Health management is all about people management!

There is a tendency to think that technology is the answer to all problems! Yes, technology has a very important role to play in many facets of poultry production, but we must always remember the key role of people. In this article we will consider the role of our managers, supervisors and staff in the maintenance and management of the health of our birds.

If we look at disease outbreaks in any farmed animal species, it is amazing how often a 'people factor' comes to light when we investigate how any particular outbreak occurred! Invariably this is because the rules were broken, circumvented, ignored or just totally inadequate!

Let's, for the purpose of this article, restrict our definition of disease to infectious disease which is all those diseases that are caused by living organisms such as bacteria, viruses, mycoplasma, parasites and the like. For infectious disease to occur the causal agent must enter the flock and birds must succumb to it.

Obviously the first way to keep our birds healthy is to ensure that they have so much inherent protection (immunity) present that they can withstand infection and remain healthy. This is what vaccination is all about.

So, how can disease causing agents enter a flock? The routes of entry are detailed in Fig. 1. If we consider these eight sources of infection, one relates to infection in the previous flock not having been eliminated by the terminal cleaning down and disinfection programme, while the other seven relate to disease coming on to the farm and, hence, we could argue a breakdown in biosecurity. In total we could reasonably argue all relate to people/management system failures. Thus, people are critical to our maintenance of health status on a poultry farm.

If we look at these eight primary sources of infection two of them are outside the control and management of the farm and its staff.

These are the feed and the day olds. For these two inputs to be free of disease, or disease causing micro-organisms, we are relying on others to do their jobs correctly.

However, this does not mean that we do not have an important input. In this day and age it is reasonable for us to define the status of the products that our suppliers supply and to require them to assure us, and then continually reassure us, that they are capable of supplying what we need and do, in fact, supply such products.

It is also reasonable for us to audit our suppliers to ensure that they are really doing what we think they are doing and what they say to us that they are doing and for us to test goods supplied to see that they meet the required standards and/or specification(s).

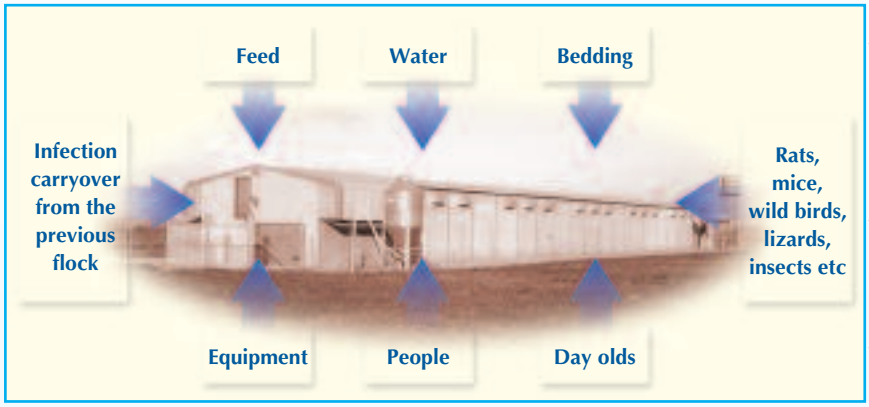

Fig. 1. Sources of infectious disease.

If we look at the remaining sources of infection they fall into three groups. Firstly, the carry over of infection from a previous cycle, secondly, the water supply and, thirdly and finally, things that are brought on to the farm.

In this last category we must also consider the means by which feed and day olds are brought on to the farm because even though the feed or day olds are disease free the vehicle that brings them may not be.

Let us start by considering the farm management, which should hopefully mean the elimination of carryover infection from a previous cycle. If we are to achieve this goal we must totally clean the site and all its equipment and then we must effectively disinfect everything. We must then ensure that no reservoirs of infection remain on that site, for example in the mouse population, by eliminating such reservoirs.

To do this we need various resources. We need management that knows what is required and how it can be achieved and we need staff which is able to undertake the various tasks thoroughly. We need suitable equipment and appropriate chemicals (disinfectants etc). Above all, we need adequate time in which to do the job. In addition, we need ways of measuring the effectiveness of our activities and, if they have not been effective enough, we need to have enough time to repeat the process(es) that have been found to be wanting.

Many tend to think that microbiological screening is the only way to confirm the effectiveness of a cleaning and disinfection programme. It is not – we can use our eyes and do visual assessments at each and every stage.

This is important because substandard cleaning that is detected at an early stage is easier to correct than that which is only detected at the end of the process by the microbiological testing.

In other words all through the cleaning process we should be visually checking to see that adequate cleaning standards are being achieved and we should not be relying on microbiological testing to do this for us.

We should only be using microbiological testing at the end of the process to confirm that 'visibly clean' is also 'microbiologically clean'.

A common failing of management is not to spend enough time supervising and checking the cleaning processes. This being the case, and considering the importance of successful cleaning and disinfection on the subsequent performance of the flock that is to be placed, it surprises me why so many companies see this as the perfect time to give their managers and supervisors time off for their holidays!

The management of the quality and safety of the water we provide our birds is often lacking. If we have a public water supply we should not assume that all is well. It is amazing how often public water supplies contain inadequate chlorine levels or are actually contaminated.

It is best to have water treatment under one's own control but, if we are in this situation, we must ensure that the processes involved occur 24 hours a day, seven days a week and 52 weeks a year!

Here again, the requirements are similar to those discussed for terminal cleaning and disinfection. We need management that knows what is required and staff that know how to do what is required. We need the equipment, the chemicals, the time and the means of confirming that the job has been done correctly.

The one big difference is that water treatment is a continual process and management tends to tire of monitoring continuous processes and so lapses occur.

It is amazing how many farms that chlorinate their own water have chlorination records that have not been completed for months, even though daily checks are (or are meant) to be done!

Systems must be in place to ensure that this does not occur.

We must also remember that water treatment is only effective at the time it is done. If that water is subsequently heavily contaminated the benefits of normal

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water treatments, such as chlorination, will often be negated.

Thus, we need to ensure that once we have treated the water it is adequately protected and kept clean. We must be sure that wild bird droppings can not get into bulk storage tanks and, if we use header tanks, we must ensure that they all have tight fitting lids.

Then we come to the management of everything that comes on to the farm and ensuring that it does not bring any unwanted infection with it. In everyday language this is often referred to as biosecurity.

If we are going to effectively control diseases, the first thing we must know is what is coming on to our farm. This is because everything and anything that comes on to our farm is effectively a potential 'disease taxi'.

We must carefully consider which of these really need to come on to the farm and which can stay off the farm. If we keep something off the farm we have effectively eliminated any disease risk that it represents to our flock(s). If something has to come on to the farm then we must consider how we manage or control its entry so as to eliminate (or at least greatly minimise) any risks that it represents.

For example, let's consider people (visitors). Why do they have to come to the farm? Can we, or one of our colleagues, meet visitors off farm? If they do have to come on to the farm do they actually have to go into the flock(s)? If they do they represent a significantly greater risk!

If they have to come on to the farm what can we do to minimise the risks? Can we insist on a period of poultry freedom? Should we require them to shower on to the farm? Should they only wear company provided clothing or boots? These are just some of the questions we should ask ourselves when defining our visitor policy.

When bringing equipment on to the farm we need to know where it has come from. Ideally we should give it 'standing time' off its farm of origin before it comes to our farm because time and sunlight are good at reducing pathogen numbers. Finally, we should consider the cleaning, disinfection and/or fumigation processes that we are going to subject it to before letting it on to our farm.

We also need to define our policy on all those 'little things' that we tend to overlook. How do we remove dead or cull birds from the farm. The collecting vehicle wants to be kept well away from our birds as it is effectively 'disease on wheels'!

What about staff meals? What about electricians, engineers, plumbers and their tool bags?

What about the veterinarian and his tools? What about union reps who think they can go anywhere without reference to management? The list of items to think about is endless. The danger is that it is the one that we overlook that brings disease on to our farm!

If we reflect on what we have been saying it becomes apparent that the cornerstone to keeping disease out of our farm is people and how we manage and control them and their activities. They are the real weak link in the biosecurity of so many farms.

So, how do we remove this weakness? The first issue is one of numbers. The more staff we have on a farm the greater is the probability that one of them will do something wrong and breach the biosecurity.

Obviously, the number of workers varies significantly around the world but tends to depend on wage levels. Where wages are low there is a tendency to employ more people. Where wages are high, automation comes to the fore. The benefits of this are countered by the consequences of mechanical failure!

The next issue is one of staff quality. Ideally we want quality staff who understand the issues associated with biosecurity and the importance of 'playing to the rules'. Here we have a problem because in many parts of the world the better quality workers do not want to work in the poultry sector. Thus, we have the challenges associated with staff education and training.

In reality this is often not the problem – the real issue is that the vast majority of people can be trained, but that our supervisors and managers are not competent enough in this key skill of training people. Ten reasons for staff training failures are detailed in Table 1.

What we tend to forget is that all of us are involved in training and that the contents of Table 1 apply to us all. In fact, training

Table 1. Reasons for staff training failures.

KNOWLEDGE	The trainer not knowing the material to be taught and how it applies to the trainees' situation.
METHOD	Not putting the information across to staff in the most appropriate way. At worker level demonstration is always better than telling.
CONTEXT	Failure by the trainer to stress to the trainee the importance of the subject matter to the employer and employee's well being.
RELEVANCE	Failure to relate relevance to individual workers and the jobs that they do on the farm.
TIME	Inadequate time results in training being rushed with the result that staff to not take the material on board.
REINFORCEMENT	Staff do not always have the best of memories and for a subject that they are not actually physically doing every day they tend to forget what they were told. This necessitates repetition and reinforcement of the training.
INTERFERENCE	Occurs when trainees' attention is not 100% focused on the training. Training must be done in situations where there are no interfering distractions.
BOREDOM	When people are bored they do not take information on board. Some trainers are exceedingly boring!
PLANNING	Poor planning results in training not being done that should be done or being given in the wrong sequence with the consequence that it is not totally understood.
PREPARATION	Inadequate preparation by the trainer results in rushed, disjointed sessions that do not benefit the trainee.