

Colitis in grower pigs – the profit stealer

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Colitis is the term for inflammation of the large intestine or colon. Several bacteria can cause colitis, which usually causes diarrhoea in the pig but more recently the term 'colitis' has become associated with *Brachyspira pilosicoli* infections, the cause of porcine intestinal spirochaetosis.

Jill Thomson from SAC Veterinary Services in Edinburgh reported on the prevalence of the different bacteria in a survey of 85 farms with grower diarrhoea (see Figure 1).

Many of the infections were mixed, but *B. pilosicoli* was the most frequently isolated as a single agent and combined, frequently with *Lawsonia intracellularis*, the cause of porcine proliferative enteropathy or 'ileitis'.

The infection tends to cause only mild, grey diarrhoea (see photo, below) and it is impossible to distinguish it conclusively from other infectious agents without further diagnostic tests, including culturing, PCR and serology, a speciality of SAC in the UK.

Swine dysentery, caused by *B. hyodysenteriae*, is generally much more severe and the diarrhoea frequently contains blood and mucus and may kill pigs. Its effects on growth and feed conversion efficiency are also much greater in comparison with *B. pilosicoli* infections, although both bacteria occupy the same part of the gut, the deep crypts in the colonic mucosa. *B. hyodysenteriae* is generally more invasive and pathogenic.

From a recent UK survey of *B. pilosicoli* isolates, the majority were susceptible to both tiamulin (Denagard®)

Table 1. The minimum inhibitory concentrations (MICs) of various antibiotics against 21 UK *B. pilosicoli* isolates (Pridmore, 2008)

Antibiotic	MIC 50 (µg/ml)	MIC 90 (µg/ml)	Range (µg/ml)
Tiamulin*	0.031	4.0	≤0.008 – 4.0
Valnemulin*	≤0.008	0.5	≤0.008 – 4.0
Lincomycin	4.0	16	0.031-64
Tylosin	>128	>128	0.062->128

Key: * = Indicated for use against 'colitis'

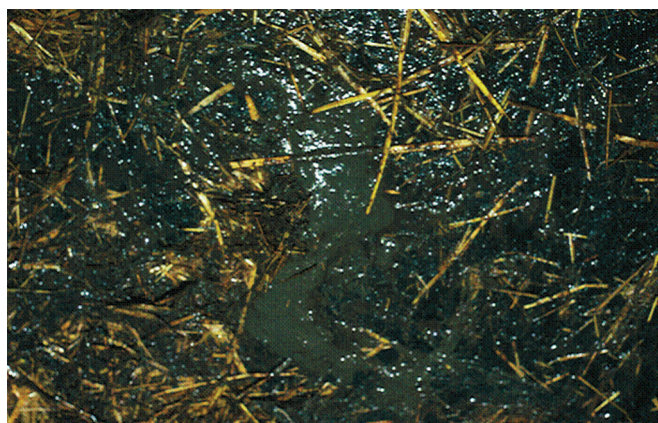
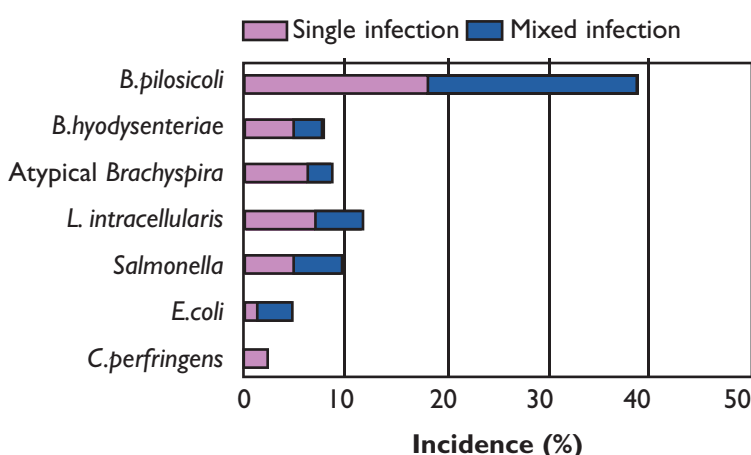
Table 2. Treatment of colitis affected pigs with tiamulin

	Untreated controls	Treated pigs (tiamulin 100ppm for seven days)
No of batches	6	6
No of pigs	1835	1856
Average daily gain (g)	757	880 (+16.2%)
FCE	2.03	1.77 (-12.8%)
Mortality (%)	1.09	0.92 (-15.60%)

In a treatment study, Thomson and others (2005) showed that tiamulin improved consistently the performance of growing pigs between nine and 15 weeks of age (see Table 2). The performance in the untreated pigs could be considered reasonably good, demonstrating that *B. pilosicoli* does not exert a severely damaging effect, unlike *B. hyodysenteriae*, but the treated pigs still grew 16.2% faster and had a better FCE by 0.25 (12.8%). Mortality was low in both groups but marginally improved in the tiamulin-treated groups.

Colitis appears to be a relatively common problem in

Figure 1. The main bacterial causes of 'colitis' in growing pigs



and valnemulin (Econor®), both products being approved for use against 'colitis'. Lincomycin (Lincocin®) is also active but there is extensive resistance to tylosin (Tylan®) (see Table 1).

Even though *B. pilosicoli* causes a less severe problem in growing pigs than swine dysentery, it can still have a major economical impact on performance.

young pigs but with good diagnostics and the right therapy, it is a disease that can be well controlled and its economic impact kept to a minimum.

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