

# Biosecurity starts with awareness

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In today's intensive breeding, biosecurity is 'hot'! Hygiene awareness has grown tremendously over the past years, mainly due to farm size growth; increasing food scares incidents, animal disease outbreaks and a desire for better farm economics.

In the food industry, hygiene is already well known and part of the processes. This awareness and knowledge is now rapidly filtering down to the farm. The final consumer and therefore the food chain are demanding safer food, produced more naturally, with better animal welfare.

Every day we realise that the sense and nonsense of biosecurity is directly related to the hygiene standards and even more to people's awareness and discipline in following the rules and protocols.

This is why a good biosecurity programme is not only based on a simple disinfectant or cleaner. It needs to be a comprehensive and

well balanced package of measures and products resulting in the ideal goal – tailor-made biosecurity.

## Awareness

It is of first importance that one learns about the ins and outs of biosecurity. This means 'training and information'. Knowledge is the only appropriate base for successful biosecurity programmes. One has to question what contamination is exactly; where do the contamination risks occur; what are micro-organisms; how do I prevent threats from entering the premises; what is our role as a manager of the farm and what do we need for good cleaning and disinfection? These are just examples out of a wide range of issues to be clarified. Basically, we need to create knowledge and thus awareness about

our working routine and the potential consequences of it.

As soon as a health disorder is detected, one should immediately be aware of the possible impact and react accordingly. At the moment a threat has entered the housing, immediate extra biosecurity steps should be undertaken in order to prevent further spread.

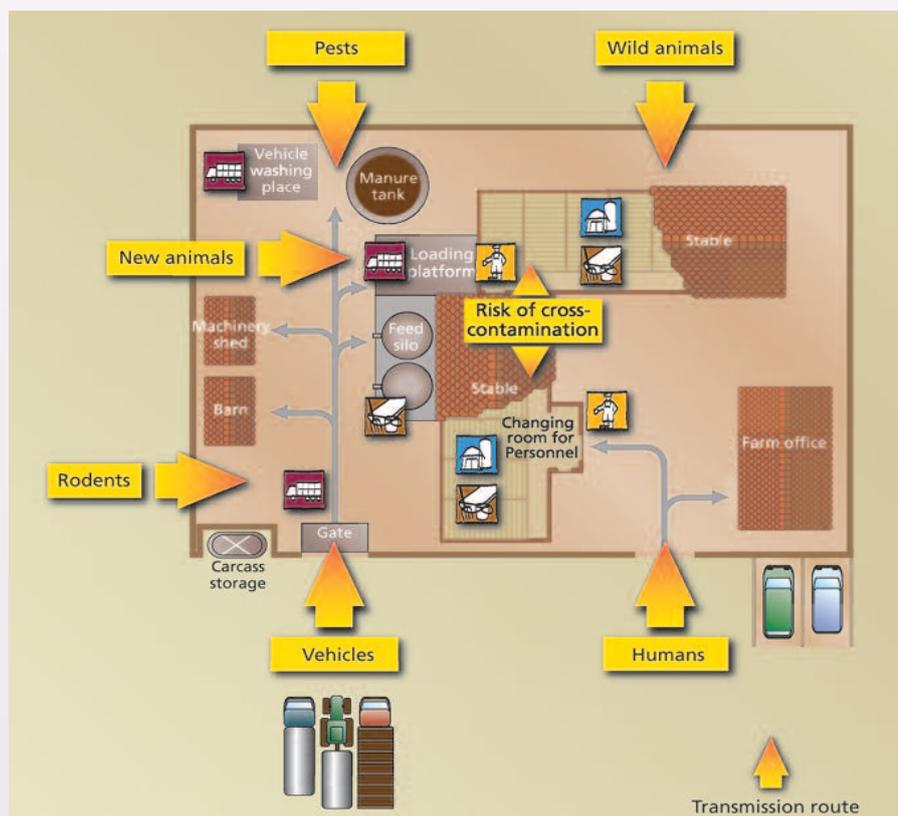
This means, for example, isolate the department, change clothes and boots, wash and disinfect your hands, pay extra attention to equipment hygiene, treat the animals and apply similar measures.

Instead of taking action to fix animal health problems when they occur, the goal of proper biosecurity is preventing things from going wrong.

With knowledge and information you can create your own biosecurity environment and system. Attention has to be paid to all steps involved, including:

- Entering the premises (create biosecure limits by a gate/fence and hygiene corridor, set up the rules/criteria for visitors, have people sign for the rules, apply clean road/dirty road principle).
- Personal hygiene (showing is obligatory, wear farm clothing, sign for the rules, clarify the visits beforehand, make visitors responsible, train your employees, clear instructions).
- Pest elimination (install control system for outside/inside the premises and inside the buildings).
- Cleaning and disinfection (choose the right detergent, disinfectant and equipment, set up protocols, control effectiveness).
- Farm in operation (eliminate contamination risks between risk zones, prevent mixing of animals, create a colour structure for housing/clothes/tools, apply all in-all out, yes or no nursery, structure the hygiene of small equipment, quarantine regulations).
- Feed lines and drinking water (watch for and improve design, prevent dead-ends, consider chemical treatment, apply regular checks on quality).
- Carcasses (how to dispose, consider storage and transport, create a black zone).
- Transport (make an agreement with your transporters, prevent from entering the premises, assure cleanliness of trucks and

## Potential transmission route of pathogens.



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Training material and checklists are available to create the systems. These tools are strongly recommended because any chain is as strong as its weakest link. One could also consider external support by means of a sophisticated hygiene check. In that case the eye of an outsider is used to complete the biosecurity package and correct it where required.

A company offering such a package is Ecolab, with its new Livestock Disease Intervention (LDI) programme, a comprehensive hygiene management programme for intensive animal husbandry.

Ecolab is the world leader in industrial hygiene and a trusted partner in the food chain to maintain clean and sanitary operations. Ecolab has recognised the advantages of comprehensive, vertically integrated hygiene management over the entire food supply chain, from farm to fork.

At the end, one should possess a comprehensive overview of protocols, data, critical points and action points in line with a system

like HACCP (Hazard Analyses of Critical Control Points) commonly used in the food industry.

## Discipline

Once created, the success of the biosecurity programme will be fully dependent on the attitude and discipline of all involved. This is probably one of the most difficult parts of the roll-out. Being busy with lots of daily routines and unexpected issues, it is the biggest danger to forget and/or neglect biosecurity. The farmer himself is often the biggest threat. One should never forget that discipline is a must!

A good help in maintaining discipline can be found in simple techniques which basically refer to the creation of biosecurity zones. A very good example is the use of colours. Each area with a certain hygiene level and risk factor gets its own colours for area, tools, equipment, clothing and other materials. This inventory should not be carried around and remain in the coloured area. This is part of the reduction of contamination risks between departments.

Wearing green and entering the blue zone will clearly tell you that something is not according to the rules and automatically create a threshold. In practice this has proven to be very effective and reduces the contamination risks dramatically.

Other methods can be used like strict split in functions. Employees are not allowed outside their working environment during the day. This brings more focus on the job and higher levels of awareness can be possible. Regular follow up and control of the critical control points also help to keep the eyes sharp. Signs, one-side locking doors, hygiene corridors, fencing and fixed routings are examples of methods in helping to maintain discipline.

## Hygiene

When all these biosecurity systems are in place, it then becomes a matter of bringing it to the appropriate standards. One needs to be aware of measurable objectives, preferably expressed by microbiological counts. At the end it is microbiology that matters and that puts the criteria high because micro-organisms cannot be seen by the naked eye.

We have to deal with an invisible enemy and, therefore, the procedures for hygiene should be beyond any doubt and absolutely watertight. Here two examples are used because of the impact they have on biosecurity effectiveness;

### ● Cleaning and disinfection.

Disinfection is often considered to be the most crucial step in biosecurity measures. This is true to a certain extent. It is part of a

process and the fact that the efficacy of a disinfectant depends on the cleanliness of a surface is very often neglected. Dirt gives shelter and nourishment to micro-organisms. Remaining dirt after poor cleaning increases their chance of survival and might even neutralise the disinfectant. Without appropriate cleaning the benefit of applying a disinfectant becomes questionable.

Research has clearly shown that cleaning is by far the most effective step in the process of removing micro-organisms. Up to 99% of the effect can be obtained by proper cleaning methods with a sophisticated detergent, like Ecolab's Inciprop Farm or Inciprop Extra, a high performance long cling foam cleaner.



Cleaning with water only followed by disinfection is clearly not good enough. Fat, micro-organisms and other dirt will remain and reduce the disinfecting effect. Disinfection is the finishing touch and should only be executed when the surfaces are

really clean. Good feed and feeding hygiene is very important in order to lower disease rate and animal mortality and to raise daily output and quality of the animal products. If liquid feeding systems for swine are not regularly cleaned in the proper manner, they are an ideal breeding place for yeast, bacteria, fungi and biofilm.

These lead to rapid spoilage and changes in the taste of the feed, so that the incidence of disease in the animals rises and the daily weight gain falls.

The best method for fighting the spoilage agents is the proven alkaline cleaning agent Inciprop FS produced by Ecolab, followed by an acid rinse with Inciprop Acid.

#### ● Personal hygiene.

A critical success factor to biosecurity programmes. Humans are one of the most important factors in contamination, if not the most important factor. Personal hygiene is a must, when entering the premises and within the farm.

Sometimes it is appalling to see how bad personal hygiene can be. No change of clothing, no showering, no proper boot washing, no hand washing and disinfection can be seen. This is asking for trouble.

The rules are quite simple. Entering the premises and being allowed in the animal housing means taking a shower and wearing clothing from the farm. Wear boots with a smooth sole or an easy to clean sole, and clean them. Wear gloves when treating ani-



mals, which are easy to clean and disinfect. Equip the animal treatment trolleys with disinfectant dispensers. Place footbaths and refresh them frequently. Install wash basins. In case of increased health threats; change boots, gloves and when possible clothing per critical area. Stick to the colour code area structure.

These examples underline that hygiene also depends on the quality of execution, the procedures and the tools being used.

To achieve the ultimate result, the right means should be available. The LDI programme from Ecolab is a comprehensive package where answers can be found with regard to procedures, training and knowledge, products and equipment.

It has been built up from nothing but practical experiences in food and agriculture hygiene, and will give direction and support for setting up an efficient biosecurity programme. ■