

## ZOONOTIC AND OTHER ANIMAL DISEASES OF CONCERN IN MARYLAND

**Table 1. New or Ongoing Morbidity or Mortality Animal or Zoonotic Disease Events**

Estimated first onset	Estimated end date	Jurisdiction affected	Species affected	Diagnosis	Estimated # of cases to date	Lead agency	Comment
November 7, 2013	ongoing	Saint Mary's	Swine	Porcine Epidemic Diarrhea (PED)	2 farms	MDA	See page 2
August 2013	October 31, 2013	8 Jurisdictions	Human	West Nile Virus (WNV)	15 confirmed, 1 probable	DHMH	See page 2
July 2013	October 31, 2013	Montgomery, Prince George's, Worcester	Mosquito	West Nile Virus (WNV)	9 positive pools	DHMH, DoD	See page 2
July 2013	October 31, 2013	Wicomico, Worcester	Mosquito	Eastern Equine Encephalitis (EEE)	8 positive pools, 1 pool positive for WNV and EEE	DHMH	See page 2
September 2013	October 31, 2013	Caroline	Alpaca	West Nile Virus	1	DHMH	See page 2
August, September	October 31, 2013	Montgomery, Worcester	Equine	WNV, EEE	Montgomery 1 -WNV, Worcester -1 EEE	DHMH	See page 2

**For questions regarding specific disease events, please contact the lead agency noted. This contact information is for use by Maryland veterinarians and health professionals:**

MDA - Maryland Department of Agriculture: [ahops.mda@maryland.gov](mailto:ahops.mda@maryland.gov), 410-841-5810

DHMH - Maryland Department of Health and Mental Hygiene, Center for Zoonotic and Vector-borne Diseases: [dhmh.czvbd@maryland.gov](mailto:dhmh.czvbd@maryland.gov), 410-767-5649

DNR - Maryland Department of Natural Resources, Fish & Wildlife Health Program, [FWhp@dnr.state.md.us](mailto:FWhp@dnr.state.md.us), 410-226-5193

### ***Porcine Epidemic Diarrhea Virus Confirmed in Maryland***

#### ***Swine Producers Alerted to Take Precaution***

The Maryland Department of Agriculture (MDA) has confirmed a case of Porcine Epidemic Diarrhea (PED) in Saint Mary's county, Maryland and is alerting swine producers across the state to take proper precautions to protect their herds. PED only infects pigs, poses no known public health threat and is not a food safety concern. The mortality rate, however, can be as high as 100 percent in suckling and early weaned pigs.

To report cases of disease in:	Contact:
<b>Domestic animals</b>	MDA Animal Health Program Office 410-841-5810 <a href="http://mda.maryland.gov/animalHealth/Pages/Diseases.aspx">http://mda.maryland.gov/animalHealth/Pages/Diseases.aspx</a>
<b>Wild animals</b>	MD DNR / USDA Wildlife Service Call Center 1-877-463-6497 <a href="http://www.wher.org">http://www.wher.org</a>
<b>Humans</b>	DHMH Center for Zoonotic and Vector-borne Diseases 410-767-5649 <a href="http://phpa.dhmh.maryland.gov/OIDEOR/CZVBD/SitePages/Home.aspx">http://phpa.dhmh.maryland.gov/OIDEOR/CZVBD/SitePages/Home.aspx</a>

## ZOONOTIC AND OTHER ANIMAL DISEASES OF CONCERN IN MARYLAND

### ***Porcine Epidemic Diarrhea Virus Confirmed in Maryland (continued)***

PED was first diagnosed in Great Britain in 1971, and Europe has had periodic outbreaks ever since, but the disease was not confirmed in the United States until this past May. It was confirmed in Maryland on November 7, 2013.

Primary clinical signs of the disease are: severe diarrhea in pigs of all ages, vomiting and high morbidity and mortality. It is generally spread among pigs and by infected feces transported into pig areas by trucks, boots, clothing, and other fomites. The incubation period is very short (12-24 hours) and the virus is shed for 7-10 days. Producers who raise swine are encouraged to follow strict biosecurity methods and undertake disinfection procedures, which include the following:

- Limiting traffic (people and equipment) onto the farm,
- Thoroughly cleaning and disinfecting anything coming onto the farm,
- Enforcing downtime requirements and maintaining a log of visitors,
- Taking care when disposing of dead stock particularly if using a communal disposal method,
- Isolating newly arriving animals and continuing vet to vet discussions about animal health at the herd of origin, and
- Showering into the facility where practical and changing into clean boots and coveralls (veterinarians should also be careful not to track the virus between herds on their person, equipment or vehicles).

Producers who suspect their pigs are sick should contact their veterinarian immediately.

Veterinarians: PEDv sampling procedures are provided at the end of this bulletin. The Iowa State University Veterinary Diagnostic Laboratory conducts PEDv testing; they can be contacted at 515-294-1950 Fax 515-294-3564 or [www.vdpam.iastate.edu](http://www.vdpam.iastate.edu)

PED is NOT a reportable disease. More information and fact sheets on PED are available from the American Association of Swine Veterinarians here: <http://www.aasv.org/aasv%20website/Resources/Diseases/PorcineEpidemicDiarrhea.php>

Contact: Maryland Department of Agriculture Animal Health Section, 410-841-5810

### ***Close of the 2013 arboviral surveillance season, Maryland***

The 2013 surveillance season for West Nile virus (WNV) and other arboviruses of public health concern in Maryland concluded on October 31, 2013. The Maryland Departments of Agriculture, Natural Resources, and Health and Mental Hygiene have discontinued enhanced surveillance for human encephalitis and aseptic meningitis and surveillance for arboviral activity in mosquitoes, equines, and wildlife.

As of October 30, 2013, 16 (15 confirmed and 1 probable) human WNV cases were reported in eight jurisdictions: Anne Arundel Co. (4), Baltimore Co. (2), Baltimore City (3), Cecil Co. (2), Frederick Co. (1), Kent Co. (1), Montgomery Co. (2), and Prince George's Co. (1). Eleven cases were classified as neuroinvasive (encephalitis/meningitis), while the remaining five were classified as non-neuroinvasive. Twelve cases were hospitalized, with one fatality. Dates of illness onset ranged from August 5<sup>th</sup> to October 18<sup>th</sup>.

A total of 18 mosquito pools tested positive for arboviral infection in 2013. Nine pools of *Culex* mosquitoes tested positive for WNV: seven in Montgomery County reported by the Department of Defense (DoD), and one pool each in Prince George's and Worcester Counties. In addition, Eastern equine encephalitis (EEE) activity was also reported in mosquito populations this year, with eight EEE-positive mosquito pools reported in Wicomico and Worcester counties. A single pool in Wicomico County tested positive for both WNV and EEE.

One WNV equine case was reported in Montgomery County and one EEE equine case was reported in Worcester County. This was the first equine EEE activity since 2009. In addition, an alpaca in Caroline County was confirmed with WNV infection and died following a September onset of neurologic illness.

Maryland arboviral surveillance statistics for 2013 and previous years are available online at: <http://phpa.dhmmh.maryland.gov/OIDEOR/CZVBD/SitePages/west-nile.aspx>.

## MARYLAND ANIMAL RABIES CASES, 2013

**Table 2. New (confirmed since the previous Bulletin) and Cumulative Rabies Cases, Week Ending November 9, 2013**

Jurisdiction	Bat Total (New)	Cat Total (New)	Cow Total (New)	Dog Total (New)	Fox Total (New)	Groundhog Total (New)	Raccoon Total (New)	Skunk Total (New)	Other Total (New)	Total (New)
Allegany		1			1		6	2(2)		10(2)
Anne Arundel	10	1(1)				2(1)	25(6)			38(8)
Baltimore	1	2			2	4	15(1)			24(1)
Baltimore City	14(1)	2			1		11(1)			28(2)
Calvert	1						3			4
Caroline	1(1)				2(1)		6(1)	3		12(3)
Carroll	1	1			1		6(2)	1(1)		10(3)
Cecil						1	4			5
Charles	1				5		3	1(1)		10(1)
Dorchester		1					3(1)			4(1)
Frederick	1(1)	7(2)			6		20(5)	3		37(8)
Garrett									2	2
Harford	3	1			1(1)		12(3)			17(4)
Howard		1(1)					5(1)			6(2)
Kent	1						2(1)			3(1)
Montgomery	9(3)				2		19(2)		2	32(5)
Prince George's	4				3		8(1)			15(1)
Queen Anne's	2(1)						7	1		10(1)
Somerset							1			1
St. Mary's					1	1		5		7
Talbot							2	1		3
Washington		3(1)					1			4(1)
Wicomico					1(1)		16(7)	1		18(8)
Worcester	1			1(1)	3	1	38(7)			44(8)
Total (New)	50(7)	20(5)		1(1)	29(3)	9(1)	213(39)	17(3)	4	344(60)

**Other: Horse-1, Goat-2, Opossum-1**

**For complete animal rabies data:**

<http://phpa.dhmd.maryland.gov/OIDEOR/CZVBD/SitePages/Home.aspx>

**To view previous issues of the Maryland One Health Bulletin (MOHB):**

<http://mda.maryland.gov/animalHealth/Pages/md-one-health.aspx>

**Maryland Department of Health and Mental Hygiene Weekly Public Health and Emergency Preparedness Bulletin:**

<http://preparedness.dhmd.maryland.gov/SitePages/Public%20Health%20And%20Emergency%20Preparedness%20Bulletins.aspx>

**National Wildlife Health Center New and Ongoing Wildlife Mortality Events Nationwide:**

[http://www.nwhc.usgs.gov/mortality\\_events?ongoing.jsp](http://www.nwhc.usgs.gov/mortality_events?ongoing.jsp)

**U.S. Livestock and Poultry Disease Events and Trends:**

[http://www.aphis.usda.gov/animal\\_health](http://www.aphis.usda.gov/animal_health)

**Maryland Department of Health and Mental Hygiene Weekly Influenza Report:**

<http://phpa.dhmd.maryland.gov/influenza/fluwatch/SitePages/Home.aspx>

# Porcine Epidemic Diarrhea (PED): Diagnostic Testing

From: Veterinary Diagnostic Laboratory, Iowa State University

Sample types and submission process:

At least 10 ml of feces or intestinal contents on ice from acutely-affected pigs within first 24 hours of onset of diarrhea

- Fresh intestine (10 inch segments of jejunum, ileum and colon) on ice
- Formalin-fixed small intestine (6 sections 1" in length) and colon (3 sections 1" in length)
- MOST IMPORTANTLY, collect samples from acutely-affected pigs within the first 24 hours of onset of diarrhea

## Porcine Enteritis Sample Collection Guidelines

The best specimens are collected from acutely-ill (<24 hours) live untreated pig(s).

Feces	>10 ml of feces
Colon and cecum	Entire organ, fresh/chilled Several 1 cm pieces, formalin-fixed
Ileum	10-15 cm segments, fresh/chilled Three 1 cm pieces, formalin-fixed
Jejunum	10-15 cm segments, fresh/chilled Three 1 cm pieces, formalin-fixed
Other Lesions as warranted	Fresh/chilled tissues Several 1 cm pieces, formalin-fixed

**Samples removed at necropsy in the field are better than a whole dead pig submitted to the lab.**

## SAMPLING TECHNIQUES

1. Samples must be taken as soon after death as possible (within minutes).
2. Intestines do not need to be tied off at the ends.
3. Flush intestinal segments for histopathologic examination with formalin and drop in fixative or gently open ends of 1/2" segments with a scissors or forceps to expose mucosa as immersed.
4. Pool all formalin-fixed tissues from each pig in one bag; individual pigs can be pooled or kept separate as desired.
5. Package fresh intestines separately from other tissues and each pig in a separate bag. Chill fresh tissues before mailing. Do NOT freeze.
6. Do not send whole, dead pigs (intestines autolyze quickly).

## AGENTS DETECTED BY ROUTINE EXAMINATION

Viruses	PED virus, TGE virus, Rotavirus
Bacteria	<i>Brachyspira</i> spp., <i>Clostridium</i> spp., <i>E. coli</i> , <i>Enterococcus durans</i> , <i>Lawsonia intracellularis</i> , <i>Salmonella</i> spp. <i>Brachyspira</i> spp.
Parasites	<i>Coccidia</i> , <i>Cryptosporidia</i> , <i>Nematodes</i>

## COMMENTS

- Feces from acutely affected pigs are useful for PCR detection of PED, TGEV, *Lawsonia intracellularis* and fecal flotation for parasites.
- Samples (10-20 ml) should be taken on the first day of diarrhea. *Brachyspira hyodysenteriae* can occasionally be isolated from feces (swabs are even less reliable). *Salmonella* spp. are difficult to recover from feces and/or rectal swabs.

PCR Real time \$30.

Veterinary Diagnostic Laboratory  
Iowa State University  
1600 South 16<sup>th</sup> St  
Ames, IA 50011  
Phone: 515-294-1950