

healthMATTERS

decision-making process in relation to EP by asking: "Is there a problem?" He must first ascertain whether or not *M.hyo* is present on his farm, what is its importance in relation to other performance-limiting factors, and, ultimately, how much is it costing?

The best route to assessing the situation fully is to seek specialist veterinary expertise. Once appropriate steps have been taken to improve the situation (if necessary) it is important to continue the monitoring process to ensure that economically beneficial improvements are seen and, because no disease picture on farm is ever static, maintained.

DIAGNOSIS AND MONITORING

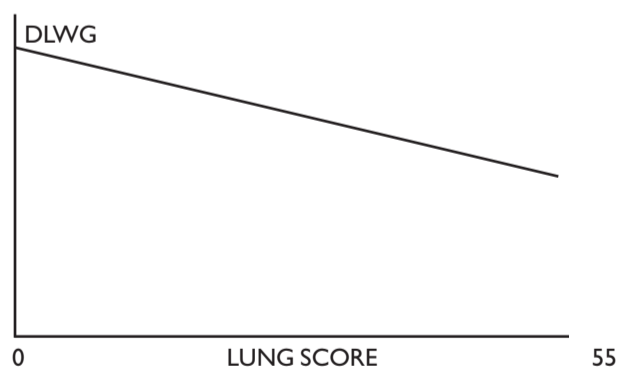
Scientific advancements mean we no longer have to rely on a few skilled individuals to confirm a diagnosis of *M.hyo*. We now have Immunofluorescence and PCR testing as sensitive and accurate methods of detecting *M.hyo* in lung tissue (from post-mortems or the abattoir), and ELISA testing on blood samples can pick up evidence of infection from about 10 days after it occurs.

In terms of monitoring dis-

Previous studies have found that lung scores correlate well with performance, in particular that daily liveweight gain (DLWG) decreases in proportion to increasing lung score (see figure 1). But lung scoring is an assessment of the amount of lung affected by disease at the time it is examined and, in common with other body tissues, lungs have the capacity to heal over time. Thus the damage present in the lungs of a slaughter pig that was infected early in life and has recovered may not accurately reflect the severity of disease (and associated performance check) at its peak.

A combination of clinical observation, blood testing, lung scoring and performance monitoring is needed to fully assess the stage at which pigs are becoming infected and the economic impact. While your vet needs to be involved with this, the accurate assessment of performance is dependent on nothing more complex than weighing the pigs regularly at the end of each stage of production. This simple, albeit time-consuming, procedure is critical for maximum efficiency and cost-effective disease control.

Figure 1. Relationship between lung score and daily liveweight gain



ease we tend to rely currently on clinical inspections (the quarterly visit) and abattoir checks. Lung checks at abattoirs are being widely used at the moment through the BPEX Pig Health Scheme and the Scottish Wholesome Pig Scheme, and are valuable tools for farms, but they must be used in conjunction with other methods.

TREATMENT AND PREVENTION

It is worth reviewing some of the behaviour of the infection to help to understand the managerial methods used for control. *M.hyo* does not inhabit animals other than pigs, and it is also thought to have limited survival time outside the pig, although there is a belief, as yet unproven, that

Table 1 – *M.hyo* risk factors

RISK FACTORS	POTENTIAL SOLUTIONS
Continuous throughput system	Solid pen dividers rather than bars/gates Age segregation (to prevent older pigs infecting younger ones) All-in, all-out production
Poor air quality	Improved housing and ventilation
Wide temperature fluctuations	Improved housing and ventilation
Concurrent Disease	Vaccinate for those diseases Control by other methods
Overstocking	Reduce stocking rates
Stress (eg mixing pigs)	Stable groups of pigs throughout system Small group sizes
Large farms	Multi-site production
Proximity of neighbouring farms	
Nearby pig movements i.e. passing pig wagons (ironically greater with more use of multi-site production)	
Damp weather	

Table 2 – Antibiotic treatments in-feed

IN-FEED ANTIBIOTIC	COMMENTS
Tetracyclines	Better at prevention than cure, so useful at times of increased risk e.g. at mixing
Tilmicosin	Effective but expensive
Tiamulin	Effective alone, but more so in combination with tetracyclines (synergistic effect)
Tylosin	Nil meat withdrawal, so useful in finishing house
Valnemulin	Treatment and prevention but expensive
Lincomycin	Licensed for both treatment and prevention
Lincomycin/Spectinomycin	Licensed for prevention only

Table 3 – *M.Hyo* vaccines currently licensed in the UK

PRODUCT NAME	MANUFACTURER	USES
Hyoresp	Merial	2 x 2ml intramuscular injection 3 – 4 weeks apart from 5 days of age or 1 x 2ml from 10 weeks of age
Ingelvac M Hyo	Boehringer Ingelheim	1 x 2ml intramuscular injection from 3 weeks of age
M+Pac	Intervet/Schering Plough	Pigs from 7 days old 2 x 1ml by intramuscular injection 14 – 28 days apart Pigs from 21 days single 2ml injection intramuscularly
Mypravac Suis	Hipra Laboratories	2 x 2ml intramuscular injections 2 weeks apart. Minimum age at first inoculation 7 days
Porcilis Mhyo	Intervet/Schering Plough	2 x 2ml intramuscular injections 3 weeks apart. Minimum age at first inoculation 7 days.
Stellamune Mycoplasma	Pfizer	2 x 2ml intramuscular injections 2 to 4 weeks apart. First dose at one week of age
Stellamune Once	Pfizer	1 x 2ml intramuscular injection from 7 days of age
Suvaxyn Mhyo	Fort Dodge	2 x 2ml intramuscular injections a minimum of 2 weeks apart. Minimum age at first inoculation one week
Suvaxyn MH-One	Fort Dodge	1 x 2ml intramuscular injection from 3 weeks of age
Suvaxyn Mhyo Parasuis	Fort Dodge	2 x 2ml intramuscular injections a minimum of 2 weeks apart. Minimum age at first inoculation one week

its survival time may be prolonged in dust and muck. These are factors in the farmer's favour, as there are no reservoirs of infection such as vermin or farm workers, and cleaning and disinfection

is very effective. Against that, *M.hyo* is highly infectious so most animals in an infected group will succumb. It can disperse rapidly through the farm, and has been shown to travel significant

distances on the wind. Studies have shown that disease can be transmitted between pigs two miles apart, although the spread of infection can be reduced significantly by increasing the