

PARASITE ATTACKS GUT VILLI – AND THE BOTTOM LINE

Duncan Berkshire (MA VetMB MSc CertPM MRCVS), from XL Vets' Bishopton Veterinary Group, helps a producer to get to the bottom of an ongoing scours problem in his housed piglets

QUESTION:

Scours in our farrowing house seems to fluctuate considerably during the year, although there are always a few cases at any one time. Recently, as the weather has turned cooler, a white/yellow pasty looseness has really hit the piglets hard at around 10 to 14 days of age and weaning weights have decreased significantly. Treatment with antibiotics has given a slight response, but some of the scour remains and normal growth does not appear to have returned. What can be done?

ANSWER:

Farrowing house scours in pre-weaned piglets can be a complicated mixture of infections that either destroy the lining of the intestines or make it more difficult for the contents of the gut to be absorbed. It is often a mixture of infections as well, with bacteria, viruses and parasites all playing their part in challenging the small piglets. Any challenges at this young age can have significant repercussions on the future ability of the gut to absorb food and the growth rates of the pigs.

Diagnosis of what is causing scours within the farrowing house helps enormously in setting up a proper treatment programme and longer-term control. Freshly voided samples of scour can be useful but, in order to get the whole picture, fresh cultures of gut contents and histopathology need to be taken from a sacrificed piglet. This allows a detailed examination of the gut itself to be undertaken and the impact of any infection to be assessed.

In your case, as you mention no



routine controls or treatments within the farrowing house, I am assuming that none are practised and that the antibiotics you have been trialling have been only on affected piglets.

The effect of different antibiotics on different bacterial infections will be extremely variable based on their sensitivities, and these choices should always be discussed with your vet. However, the fact that you have seen little effect from your treatment would indicate that a bacterial infection is not the primary problem.

A common infection in young piglets, at around the timeframe you indicate and often producing the pasty type looseness you describe, would be a parasitic infection known as coccidiosis. This is caused by a small protozoal parasite called *Isospora suis*, the oocysts (eggs) of which can quite happily live in the environment for long periods of time. They are resistant to the majority of disinfectants and can sit and wait to infect a susceptible young pig.

FINGER-LIKE VILLI

Once inside the gut, the young parasites invade the lining of the small intestine, burying into the finger-like projections called villi. As they grow, reach maturity and produce more oocysts, they burst out into the contents of the gut and destroy the villi. This disrupts the normal digestion and flow of food through the piglet. Undigested food then makes it through into the large intestine, causing disruption to the absorption of water and a pasty looseness results. Secondary infections with bacteria can be common, but not always present.

I would suggest discussing with your vet about having some fresh gut samples submitted for histopathology to help confirm the infection and the evidence of the gut lining being destroyed by the parasites. Although scour samples alone can give an indication of coccidial infection, the categorical diagnosis is made by looking at the damage to the gut wall under a microscope.

Treatment is by using an anti-protozoal medication, such as toltrazuril, orally in individual

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piglets and usually during the first week of life. Timings of this will vary from unit to unit due to the differences in infection pressure and the way the piglets react. But the treatment needs to occur after the initial infection has happened otherwise the piglets will not be able to generate an immune response and this will leave them open to subsequent reinfection and later stage scour problems.

Antibiotics will be ineffective at treating the coccidial infection, as you have found out, although any secondary bacterial infections may require some antibiotic treatment to help the piglets recover. This should be based on culture and sensitivity results from your unit and discussed with your herd vet. Significant problems in piglets are caused by the associated dehydration, including increased mortality. Many of these can be helped, including reducing some of the mortality seen, by the provision of water and/or electrolytes within the farrowing pens as symptomatic treatment.

GOOD HYGIENE

Longer-term control can involve the use of toltrazuril, although increased hygiene to reduce the infection pressure to these young pigs will always help. The greatest infection pressure comes from piglet faecal contamination between batches of pigs through the farrowing houses, so a thorough clean down is essential. Although many disinfectants are ineffective at killing the oocysts, there are a couple that do make claims to be oocidal (kill the oocysts). The use of old-fashioned limewash is also beneficial in many circumstances because this helps to provide a protective layer over any oocysts that are left in the pen and so stops them being eaten and infecting the piglets. Care must be taken if using limewash to let it dry thoroughly before any animals can come into contact with it,



since wet lime can cause caustic burns to skin when used in a concentrated form.

Ongoing control of coccidiosis is certainly achievable and it should not cause huge, ongoing issues if this is the case on your unit. In fact, there is increasing evidence that subclinical infection

with the coccidial parasites (infection without causing looseness) can cause a considerable decrease in growth rates during the pre-weaning period.

So many units would benefit from better control of this protozoal infection, leading to increased weaning weights across the board.

Ask the vet...

Email your animal health questions to sophie.thorpe@xlvets.co.uk