

A practical guide to differential diagnosis in swine

7 – Vomiting

by Si Yeong Choi, Technical Manager Swine, Biomin Holding GmbH.

Vomiting should not be confused with regurgitation. Vomiting is the ejection of stomach contents through the mouth. Regurgitation is swallowed food that does not reach the stomach and is ejected through the mouth. If there is any confusion of whether vomiting or regurgitation is occurring, it may be settled by measuring the pH of the ejected material. Vomitus has an acid pH and regurgitated material is alkaline. Pig vomiting is a symptom of several swine diseases.

Pathogenic causes

Vomiting is a prominent clinical sign of haemagglutinating encephalomyelitis (HEV), porcine epidemic diarrhoea (PED),

transmissible gastroenteritis (TGE). It is also a clinical symptom of hog cholera (HC), African swine fever (ASF), classical swine fever (CSF), and Aujeszky's disease.

Younger piglets are more susceptible to viral infection, as are older piglets. To conduct differential diagnosis, check major symptoms and organ systems affected by pathogens then start to control disease.

Toxicogenic causes

Deoxynivalenol (DON), also known as vomitoxin, and in rare cases T-2 toxin can be a cause of pig vomiting.

Vomitoxin is a trichothecene mycotoxin isolated and characterised in 1973 as a major emetic and feed refusal factor for swine. It can be found in corn and cereal grains contaminated in the field mainly by *Fusarium graminearum*.



Nutritional causes

Clinical signs and subclinical deficiency symptoms for several nutrients have a wide variation in the amount of time that elapses before symptoms of nutrient deficiency begin to appear.

Certain nutritional deficiencies are more common today and have greater consequences than others in swine. For example, a lack of some vitamins, such as niacin, riboflavin, thiamine (vitamin B1), pyridoxine (vitamin B6), vitamin D, and zinc can be a cause of pig vomiting. On the other hand, too much vitamin D and B1 can also sometimes cause vomiting. ■

Check list	Corrective action
Potential cause: Mycotoxins • Deoxynivalenol, T-2 toxin	
• Positive raw materials (ELISA) or feed (HPLC) • Origin of raw materials historically contaminated	• Prevent moulds, purchase clean raw materials • Use Mycofix at a suitable inclusion rate
Potential cause: Pathogens • Virus: TGE, PED, Aujeszky's disease, ASF, CSF, HEV • Pathogen: <i>Strongyloides</i> spp., <i>Ascaris suum</i>	
• Epidemiology • Virus isolation • Necropsy • Histopathology • PCR, RT-PCR • ELISA • IHC	• Biosecurity • Vaccination • Good sanitation procedures • Anthelmintic
Potential cause: Others • Foreign body • Vitamin deficiency (Niacin, B1, B6, D) • Excess of vitamin D • Toxicity of microelements (arsenic, fluorine, selenium, etc.) • Zinc deficiency	
• Analyse feed samples	• Check nutrient requirement • Adjust diet formulation • Remove foreign body

References are available from the author on request.