

Porcine Diagnostic Sampling Guide

This guide was compiled to assist veterinary practitioners in sample collection to improve diagnostic outcomes. As with any disease investigation the collection of a good history and evaluation of clinical signs is important in guiding further action. The guide should be used in conjunction with other reference sources such as our necropsy fact sheet for pigs, text books and online resources. Practitioners may wish to modify their approach and sampling to suit their own needs in relation to the investigation, access to suitable facilities/equipment and cost.

Many porcine diseases are age/production stage specific. Sampling requirements to detect the disease in each age class will vary albeit often in a minor fashion. A syndromic approach has been adopted with a standard set of samples suggested for each presentation. This allows the practitioner to provide a suite of samples which can then be utilised for testing purposes.

The guide is subdivided depending upon whether samples are being collected from live animals or at post mortem. Under each syndromic heading a list of recommended samples is listed. These will provide the practitioner and diagnostic laboratory with a range of material that can be used for testing purposes. The sampling recommendations are not comprehensive for each diagnostic presentation but provide a framework that will cover the majority of disease presentations.

When submitting samples a brief clinical history and any post mortem findings should be provided on the submission form – this assists the laboratory in helping you on which samples are best for testing if you are unsure. Please see our guidance notes on how to submit samples.

We are happy to discuss cases prior to submission and if you wish to submit photographs of affected animals/post mortem material please send to dsfarm@axiomvetlab.co.uk.

SYNDROMIC FINDINGS	LIVE		POST MORTEM	
	Sample	Tests	Sample	Tests
Enteric	Faeces 5g	Virology – Rota PAGE Bacteriology (Inc ETEC)	Colonic Contents Small Intestine Contents Tissues in Formalin (ideally euthanase and fix within 20-30mins); Stomach, Jejunum, Ileum, Colon Consider major organs	Virology – Rota PAGE Bacteriology (Inc ETEC) <i>Clostridium perfringens</i> toxin Elisa Histopathology
Respiratory	N/A	N/A	Trachea, Lung Fresh affected lung Tissues in Formalin; Nasal turbinate, Trachea, Mediastinal LN Lung (Cranial/middle/caudal lobe) Consider major organs	PCR – SIV PCR – SIV/PRRSV Culture (swab from consolidated lung – sear surface Histopathology
Nervous Disease	N/A	N/A	CSF/Meningeal Swab Tissues in Formalin; Brain, Spinal cord Consider major nerves Consider major organs	Bacteriology Histopathology
Locomotor	Joint tap	Bacteriology	Joint fluid/swab Tissues in formalin; Affected joint/bone/muscle Proximal humerus/Proximal femur/ Proximal tibia	Bacteriology Histopathology
Skin	Skin scrape Swab	Microscopy Bacteriology	Skin swab Tissues in formalin; Affected/non-affected skin Consider major organs	Bacteriology Histopathology
Systemic	Blood sample (EDTA & Serum)	Immunoglobulins Haematology	Major organ – fresh or swabs Tissues in formalin; All major organs (Liver/Spleen/ Heart/Lung/Kidney/LN (Mediastinal/ Mesenteric/Inguinal)	Culture Retain fresh tissue for biochemistry/toxicology (liver and kidney) Histopathology

SYNDROMIC FINDINGS	LIVE		POST MORTEM	
	Sample	Tests	Sample	Tests
Enteric	Faeces 5-20g	Virology; Rota PAGE Bacteriology (Inc. ETEC/ Salmonella)	Colonic Contents Small Intestine Contents Tissues in Formalin (ideally euthanase and fix within 20-30mins); Stomach, Jejunum, Ileum, Colon Consider major organs	Virology; Rota PAGE Bacteriology (Inc. ETEC/Salmonella) <i>Clostridium perfringens</i> toxin Elisa Histopathology
Respiratory	Nasal swab Serum	SIV PRRSV PCR Serology; SIV/PRRSV	Trachea, Lung Fresh affected lung Tissues in Formalin; Nasal turbinate, Trachea, Mediastinal LN Lung (Cranial/middle/caudal lobe) Consider major organs	PCR – SIV PCR – SIV/PRRSV/Mycoplasma Culture (swab from consolidated lung – sear surface Histopathology
Nervous Disease	N/A	N/A	CSF/Meningeal Swab Tissues in Formalin: Brain, Spinal cord Consider major nerves Consider major organs	Bacteriology Histopathology
Locomotor	Joint tap	Bacteriology	Joint fluid/swab Tissues in formalin: Affected joint/ bone/muscle Proximal humerus/ Proximal femur/Proximal tibia	Bacteriology Histopathology
Skin	Skin scrape Swab	Microscopy Bacteriology	Skin scrape Swab Tissues in formalin: Affected/ non-affected skin Consider major organs	Microscopy Bacteriology Histopathology
Systemic	Blood sample (EDTA & Serum)	Biochemistry Haematology	Major organ – fresh or swabs Tissues in formalin: All major organs (Liver/Spleen/Heart/ Lung/Kidney) LN (Mediastinal/ Mesenteric/Inguinal)	Culture Retain for biochemistry/ toxicology (liver and kidney Histopathology

SYNDROMIC FINDINGS	LIVE		POST MORTEM	
	Sample	Tests	Sample	Tests
Enteric	Faeces 20g (early in disease)	Salmonella culture <i>Brachyspira</i> PCR <i>Lawsonia</i> PCR Worm egg/cocci Bowel oedema PCR	Colonic Contents 20g Tissues in Formalin (ideally euthanase and fix within 20-30mins); Stomach, Jejunum, Ileum, Caecum, Colon Mesenteric and inguinal LN Consider major organs	Culture/PCR as for live animal Histopathology
Respiratory	Nasal swab Serum	SIV <i>Past multocida</i> toxin test PRRSV PCR Serology (SIV/PRRSV/MH/APP)	Trachea, Lung Fresh affected lung Tissues in Formalin: Nasal turbinate, Trachea Mediastinal/inguinal LN Lung (Cranial/middle/caudal lobe) Consider major organs	PCR – SIV PCR – SIV/PRRSV/ Mycoplasma Culture (swab from consolidated lung – sear surface) Histopathology
Nervous Disease	Faeces	Bacteriology- PCR for Bowel oedema	CSF/Meningeal Swab Faeces/Intestinal contents Tissues in Formalin: Brain, Spinal cord Consider major nerves Consider major organs	Bacteriology Bacteriology PCR for Bowel oedema Histopathology
Locomotor	Joint tap Serum	Culture Mycoplasma PCR Erysipelas serology	Joint fluid/swab Tissues in formalin: Affected joint/ bone/muscle, Proximal humerus/ Proximal femur/Proximal tibia	Bacteriology <i>M hyosynoviae</i> PCR Erysipelas serology Histopathology
Skin	Skin scrape Swab	Microscopy Bacteriology	Skin scrape Swab Tissues in formalin: Affected/non-affected skin Consider major organs	Microscopy Bacteriology Histopathology
Systemic	Blood sample (EDTA & Serum)	Biochemistry Haematology	Major organ – fresh or swabs Tissues in formalin: All major organs (Liver/Spleen/Heart/Lung/Kidney LN (Mediastinal/Mesenteric/Inguinal)	Culture Retain fresh tissue for biochemistry/toxicology (liver and kidney) Histopathology

SYNDROMIC FINDINGS	LIVE		POST MORTEM	
	Sample	Tests	Sample	Tests
Enteric	Faeces 20g (early in disease)	Salmonella culture <i>Brachyspira</i> PCR <i>Lawsonia</i> PCR Worm egg count	Colonic Contents 20g Tissues in Formalin (ideally euthanase and fix within 20-30mins); Stomach, Jejunum, Ileum, Caecum, Colon Mesenteric LN Consider major organs	Culture/PCR as for live animal Histopathology
Respiratory	Nasal swab Serum	SIV PRRSV PCR Serology (SIV/PRRSV, APP)	Trachea, Lung Fresh affected lung Tissues in Formalin: Nasal turbinates, Trachea Mediastinal LN Lung (Cranial/middle/caudal lobe). Consider major organs	PCR – SIV PCR – PRRSV/Mycoplasma Culture (swab from consolidated lung – sear surface) Histopathology
Nervous Disease	Faeces	Bacteriology PCR for Bowel oedema	CSF/Meningeal Swab Faeces/Intestinal contents Tissues in Formalin: Brain, Spinal cord Consider major nerves/organs	Bacteriology Bacteriology PCR for Bowel oedema Histopathology
Locomotor	Joint tap Serum	Culture <i>M. hyosynoviae</i> PCR Erysipelas serology	Joint fluid/swab Tissues in formalin: Affected joint/bone/muscle/Proximal humerus/Proximal femur/Proximal tibia	Bacteriology <i>M. hyosynoviae</i> PCR Histopathology
Skin	Skin scrape Swab	Microscopy Bacteriology	Skin scrape Swab Tissues in formalin: Affected/non-affected skin. Consider major organs	Microscopy Bacteriology Histopathology
Systemic	Blood sample (EDTA & Serum)	Biochemistry Haematology	Major organ – fresh or swabs Tissues in formalin: All major organs (Liver/Spleen/Heart/Lung/Kidney/LN (Mediastinal/Mesenteric/Inguinal))	Culture. Retain fresh tissue for biochemistry/toxicology (liver and kidney) Histopathology
Reproductive	Blood (maternal serum)	Serology (Lepto, PRRSV, SIV, PPV, Erysipelas) PRRSV PCR	Foetal stomach contents Foetal fresh Kidney/Thymus/Spleen/Lung Tissues in Formalin: Foetal heart/placenta/lung	Culture Lepto PCR, PRRSV PCR Histopathology
Urinary	Urine	Culture	Urine Kidney Tissues in Formalin: Kidney/Bladder/ Consider major organs	Culture Culture Histopathology

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