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## Biosecurity The On-Farm Situation



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## What does Biosecurity mean ?

- Interestingly this term does not appear in either my 1988 edition of Black`s Veterinary Dictionary or my 1990 edition of Bailliere`s Veterinary Dictionary
- Concise Oxford Dictionary definitions :
  - Bio- : life, biological, of living beings
  - Security : confidence, thing that guards or guarantees against ... danger

## What does Biosecurity mean to me ?

- Risk assessment and implementation of measures to safeguard and improve the health status of animals on a farm and animals coming onto that farm
- Monitoring and a knowledge of the health status of the endemic herd is implicit

## What can we do to improve it ?



- This, to me, means relatively little

## Why ?



- So what can we do ?
  - Establish the herds health status
  - Assess the threat
  - Take precautions to minimise that threat

## Establishing the Herds Health Status

- Look at and benchmark performance
  - Fertility performance (dairy) and pregnancy rates (beef)
  - Mastitis incidence and bulk milk scc
  - Lameness incidence
  - Calf health

are they suggestive of disease ?
- Look at preventative medicine programmes
  - Particularly control (vaccination) and eradication policies
- Monitor in a structured way
  - Regularly review disease incidence
  - Bulk milk antibody titres
  - Cohort blood sampling

## Assess the Threat

- Endemic disease
- Fomite spread
  - Natural features (lepto)
  - Wildlife and pets (salmonella, neospora, Tb)
  - Vehicles - especially shared trailers and muck spreaders (BVD, Johnes)
  - People - including vets ! (salmonella, FMD)
- Contact with neighbouring animals
- Imported animals - probably the greatest threat (especially the hired bull)

## Diseases to consider when importing cattle

- Tb
- BVD
- IBR
- Johne`s disease
- Leptospirosis
- Venereal Campylobacter
- Neospora
- Salmonella
- Brucellosis
- Mastitis
- Digital Dermatitis
- Parasites
  - Gut worms (especially with respect to anthelmintic resistant strains)
  - Lungworm
  - Liver Fluke
  - External Parasites
- Ringworm



## Precautions to be taken

- Seek reassurance about the health status of the herd of origin
  - Preferably CHeCS accredited
  - Evidence of monitoring and disease control programmes
  - Never seen it is not good enough !
- Quarantine
  - Preferably isolated in separate airspace
  - Allows animals to be carefully observed for any signs of disease, allows appropriate testing to be carried out and allows appropriate preventative medicine and vaccination protocols to be implemented
  - For how long ?

## Tb

- Ask about :
  - The Tb history of the herd of origin
  - Its routine testing frequency
  - When the last test was carried out
  - Whether it is a closed herd
- Consider :
  - A pre-movement test (this may be mandatory)
  - A post-movement test 60 days after delivery
  - Testing limitations when carried out on individuals

## BVD

- Beware the PI animal – they are not always obvious



- Don't forget the possibility of a PI fetus in an antibody positive cow

## BVD

- Antibody as well as antigen testing gives added security and information about the health status of the herd of origin when carried out on groups of animals
- Antibody positive animals are safe ...  
... or are they ?
- How long do transiently infected animals remain infectious ?
- Beware the antibody positive female carrying a PI fetus - should we Pd as well as test all purchased females ?
- Cumulus

## Johne`s Disease

- The currently available tests are useless so how do you know when this ...



- will become this .....



## Johne`s Disease

- The currently available tests are not useless, it is how they are used and interpreted that causes problems
- Question the status of the herd of origin
  - Is there evidence of monitoring to a CHeCS approved protocol ?
  - Is there evidence of any monitoring of cull cows or suspect cases ?
  - Would it be possible to test the purchased animals dam ?
- There is a growing onus on the vendor to guarantee, as far as is possible, the health status of animals sold for breeding

## Leptospirosis

- Conventional wisdom has it that treatment with Dihydrostreptomycin at 25mg/kg will eliminate infection

- It may not !



## Venereal Campylobacter

- In bovine reproduction lectures at college we were told that we were only being taught about this disease for completeness – its incidence was declining rapidly and it would soon disappear thanks to the widespread use of AI
- It is now the most common infectious cause of fertility disaster that I see, especially in suckler herds, thanks in large part to the increasing use of hired bulls

## Venereal Campylobacter

- But how can you tell whether a bull is infected ?



## Venereal Campylobacter

- Virgin bulls pose no risk  
... but can you be certain he is a virgin ?
- We advise all clients purchasing or hiring bulls to sheath wash them with antibiotics in arachis oil daily on three consecutive days
- Purchased cows can also be a risk
  - Are bulling heifers genuine or failed breeders ?

## Mastitis

- Examine the udder
- Inspect previous cell count data
- Confirm dry cow treatment
- Culture if necessary



## Digital Dermatitis

- Currently the most common infectious cause of bovine lameness affecting our national herd
- Once introduced into a herd it is difficult, costly and time consuming to manage and almost impossible to eliminate



# Digital Dermatitis

- Try to source replacement animals from a DD free herd
- Lift, clean, trim and inspect the feet
- Foot bath daily for three consecutive days on arrival
  - With what ?
  - Scrub between claws (a bottle brush may be useful)



# Parasites

- Apply SCOPS principles to purchased cattle
- Don't forget lungworm
- Don't forget liver fluke
- Don't forget external parasites



## Disclaimer !

- Please remember, before we move on to the role and best use of the laboratory to promote biosecurity, that this talk is intended to stimulate thought and discussion. It is not intended to be a comprehensive discourse on diseases that should be considered and precautions that should be taken.

## Venereal Campylobacter



# BVD

