trapped by indigenous peoples. Microscopic examinations revealed encephalitis and intracellular inclusions (Negri bodies), which are suggestive of rabies virus infection. This was confirmed by additional testing. Although these findings were reported on July 17, 2013, to the World Organization for Animal Health (OIE), the

official onset of this outbreak is regarded as May 23, 2012, when the first dead ferret-badger was found.

From 1911 to 1945, there were 11 rabies-related human deaths recorded in Taiwan. However, increased port traffic after World War II between Taiwan and rabies-endemic Shanghai, Hong Kong, and Hainan allowed rabies to become endemic, and a record high of 238 human cases was recorded in 1951. In 1956, the Taiwanese government instituted rabies control measures that included vaccination of pet dogs, culling stray dogs, and other strategies. Although the last human case of rabies was diagnosed in 1959, monitoring of domestic animals continued and the last rabies-positive animal was confirmed in 1961, after which Taiwan was declared to be free from canine rabies. Three human rabies cases have been reported since then, and all of them had been imported from rabies-endemic countries.

Testing of dogs and cats continued in Taiwan after its declaration as a rabies-free country, and no cases were detected for more than 50 years. In 2011, the Council on Agriculture began contracting with academic institutions to conduct disease surveillance in wild animals, and rabies was added to the surveillance list in 2013. Following detection of rabies in ferret-badgers, the Bureau of Animal and Plant Health Inspection and Quarantine tested 627 wild carnivores, 284 other wild animals, 862 dogs, 61 cats and 44 bats, and confirmed rabies in 159 ferret-badgers, one Asian house shrew (*Suncus murinus*), and one dog that had been bitten by a rabid ferret-badger. Rabid animals were found predominantly in the central and eastern areas of the country, which now is regarded as rabies-endemic by the OIE.

The origin of the strain of rabies virus in ferret-badgers in Taiwan recently was investigated. Genetic analyses suggest that the virus is a distinct lineage within groups of lineages from Asia, and that it has been differentiated from its closest lineages, China I (including isolates from Chinese ferret-badgers) and viruses in the Philippines. The most recent common ancestor, based on virus strains used in the analyses, originated close to 100 years ago, suggesting that the virus could have been circulating in Taiwan for a long time, and apparently was not introduced recently. These researchers also examined archived tissues and found rabies in a ferret-badger that died in 2004.

The Taiwanese authorities responded immediately to the detection of rabies by forming an inter-ministerial command center to coordinate disease investigation and control efforts. Vaccines were distributed according to need, with post-exposure prophylactic vaccination and pre-exposure vaccination of high-risk personnel (animal control officers, veterinarians, etc.) taking highest priority. People who had been bitten or

scratched by ferret-badgers between 2010 and 2013 were urged to seek medical follow-up through a "Ferret-Badger Bite Safety Program."

In December 2013, the rabies epidemic was declared to be under control, and the focus shifted from a short-term emergency response to medium- and long-term control measures. The government continued efforts to establish a secure vaccine supply and encourage vaccination of pets and humans, as well as to strengthen public health education and awareness in high-risk rural areas. It also organized programs to control stray dog and cat populations and monitor rabies in stray and wild animals. Investigations into oral vaccination of ferret-badgers and other wildlife are underway, and are modeled on similar programs implemented in Europe and North America.

For more information, the special rabies issue of the Taiwan Epidemiology Bulletin (November 2013) is available at: <http://www.cdc.gov.tw/english/download/file.aspx?fid=7CF9A64D0DC9559D>. (Prepared by Denise Lin, Cummings School of Veterinary Medicine at Tufts University)

### Trichomoniasis in Nestling Barn Owls

In July 2013, two barn owls (*Tyto alba*) from a nest box at the Athens-Clarke County Landfill in Georgia, USA, were submitted to SCWDS for diagnostic evaluation. The first case, a female nestling, was found dead beneath the nest box. The owl was in poor body condition, with minimal adipose tissue and a prominent keel bone. Gross examination revealed yellow-tan, necrotic lesions throughout the oral cavity (Figure 1). The second case, a moribund, male nestling from the same box, was submitted to the Veterinary Teaching Hospital at the University of Georgia (UGA). It was found dead in its cage the next day, despite receiving supportive care. Postmortem examination at SCWDS revealed it also was in poor body condition and had similar necrotic lesions in the oral cavity. Histologically, both owls had numerous protozoan parasites, consistent with *Trichomonas* spp. associated with necrotic oral lesions. The parasites were identified as *T. gallinae*, based on PCR and sequence analysis.

*Trichomonas gallinae* is common throughout the world, and usually is found in the oral cavity of pigeons and doves (Columbiformes). Recently, a new species, *T. stableri*, was described from sick band-tailed pigeons in California. Several columbiform species have a high prevalence of infection with low morbidity and mortality, and serve as reservoirs. However, severe caseous, necrotic lesions may develop in the oral cavity or crop of mourning doves, and trichomoniasis is regarded as a serious disease in

this species. Clinical trichomoniasis in columbids is known as "canker" due to the appearance of the lesions in the upper gastrointestinal tract, and transmission frequently occurs through the feeding of crop milk from adults to their young.

*Trichomonas gallinae* also can cause disease in numerous orders of birds, particularly birds of prey (Strigiformes and Falconiformes), in which the disease is known as "frounce." Raptors, such as the owls in this case, acquire infection through ingestion of infected birds. In raptors, as is seen in affected columbids, the most common clinical signs include weakness and emaciation, because the extensive lesions within the oral cavity result in difficulty swallowing. Rarely, the parasites invade the central nervous system and cause abnormal behavior and loss of balance.



Figure 1.

During standard diagnostic evaluations of the two owls submitted to SCWDS, several other interesting organisms were detected. The oral swab from the female was PCR-positive for a *Mycoplasma* spp., and sequence analysis indicated the organism was 90% similar to *Mycoplasma lipofaciens*. *Mycoplasma lipofaciens* is a potentially zoonotic, avian mycoplasmal organism that has been reported from chickens, turkeys, ducks, and the Northern goshawk. Based on our data, we do not know if this owl was infected with a *M. lipofaciens* variant or a novel *Mycoplasma* sp. Reports of *Mycoplasma* exist for barn owls, and some have been associated with mortality; however, they were not analyzed genetically.

Bacterial cultures of a nasal swab from the male owl yielded *Salmonella*. *Salmonella* bacteria previously were detected in 8.5% of barn owl nestlings from 20% of nest sites in New Jersey. Young birds can die from *Salmonella* infections, and many *Salmonella* serotypes are zoonotic.

In addition, *Sarcocystis* spp. oocysts were detected in the intestinal mucosa of the birds during microscopic examination. Raptors, including owls, are common definitive hosts for *Sarcocystis* spp., which typically are acquired via consumption of infected rodents.

The extensive oral lesions and poor nutritional condition shared by these two barn owls are consistent with trichomoniasis as the underlying cause of mortality, which ultimately resulted from starvation. Interestingly, remains of columbiform birds were identified inside the nest box, and there had been a history of high morbidity and mortality of nestlings from this site in the past.

In an effort to better understand the transmission of *T. gallinae* among barn owls, UGA researchers are evaluating prey species by examining casts ("owl pellets") and nest boxes for remains of columbids and other birds. In addition, surveillance for *T. gallinae* in barn owl and columbid populations is underway. (Prepared by Holly Burchfield of The University of Georgia College of Veterinary Medicine, Betsy Elsmo, and Michael Yabsley)

## Feral Swine Control Initiative

Feral swine are the target of a new national control effort because of their destructive nature, role as a potential reservoir of disease agents of human and veterinary significance, and the billions of dollars they cost producers and landowners throughout the country every year. The USDA's Animal and Plant Health Inspection Service (APHIS), Wildlife Services, will be the lead agency in this effort and will work in collaboration with federal and state agencies, nongovernmental organizations, and other groups towards the goal of controlling feral swine. This is a \$20 million program that APHIS plans to have operational within six months.

Feral swine populations are expanding rapidly in North America, and damage estimates begin at \$1.5 billion annually. SCWDS has been documenting the distribution of feral swine since 1982, and the number of states reporting established populations has increased from 17 in 1982 to 36 in 2013. SCWDS also recently estimated the land area occupied by feral hogs, and this has increased from 210,443 to 613,738 square miles during the same period. Within this vast area, feral swine cause damage to crops and

water sources, impact native wildlife and wildlife habitats, compete for food with native wildlife, and consume the eggs of ground-nesting birds and sea turtles. In addition, feral swine carry pathogens that can affect people, domestic animals, and wildlife.

The initial funding levels of this new program for each state will be based on its current feral swine population and the associated damage to its resources. Funds allotted for this effort will go towards state projects (\$9.5 million), development of procedures for disease monitoring, including new surveillance and vaccination methods (\$1.4 million), research and economic analysis to improve control practices (\$1.5 million), and centralization of control operations (\$1.6 million). It will also include surveillance for diseases of most concern for the U.S. swine industry. Diseases currently included on the surveillance list are classical swine fever, a disease eradicated from the U.S. in 1978, as well as swine brucellosis, porcine reproductive and respiratory syndrome, swine influenza, and pseudorabies.

Wildlife Services is conducting a pilot program in New Mexico to determine the most successful feral swine eradication techniques. This program has eradicated feral hogs from 5.3 million acres. Using techniques and information developed through the New Mexico model, APHIS is hopeful that the nationwide program will be successful elsewhere. The goal is "to eliminate feral swine from two states every three to five years and stabilize feral swine damage within 10 years," according to Edward Avalos, Undersecretary for USDA's Marketing and Regulatory Programs. (Prepared by Kelsey Daroca, Louisiana State University and Joe Corn)

## African Swine Fever in the EU

African Swine Fever (ASF) was detected in wild boars in two separate locations in Lithuania in January 2014, and in wild boars in Poland in February and May 2014. These are the first occurrences of ASF in European Union (EU) countries since the late 1990s, with the exception of Sardinia, where the disease has been endemic, but confined to this island, since 1982. In 2007, ASF was documented in Georgia in the Caucasus Mountain Range, and since then it has been reported throughout a large area of the Russian Federation and in Ukraine. The recent detection of ASF virus (ASFV) in Lithuania and Poland is the result of increased surveillance along the border with Belarus, where ASF was reported in June 2013.

The highly contagious *Asfivirus* is a DNA virus that infects wild and domestic members of the pig family (Suidae) and is not transmissible to other mammals, including humans. The virus is endemic in sub-

Saharan Africa, where it is maintained silently in wild suids, including bush pigs (*Potamochoerus larvatus*), warthogs (*Phacochoerus africanus*), and giant forest hogs (*Hylochoerus meinertzhageni*). Soft ticks of the genus *Ornithodoros* also can be involved in the infection cycle, although transmission is possible via direct contact between suids, as well as indirectly via contact with contaminated feed or other fomites. African Swine Fever virus is stable under a wide range of temperatures and pH, allowing it to persist for long periods in excretions of infected pigs, pig carcasses, and pork products.

Domestic pigs and wild boar belong to the same species, *Sus scrofa*, and ASFV infection in these animals can be unapparent or can result in disease ranging from mild clinical signs to peracute death, depending on the virulence of the viral strain. Infection with virulent strains typically causes fever, anorexia, somnolence, diarrhea, respiratory distress, and widespread hemorrhages in the skin and multiple internal organs. The mortality rate may approach 100% of infected hogs. The ASFV strain that has been present in the trans-Caucasian countries, Russian Federation, and Ukraine since 2007 is highly virulent and has killed domestic swine and wild boars.

Many of the outbreaks reported since 2007 involved backyard farms where hogs were fed garbage and few biosecurity measures were in place. Poor biosecurity and garbage-feeding are well-known risk factors for introducing disease into swine herds. These problems, coupled with the lack of available treatment or vaccine for ASF, make prevention and early detection critical for the control of this disease.

Despite the rapid detection and control efforts in Lithuania and Poland, the recent outbreaks have had serious trade and economic consequences for the entire EU. After the diagnoses of ASF were made earlier this year, the Russian Federation banned or restricted importation of pigs, genetic material, pork, and pork byproducts from the entire EU. This ban has significant implications for many EU countries, especially for those with a large pork export market with the Russian Federation. Consequently, the EU notified the World Trade Organization on April 8, 2014, that it is formally initiating a dispute with the Russian Federation regarding the trade restriction measures it has taken. The two parties have 60 days to find a solution without proceeding further to litigation. If the dispute has not been resolved by then, the EU may request adjudication by a panel.

Epidemiologists believe ASF was introduced into Lithuania and Poland from the Russian Federation via Belarus through the natural movement of infected wild boars. Of considerable concern is the potential for the continued westward spread of ASF to the dense wild

boar populations in eastern and western Europe. In order to limit the spread of ASF, officials have sought to enhance fencing and other biosecurity measures to protect domestic swine. Additionally, they have discussed reducing wild boar populations through increased hunting, and are asking hunters to assist with surveillance for ASF. (Prepared by Brian Herrin, Oklahoma State University Center for Veterinary Health Sciences and John Fischer)

## Emerging Swine Viruses in North America

Two coronaviruses associated with high morbidity and mortality have emerged in domestic swine in North America in the last year. Porcine Epidemic Diarrhea Virus (PEDV) first was detected in the United States in May 2013, and it continues to be associated with large-scale mortality of commercial piglets. It was found in Canada for the first time in January 2014. A second distinct virus, Porcine Delta Coronavirus (PDCoV), was found in the United States in February 2014. Neither virus has been documented in feral swine or any wildlife species to date. Both viruses cause severe diarrhea and vomiting in nursing piglets and are considered emerging causes of Porcine Epidemic Diarrhea (PED) in North America. Most of the mortality has been due to PEDV, which is better understood and will be discussed here.

Porcine Epidemic Diarrhea Virus first was recognized in England in 1971 and has been detected in a number of European countries, as well as in China, Japan, and Korea. Since its detection last year, PEDV has killed an estimated 7,000,000 pigs in the United States. The virus has been associated with more than 4,000 distinct outbreaks in at least 30 states, four Canadian provinces, Mexico, and Japan.

Infected pigs of all ages develop diarrhea and vomiting, and mortality often reaches 50-100% in pigs less than 7-days-old, whereas older pigs are more likely to recover. The incubation period is short (approximately 2-4 days), and virus is shed for 7-9 days. Transmission occurs directly from animal to animal, as well as indirectly through the fecal oral-route via contaminated feed, clothing, footwear, vehicles, farm supplies, and other materials. Biosecurity and sanitation on swine farms appear to be the best methods to prevent introduction of PEDV to unaffected facilities. The viruses associated with PED are not transmissible to humans and are not a concern from a food safety perspective.

Current diagnostic tests that are specific for PEDV include virus isolation, genetic sequencing, immunofluorescence, immunohistochemistry, enzyme linked immunosorbent assays, electron microscopy, and reverse transcriptase polymerase chain reactions

(RT-PCR). Similar molecular tests, particularly RT-PCR, are available for PDCoV.

There is considerable interest in the disease, because it can be economically devastating for affected swine farms. Consumers are seeing changes in the price of pork products as a result of the emergence of PED and a potential reduction of 10% in the number of market-ready hogs in the U.S. this summer.

Currently, PED is not considered a Foreign Animal Disease within the United States, nor is it reportable to the World Organization for Animal Health (OIE). On April 18, 2014, the United States Department of Agriculture (USDA) announced a \$5 million research and response plan that requires reporting of both PEDV- and PDCoV-positive locations, and the National Animal Health Laboratory Network currently is collating data on both viruses. In addition to requiring reporting of the PED viruses, the USDA also requires tracking movements of pigs, vehicles, and other equipment leaving affected premises; however, movements are still allowed. Later, on June 5, 2014, the USDA announced the availability of \$26.2 million to combat PED, as well as a Federal Order that requires reporting of all new cases of infection with PEDV and PDCoV. According to the announcement, *“APHIS’ Federal Order requires producers, veterinarians, and diagnostic laboratories to report all cases of PEDv and other new swine enteric coronavirus diseases to USDA and State animal health officials. The industry is already seeing herds previously impacted by the virus become re-infected,*

*and routine and standard disease reporting will help identify the magnitude of the disease in the United States and can help determine whether additional actions are needed.*

*The Federal Order also requires that operations reporting these viruses work with their veterinarian or USDA or State animal health officials to develop and implement a reasonable management plan to address the detected virus and prevent its spread. Plans will be based on industry-recommended best practices, and include disease monitoring through testing and biosecurity measures. These steps will help to reduce virus shed in affected animals, prevent further spread of the disease, and enable continued movement of animals for production and processing.”* The announcement and links to more PED information can be found online at <http://content.govdelivery.com/accounts/USDAAPHIS/bulletins/bbfb1d>.

The USDA has been communicating with the OIE to notify them of outbreaks, because many stakeholders of the domestic swine industry are closely following the spread of the disease. France announced on May 2, 2014, its intention to prohibit importation of live pigs, pig byproducts, and semen from Canada, Japan, Mexico, and the United States, and there is discussion within the European Union on preventive measures to protect their swine herds. Additional information on PED can be found at the website of the American Association of Swine Veterinarians (<https://www.aasv.org>). (Prepared by Heather Fenton)

# SCWDS BRIEFS

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