



Better control of *Salmonella* Typhimurium in pig herds

Protect your pigs, your business and British food

Background

Salmonella is the second most common cause of bacterial food poisoning in humans worldwide, causing up to 50,000 cases in the UK each year.

Monophasic *Salmonella* Typhimurium (mST) has increased dramatically in pigs and people across Europe since 2007, adding to the regular *S. Typhimurium* (ST) that was already dominant in pigs.

The resistance of mST to antibiotics has also been increasing as *Salmonella* from eggs has reduced, pigs are now thought to be source of human *Salmonella* in the EU.

Most commercial scale pig farms have some *Salmonella*, but some types, like ST and mST, are more hazardous than others.

Salmonella from pigs can contaminate meat products, kitchens and pet food; slurry spreading and dust, including dusty soil from outdoor units, can pollute the general environment, leading to further dissemination of infection to wildlife and other food animals, especially poultry.

Farm hygiene improvements introduced to control *Salmonella* can potentially also help limit other diseases on the farm, and ultimately improve productivity over time.



PROTECT YOUR HERD!

- Stop new *Salmonella* infections getting in.
- Make improvements to reduce the level of any existing *Salmonella* on your farm.

Main sources of *Salmonella* and control measures

Replacement pigs

Some breeding herds are likely to have mST.

- Test pooled faeces samples from your growers to see if you have ST or mST already.
- If you have no ST/mST – ask for replacement pigs that are also free.
- Try to minimise the number of separate units supplying pigs to your farm.
- Keep new stock separate from existing stock for four weeks and consider testing on arrival.
- Inform suppliers that you will be testing – this may lead to supply of ‘safer’ pigs.
- In the longer term, plan to operate a closed herd.



Other animals

Cattle, especially calves, may carry mST. Pets may acquire mST from pet food/treats and pets may also transmit other pig diseases.

- Plan to house cattle away from pigs and manage them and their manure separately.
- Do not allow pets to access pig housing, feed or bedding stores.
- Do not feed uncooked meat to pets; tinned food is ‘safest’.

Feed

Feed and feed ingredients are rarely contaminated by mST/ST, but other *Salmonella* may be present.

- Avoid using ingredients grown on other pig farms.
- Ask to see the *Salmonella* testing records of feed suppliers.
- If using home mixed rations, do some testing of vegetable protein ingredients, e.g. soya.
- Store feed in enclosed, dry containment.

Cleaning and disinfection

Cleaning and disinfection must be done effectively or it is wasted effort and may increase contamination.

- Clean and dry surfaces as well as possible before applying disinfectants. Pre-soaking with detergent sanitisers helps speed up washing and reduces some bacteria.
- Pooled water in troughs, feeders etc. will dilute disinfectants and stop them working.
- Apply approved disinfectants at high pressure to saturation point – use Defra General Orders concentration.
- Schedule in as much drying and down-time as possible before restocking.
- Check cleaned feeders and drinkers for recontamination by mice.
- In general, for *Salmonella*, chlorocresol based disinfectants are best for boot dips or wet areas and glutaraldehyde-based disinfectants are best for buildings and equipment.



Rodents

Rodents are especially important vectors as they can be easily infected and massively amplify *Salmonella*, leading to infection in pigs. Mice are a greater *Salmonella* risk than rats!

- Reduce access to feed and stored bedding.
- Note signs of rodent activity e.g. droppings, tracks, urine pillars, grease marks and place bait close to activity.
- For rats, use hole baiting following HSE rules on safe use of bait. For mice, bait within hollow building structures beneath and behind feeders and at building access points.
- Proof buildings and drainage against rodents as much as possible.
- Refer to the AHDB and HSE rules on rodent control.

Movement of pigs

Moving and mixing pigs can spread *Salmonella*.

- Arrange farrowing in batches and only mix piglets at weaning, not later.
- Keep post-wean groups together during rearing and minimise contact with other pigs or faecal contamination.
- Minimise the number of moves after weaning.
- Aim to batch pigs to fill and empty grower and finishing houses on an all-in/all-out basis.
- Clean and disinfect piglet barrows, transporters, walkways, weighers etc. between batches.
- Do not re-introduce sick or small pigs into later batches.

Movement of people and equipment

Movement between premises may spread infection.

- Take care when admitting people who have worked on other livestock farms recently.
- Clean and disinfect vehicles and equipment that have been on other livestock farms.
- Accept visitors by appointment only.
- Provide clean hand washing and toilet facilities for people using the farm.
- Provide boots and protective clothing for visitors.
- Keep a visitor record book.



Management aids to Salmonella control

Good hygiene management is essential before other measures can work.

- Additional measures should be discussed with veterinary advisors.
- Vaccines can be used for some types of *Salmonella*.
- Reducing wheat and increasing barley in feed, and increasing grist size of feed can help.
- Feeding course ground meal, or partly meal, instead of pellets can help.
- Fermented liquid feed reduces *Salmonella*, especially if dairy products are included.
- Acidification of feed and water may be beneficial in some cases.



Wildlife pests

Wild birds, foxes and badgers can carry *Salmonella* and other pathogens between farms.

- Avoid spilled feed, open hoppers, clutter and pooled water that can attract wild birds.
- Collect mortalities, afterbirths and piglet tails promptly.
- Eliminate perching places and net buildings.
- Use electric fencing to deter wild mammals.
- Use wild bird deterrents, e.g. screamers, hawk kites, scary men, shooting and falconry clubs. *A wild bird control licence may be needed www.gov.uk/pest-control-on-your-property

Salmonella control on outdoor units

Salmonella contamination builds up in soil and wallows, and persists for months. Cleaning of pens and feeding equipment is difficult. Wild birds may become involved in infection cycles.

- Design systems so that the whole site can be moved as often as possible.
- Arrange stocking density to reduce damage to land.
- Minimise the number of sows in each farrowing paddock.
- Rotavate and rest paddocks after use on a cyclic basis.
- Operate a closed herd, or single age system.
- Keep new gilt groups away from the main herd.
- Clean and disinfect holding pens for weaners or slaughter pigs before use and reduce mixing of groups.
- Use feed troughs and bird-proof hoppers and deterrents to discourage wild birds

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