

### Porcine Respiratory Disease Complex



**Porcine Respiratory Disease Complex (PRDC) results from a combination of infectious agents and environmental stressors and challenges, affecting the health of the pig and resulting in reduced performance, increased medication costs and increased mortality. When PRDC breaks out on a unit typically 30-70% of pigs will be affected, with a mortality rate of 4-6%, or more depending on the secondary infections.**

The BPEX Pig Health Scheme (BPHS) provides information over time of the levels of lung damage seen at the abattoir that should be used as a tool for health planning and managing PRDC.



To quantify the problem using BPHS data

To minimise the physical impact of PRDC

To achieve <4% post-weaning mortality

To improve health, performance and welfare of the growing pig

#### Clinical signs

PRDC usually occurs at 14-20 weeks of age or 8-10 weeks after moving into the finishing accommodation, and manifests itself as a marked decrease in performance due to severe outbreaks of respiratory disease.

#### Typical clinical signs of PRDC include:

- Lethargy
- Anorexia
- Fever
- Nasal discharge
- Ocular (eye) discharge
- Coughing
- Laboured breathing
- Purple discolouration of skin, especially of ear-tips



#### The viral agents often involved include:

- PRRSV (porcine reproductive and respiratory syndrome virus)
- Coronavirus
- Swine Influenza virus
- Circovirus (PCV2)

Not all cases are the same; some may be less severe than others and vice versa, with death and severe permanent damage occurring in the most serious of cases.

Pathogens involved in PRDC can be either viral or bacterial, or both.



**The bacterial agents often involved, which may act alone or together, are primarily:**

- *Mycoplasma hyopneumoniae* (See Action for Productivity 6)
- *Haemophilus parasuis*
- *Streptococcus suis*
- *Bordetella bronchiseptica*
- *Actinobacillus suis*
- *Actinobacillus pleuropneumoniae*

In order to diagnose PRDC it is important to get a detailed clinical history, including age of onset, morbidity and mortality estimates, response to treatment, and the most current vaccination status of the sows and pigs. Samples may need to be sent to a laboratory to identify the pathogens or diseases involved. It can sometimes be difficult to make a diagnosis; consult your veterinarian for advice.

### Management guidelines

A PRDC outbreak can significantly increase the cost of production due to increased medication requirements, decreased growth rate and feed efficiency as well as higher mortality. Successful prevention requires timely vaccination, eliminating environmental stressors and, in most cases, changes to management.

### Key factors in the prevention of PRDC:

- Implement and adhere to a strict biosecurity policy (see Action for Productivity 13)
- Adhere to an all-in all-out strategy per site, building or room with thorough cleaning and disinfection between batches
- Avoid mixing pigs more than is necessary and only move pigs if it is absolutely essential to do so
- Check stocking rates are correct for the size of pig (Table 1)
- Are appropriate vaccination programmes in place ie for EP, PRRS, and PCV2? Discuss and review these with your vet
- Units with a history of PRDC should develop a swine influenza control programme in conjunction with their vet
- Monitor the temperature in buildings daily and avoid temperature fluctuations ( $\pm 2^{\circ}\text{C}$ )
- Aim for a relative humidity below 70% by using well designed and operated ventilation systems (see Action for Productivity 22 for more on ventilation)
- Avoid excessive ammonia levels ( $> 50$  ppm) by removing stale air with good ventilation
- Reduce *Ascaris* larval migration by implementing a worm control plan (see Action for Productivity 1)

Table 1 Stocking rates for part or fully slatted houses, or straw push through systems

Liveweight (kg)	Minimum total space required	
	m <sup>2</sup>	Square feet
<10	0.15	1.6
<20	0.20	2.2
<30	0.30	3.2
<50	0.40	4.3
<85	0.55	5.9
<110	0.65	7.0
>110	1.00	10.8

Straw yard finishing systems: Recommendation is 1.4 m<sup>2</sup> (15 sq. ft) per 95 kg liveweight

Source: Defra Code of Recommendations for the Welfare of Livestock: Pigs

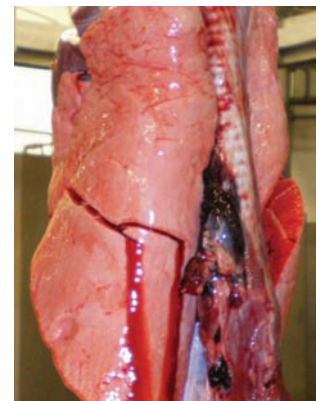
PRDC presents a substantial challenge to both veterinarians and producers; to control it strict management policies and environmental monitoring must be maintained and regularly reviewed with your staff and veterinarian using all available data eg BPHS and production records. This should involve implementing strategic vaccination programs to stabilise and develop a uniform immune status within the sow herd.

### BPHS reports

BPHS vets record the levels of damage to the lungs and pleura of your pigs in the abattoir. You and your vet can use the scores for EP-like lesions, lung abscesses, Pleuropneumonia and pleurisy in BPHS reports to follow changes in the course of PRDC on your farm. BPHS reports can also be useful to monitor the effectiveness of actions taken to control PRDC.



Diseased lung



Healthy lung

**Not a BPHS member or need more information about the Scheme? Call the BPHS administration team on: 01463 233184 or visit the BPEX website to download an application form.**