Management

by Stuart Lumb

Infection

According to the Oxford dictionary 'infection' is defined as 'the communication of disease'.

Disease on pig units is a major headache and as the world shrinks a disease in Asia can overnight be a problem in Europe and vice versa. Listen to any economist and you will be told that pig units the world over are getting bigger and bigger.

This may give economies of scale, but the risk of infection getting in is the downside. The well known phrase 'a pig's worst enemy is another pig' takes on a whole new meaning as units get larger.

So, how are infections spread? The major culprits are air, water, humans, vermin, birds, manure, vehicles, feed and, of course, the pigs themselves.

In the UK 30 years ago a 100 sow unit was a big business. It was not considered necessary to change boots and overalls when going on to a typical commercial unit.

Biosecurity was not even in the dictionary. Feed wagons came right on to units and most units did not have a proper loading ramp – the truck just used to back up to the finishing house door and if you were short staffed the driver used to come into the house and obligingly help to load the pigs.

Swine vesicular disease (SVD) was rampant in the East Riding of Yorkshire in the UK in the early 1970s.

Several units that were slaughtered out had all been visited by the same haulier whose first pick up was from a large swill feeder. It was never proven, but by implication the wagon, or its driver, was the guilty party.

Serious consideration was then given to proper unit planning, with perimeter fencing and purpose built loading ramps being made essential components.

Buildings were laid out in a logical sequence with bulk bins incorporated into the fence/wall so that feed trucks had no need to come into the piggery. Multisite production is seen a lot in the USA and Canada and a benefit of this concept is that disease spread is limited to specific ages and weights of pigs.

There is very little that most pig producers can do about airborne infection. Ironically in the UK with people going out of pigs pig density has declined and hence the risk of airborne infection has declined also.

One progressive UK producer used to be surrounded by four pig farms – this is now down to one. Breeding companies like to site their high health units in geographically isolated areas and ideally own the surrounding land or have an agreement that no other pig units can be located within a three mile (4.8km) radius.

Inside buildings, special oil mixture sprays have been shown to give a 10-fold reduction in the amount of bacteria in barns, researchers at the John Hopkins School of Public Health reported recently.

Infection can be waterborne. Producers may religiously power wash and disinfect walls and ceilings between batches of pigs but then neglect to disinfect header tanks, piping and drinkers.

Header tanks should be covered to stop vermin droppings contaminating the water – it is not unusual to find drowned vermin in uncovered tanks – not an ideal situation.

Bait traps should be placed in strategic places around the unit plus spilt feed should be religiously cleaned up, especially in cold weather when vermin naturally migrate inside seeking food and warmth. Bird spread infection is a very topical issue right now with all the concern about avian influenza.

Most pig units in temperate or tropical countries have open areas which birds can fly into and deposit infected droppings. Wire netting and mesh screens are good preventative aids in this context.

Humans are always considered a threat as far as infection is concerned and it is common practice for each unit to at least have its own supply of overalls and boots which visitors must change into. Showering in is also quite common plus a number of days of pig freedom.

Visitors to pig farms in Denmark have to be at least 48 hours in the country before they are allowed to go on a pig farm.

This may seem an imposition, but if you wish to go on to a pig farm in Hawaii then you need to plan well ahead as you need to be pig free for 14 days.

Manure can contain infectious agents hence the importance of rigorous cleaning, disinfection and resting of walls, floors, ceilings, pits and equipment, between batches.

Ideally, slurry pits should receive the same cleansing treatment but in old buildings this is often very difficult to do.

Solid manure often contains straw. If the straw is bought in then ideally it should be from crops that have not had pig manure spread on them.

Bringing in straw entails vehicles coming on to the unit and many farms have disinfectant dips sited at the entrance. The disinfectant must be kept up to strength plus, of course, make sure that the driver and colleagues follow the disinfection drills too.

Wagons also bring in replacement gilts. Many producers are now trying to minimise the number of breeding replacements coming on to their units.

Any replacements could be carrying infection, if the multiplier had a very recent breakdown, hence the need to isolate new arrivals in an isolated part of the unit before full integration.

Bringing in F1s poses the biggest risk as you need to replace around 35-40% of females annually. Going to the other extreme you can adopt a criss-cross on farm gilt replacement policy and bring in new blood through AI.

Some large producers even have their own AI studs stocked with nucleus level boars so that they can collect their own semen and, thereby, have full control over the whole operation. In this situation the only pigs coming on the unit are a handful of boars annually.

Infection and infection control are very complex matters. All these procedures and protocols certainly take time and money to implement and maintain, but it is definitely time and money very well spent, as disease can very quickly cripple a unit's profitability. ■