International Pig Topics'
Pighealth BYTES
YOUR OWN REFERENCE SOURCE ON PIG HEALTH

002 – Causes of disease

Disease classification

There are many causes of disease and, as you would expect, these have been classified. The first basic categorisation is into infectious (living) and non-infectious (non-living) causes of disease.

Infectious causes of diseasee

These range from various micro-organisms, such as viruses, bacteria and mycoplasma, to larger parasites, which can be single celled, such as coccidia and balantidia, or multi-celled, such as worms, flukes, tapeworms, mites and lice. Let us now consider causal examples from each of these.

Viral disease – Swine fever, African swine fever, foot and mouth disease, Aujeszky's disease, PRRS, PMWS, PED, rotavirus, swine influenza, swine pox and TGE.

Bacterial disease – Actinobacillus pleuropneumoniae, brucellosis, erysipelas, E. coli, leptospirosis, salmonellosis, necrotic enteritis, streptococcal infections.

Mycoplasma disease – Mycoplasma pneumonia caused by Mycoplasma hyopneumoniae, M. hyorhinis polyserositis and arthritis and M. hyosynoviae arthritis.

Parasitic disease – Coccidia, balantidia, round worms (Ascarid, Trichinella, Trichuris, Metastronylus, Stephanurus), tapeworms (Taenia, Echinococcus), lice, mites etc,

Other infectious causes of disease include prions, rickettsia, yeast and fungi but their roles in swine diseases are minimal.

Non-infectious causes of disease

These range from dietary shortages (deficiencies) or excesses (toxicities) and mycotoxins to genetic diseases and physiological imbalances.

The importance of classification

If we know a disease has an infectious cause we know that:

- It can be killed either inside the host using medicines such as antibiotics (medication) or outside the host using chemicals like disinfectants (disinfection).
- It can induce immunity so re-occurrences are limited and vaccination might be a way of controlling the disease.
- It has the ability to spread and so there is the potential of containment by applying the principles of good biosecurity.

We need to appreciate that for a disease to survive then a proportion of the pig population has to survive. Any disease causing agent that kills off 100% of the pig population is destroying its own future. In this context, we need to be aware of the following two terms:

MORBIDITY – The percentage of the population affected by a disease.

MORTALITY – The percentage of the population killed by the disease.

A contagious disease is one capable of spreading quickly.

We can combine the terms we have encountered here to describe disease, for example we can describe a disease as being a highly contagious, infectious disease with high morbidity and high mortality etc, etc.