



# Farm Vet News

Endell Farm Vets Blog

Endell Vets Beef Team 14 August 2020

## Biosecurity and Disease Prevention



Strict biosecurity measures are imperative in poultry producers, heavily extended in pigs, less common in dairies and often forgotten in beef herds.

This blog post will discuss some of the measures that a holding can adopt in order to prevent the risk of introducing a new disease to the herd or decrease the spread within a group of animals.

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*Biosecurity refers to those measures that can be taken within an animal keeping environment to reduce or prevent the spread of infectious diseases between animals.*

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Biosecurity is one of the most effective methods of disease control. It is easier to avoid the entrance of a disease than prevent the spread after it has been diagnosed on farm. Infectious diseases have not only a health and welfare impact on the herd, but also an economical and productive impact so their prevention is highly important where feasible.

### **WHAT CAN WE LEARN FROM COVID-19?**

Throughout history, the appearance of novel diseases has been and will be a constancy in both human and veterinary medicine. As we are experiencing currently with Covid-19, a new virus can turn the world upside down. However, this situation may not be new for farmers who may remember 2001 as one of the most devastating years for the industry as a consequence of the Foot and Mouth outbreak. As in 2020, a disease was responsible for a major economic and social crisis and unfortunately just few years before “mad cows” were everywhere in the newspapers. Accordingly, the farming industry must be ready to prevent or reduce the possible outbreak of a new epizootic disease or the spread of a known one. As we can observe with Covid-19, developed countries with a better health care system, more capacity in their hospitals or more availability for testing may have a better control than others parts of the world where the health care system is not as developed. If we think about two different herds, one with biosecurity measures, test at purchase and quarantine controls and one without this measures, we will agree in which one will have higher risk of introducing a particular disease such as BVD, IBR, Neosporosis or Johne’s.

## HOW IS DISEASE TRANSMITTED?

A disease can be transmitted directly from one animal to another or indirectly from an infected animal to an inanimate object and then to a susceptible animal.

Common ways for a disease to be transmitted:
<ul style="list-style-type: none"><li>• <b>Aerosol:</b> Through the air or in moisture droplets after coughing or sneezing.</li><li>• <b>Direct contact:</b> Nose to nose, rubbing and biting or open wounds.</li><li>• <b>Oral:</b> Contaminated feed and water or licking/chewing contaminated surfaces.</li><li>• <b>Reproductive:</b> During mating or pregnancy.</li><li>• <b>Objects:</b> Clothing, tyres, needles or any other contaminated object.</li><li>• <b>Vectors:</b> Contact with wildlife, flies, mosquitoes or ticks.</li><li>• <b>Fomites:</b> Through contaminated equipment, soil, slurry, water and food</li></ul>

Table 1. Most common ways for spreading diseases.

## BIOSECURITY PRACTICES

According to a study carried by L. Brennan and M. Christley, 2013; running a closed herd and testing animals after they had been moved onto a farm was stated by farmers as very useful in terms of biosecurity. However only 5% of the farmers surveyed reported testing animals after they were

moved to farm and 41% reported running a closed herd. When a closed herd is not possible and other animals are bought, assessing the health status of this individual animal and previous holdings becomes significantly important.

Bought in animals must come from a farm with the same or higher health status. Once on farm the animals should be kept in a period of isolation being closely watched for signs of disease or until their health status can be determined by testing or vaccination.

Some of the most affordable biosecurity measures include encouraging vehicles to park away from the animals or forages in order to decrease the possible spread through tractors, trailers or tyres and keeping a visitors book and providing clean clothes and wellies to any visitor on farm together with a disinfectant once the visit is finished.

Limiting the access of wildlife to water sources, feed and minerals will reduce indirect transmission. This can be achieved by upgrading the fences in the fields or avoiding gaps in the premises. Keeping food storage inaccessible to rodents, birds, wildlife, dogs and cats and removing refuse after 24 hours are also efficient biosecurity measures.

## Prevention Against Significant Diseases

### BOVINE TUBERCULOSIS

The importance of this disease is well known. Its control relies on a national eradication program. Any animal arriving on farm must have had a clear test in the last 60 days. Keep the purchased animals in isolation and consider a post movement testing before adding an animal to your herd as additional measures to prevent bTB being introduced to your herd.

### JOHNE'S DISEASE

Quarantine of at least three to four weeks will help to observe for signs of disease. However, we must bear in mind that certain diseases like Johne's have a long incubation period between infection and the onset of clinical signs and therefore an isolation period will not be enough. Nevertheless, the risk of introducing infected animals can be decreased if buying from certified low risk herds or by testing during the quarantine period.

### BOVINE VIRAL DIARRHOEA VIRUS (BVD)

Is a complex disease and often transmitted by persistently infected animals (PI). Laboratory testing animals before introducing into your herd or buying animals from certified BVD-free farms will reduce the risk of introducing into your holding. Moreover, pregnant cattle present a particular risk and once born the calf should be tested to check it is not a PI.

### INFECTIOUS BOVINE RHINO-TRACHEITIS (IBR)

Transmitted by nose to nose contact. Biosecurity measures must focus on avoiding

contact with other herds. Achieving a free status is possible with a testing and vaccination program.

### LEPTOSPIROSIS

It is an important zoonosis. Other animals like pigs, dogs, rodents or horses can host the bacteria. It is spread mainly via the urine and uterine discharges. The risk can be reduced with vaccination and biosecurity measures such as pest control, fencing potentially contaminated streams/water courses or separating cattle from other animals.

## SUMMARY

The aim of biosecurity is to prevent the risk of introducing or spreading a disease. Unlike other livestock producers, beef herds often fail to practice strict biosecurity measures. The different practices that can be adopted are extensive and will depend on the farm, the environment, the management and the endemic diseases that are being targeted.

Some of the examples described in this article may be achievable on your farm. If you would like to discuss what to do to improve biosecurity and keep the health status of your herd free of the most common diseases, please do not hesitate to contact one of our vets who will be more than happy to advise you further.

Written by Joaquin Diaz Galvez MRCVS on behalf of Endell Vets Beef Team

References: Brennan, Marnie L, and Robert M Christley. "Cattle producers' perceptions of biosecurity." *BMC veterinary research* vol. 9 71. 10 Apr. 2013