



Focus on enteric diseases

NOVARTIS ANIMAL HEALTH

In the Novartis Satellite Symposium at the recent IPVS Congress the focus was on enteric diseases in pigs.

First to speak was Dr Nathan Winkelman from the USA who looked at the use of Denagard water medication against ileitis. He highlighted the advantages of water medication as being:

- Ease of treatment and a rapid response to treatment.
- Ileitis infected pigs maintain water intake while their feed intake is reduced.
- Cost effectiveness of implementation.

He then went on to talk about new challenge study information on Denagard liquid from a trial that was set up to compare three treatment dose levels of Denagard Water Soluble in pigs given a high dose of Lawsonia intracellularis.

The results are summarised in Table 1.

The body weights were significantly higher in all the treatment groups and ADFI and FCR were also better in these groups. There were significantly fewer lesions in the treated groups.

Faecal shedding was reduced in all groups during the treatment period and for five days after, but in the 120 and 180ppm groups this reduction continued until 20 days after the cessation of treatment.

It was concluded that treatment at the 60ppm level was the 'gold standard' but that treatments at higher levels for longer periods may be

	Negative control	Positive control	60ppm Denagard	120ppm Denagard	180ppm Denagard
Body weight (kg)	27.3	19.2	25.5	25.4	25.5
ADG (kg)	0.594	0.313	0.531	0.531	0.531
ADFI (kg)	0.948	0.640	0.885	0.889	0.885
FCR	1.60	2.07	1.67	1.69	1.67
Porcine proliferative enteropathy scores					
Ileum	0.19	2.15	0.87	0.08	0.28
Jejunum	0.00	1.86	0.30	0.00	0.00
Colon	0.00	0.28	0.07	0.00	0.00
Lesion length (il + jej (cm))	1.15	78.38	10.4	0.52	1.94

Table 1. Evaluation of different dose levels of Denagard against porcine proliferative enteropathy.

warranted in severe proliferative haemorrhagic enteropathy outbreaks or in porcine proliferative enteropathy eradication efforts.

British pig veterinarian, Jake Waddilove, then reflected on his own experiences with swine dysentery eradication.

He found that almost half of outbreaks were as a result of pig movements.

Much of his success centred around ancillary advice including advice on biosecurity and how to stop spread, advice for visitors to infected farms, vehicle protocols, protocols for vehicles visiting infected farms, protocols for vehicles carrying infected animals, guidelines on cleaning and disinfection of infected farms, general information about the disease and advice on how to prevent reinfection of cleaned units.

Italian Dr Fabrizio Agnoletti then

spoke about clostridial isolates (*Clostridium perfringens* and *difficile*) from neonatal pigs.

He highlighted a survey of *C. perfringens* isolates from Italy and Denmark. All belonged to toxin type A and >80% were beta2 toxin encoding gene positive, thereby showing wide dispersion of this gene in porcine isolated *C. perfringens*.

Of the Italian strains 23% showed resistance to tiamulin and one isolate was resistant to Valnemulin, whereas all the Danish isolates were sensitive to both antibiotics.

All *C. difficile* strains were characterised as toxigenic and 73% of them carried the binary toxin coding gene, thus confirming the wide spread of this new toxin in swine strains.

Valnemulin had excellent in vitro efficacy against all isolates of *C. difficile*.

David Burch from the UK then highlighted how tiamulin has very

unique pharmacokinetics for both respiratory and enteric infections and that the antibiotic is well absorbed from the gut and concentrates in lung tissue.

Excretion is via the bile so bioactive residues and parent compound, which is also re-excreted, concentrate in the ileal and colonic contents.

When administered via the water higher levels of tiamulin are achieved in the lungs than via the feed.

Tiamulin administration via the feed results in higher gut concentrations of the antibiotic.

Finally, Professor Steven McOrist from the University of Nottingham, in the UK, considered the role of vectors in disease transfer and, in particular, the transfer of *Lawsonia* and *Brachyspira* bacterial species.

In a survey of pig farms *Lawsonia* DNA was detected by PCR in flies and cockroaches. ■

Severe porcine proliferative enteropathy.



Chronic swine dysentery.

