Implementation of existing knowledge on tail biting by the development and evaluation of prevention and outbreak husbandry advisory tools

Research partners: University of Bristol, University of Newcastle
Industrial partners: RSPCA, BPEX, pig producers
Duration: 2006 – 2009

Units from seven producer groups have been involved in a project jointly funded by BPEX and the RSPCA aimed at reducing the risk of tail biting in commercial units. 65 units were recruited for the project, each receiving between 2 and 4 visits between 2007 and 2009. On each visit a questionnaire was completed, examining the specific risks and combinations of tail biting risks found in different pen types on the units, and units received information and suggestions to help overcome the specific risks found.

The risks incorporated in the questionnaire were the result of consultation with a range of industry experts at the start of 2007, covering issues of atmosphere and environment, health, transport and mixing, feed and water, stocking density and key indicators of the pigs' behaviour. 57 units had two or more visits (some units ceased production during the study) and prevalence decreased significantly from 3.96% to 2.38% over the course of the project. The full picture shows that tail biting is not spread evenly across farms, with no tail bitten pigs found on 35 out of 172 visits to finisher units, but 15 visits finding that 10% or more pigs were tail bitten.

The definition of tail biting used here is stricter than the "clinical" definition, extending to small scabs and lesions rather than only wounds where part of the tail had been bitten off. There were approximately three pigs with mild lesions for every clinical tail biting case in this study, varying with housing type and age of pig, which highlights this as an early warning sign. Looking at the pigs' behaviour, the best warning signs were pigs tucking their tails down tightly against their rump, even before clear signs of injury, and restlessness or agitation in a pen.

The most commonly found risks for tail biting related to atmosphere and environment, enrichment (straw or toys), general feed and water provision (e.g. ease of access), and pig health. The majority of individual risks factors seen on a unit were linked to increased likelihood of tail biting within a pen, but some factors may have been only indirectly associated with problems.

Factors strongly associated with higher likelihood of tail biting within a pen were:

- Draughts in the lying area - these cause discomfort, disrupted rest, and undesired use of pen layout e.g. poor separation of lying and dunging areas.

- Variation in tail length (not caused by tail biting) i.e. a mixture of long and docked tails, or a range of docked tail lengths within the group.

- Season – a link was found with the number of days of air frost in the preceding month, i.e. uncommonly cold temperatures, which could potentially affect pen temperature, ventilation rate (thus giving poor air quality and respiratory problems), drinking water availability, daily farm routine.

- Objects provided for enrichment but being fouled at floor level or with poor accessibility. A booklet of ideas for pig enrichment based on good practice seen during the study is available from BPEX.

- Pigs which were previously housed on straw but then moved into non-straw systems

- Fouled drinkers (only found in 4% of pens, but with a highly significant association). These may have been indicative of general management standard rather than being a direct cause.

Factors strongly associated with lower likelihood of tail biting within a pen:

- Pigs which currently had straw.

- Pigs which were housed on straw throughout.

- Pigs which were vaccinated against PCV2.

Results from the survey are being used to fine tune our understanding of the relative importance of different risk factors in order to help prioritise preventive measures on different types of unit. Similar findings are currently being analysed for weaner systems. A final spreadsheet calculator of tail biting risks will be made available online via Bristol University.

A related project was also carried out on seven units aimed at reducing the impact of tail biting once an outbreak had occurred. The likely triggers differed on the different units and included ventilation issues, mixing a docile and a more aggressive strain of pigs, underlying health issues or pigs developing tail biting behaviour on their previous unit. A number of approaches are available to help control an outbreak of tail biting:

- Identify and remove the biter(s); spray mark suspected biters to help identify who the culprits are.

- Remove and treat bitten pigs; helps to manage lesions and prevent more pigs becoming involved.

- Add chewable objects; provide a distraction for pigs to chew on – pigs show most initial interest in objects that are odorous, chewable and deformable, and sustained interest in objects that are destructible (chewable) and edible. Consider high quality objects to initially break the behaviour, followed by sustained interest objects. Any program of adding objects needs to be kept up once the initial outbreak is over.

- For pigs on straw, add straw more often, e.g. daily or twice daily to re-stimulate interest in the straw instead of each other.

Whichever actions are tried, the key is to do something as soon as possible, before more tails are bitten, before lesions become more severe with infection setting in, and before more pigs develop the habit of biting tails. Whilst dealing with an outbreak it's also worth considering what triggered the behaviour in that particular batch of pigs to help prevent it in the next batch.

Key points to control tail biting: 1) identify and reduce risk 2) monitor carefully 3) react fast.