

Make your farm your **FORTRESS**

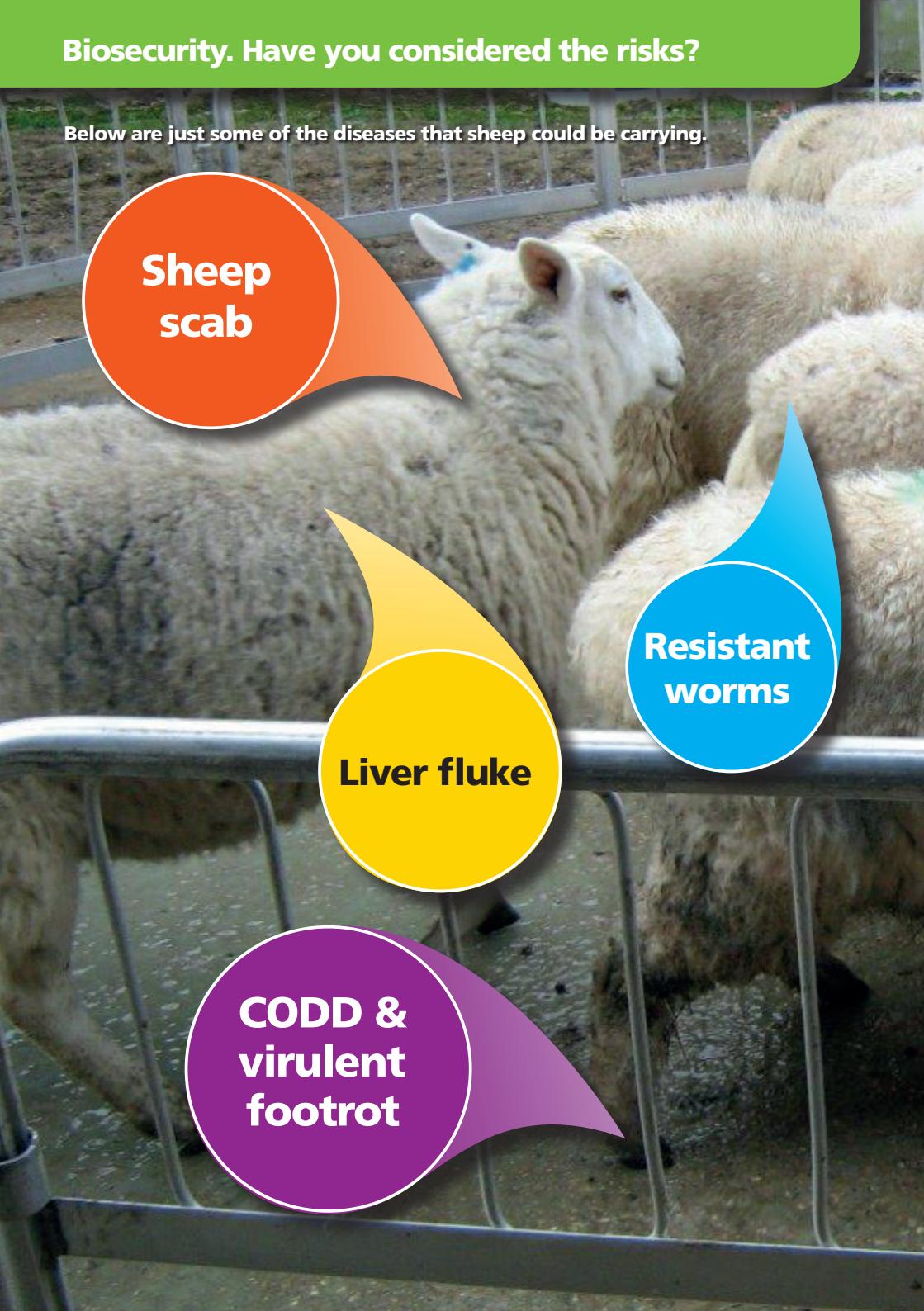


Biosecurity.
Have you considered the risks?
Management booklet for sheep



Biosecurity. Have you considered the risks?

Below are just some of the diseases that sheep could be carrying.

A photograph of several sheep in a metal-fenced enclosure. The sheep are white and have thick, curly wool. The background shows a grassy field and a fence line.

**Sheep
scab**

A yellow speech bubble shape containing text.

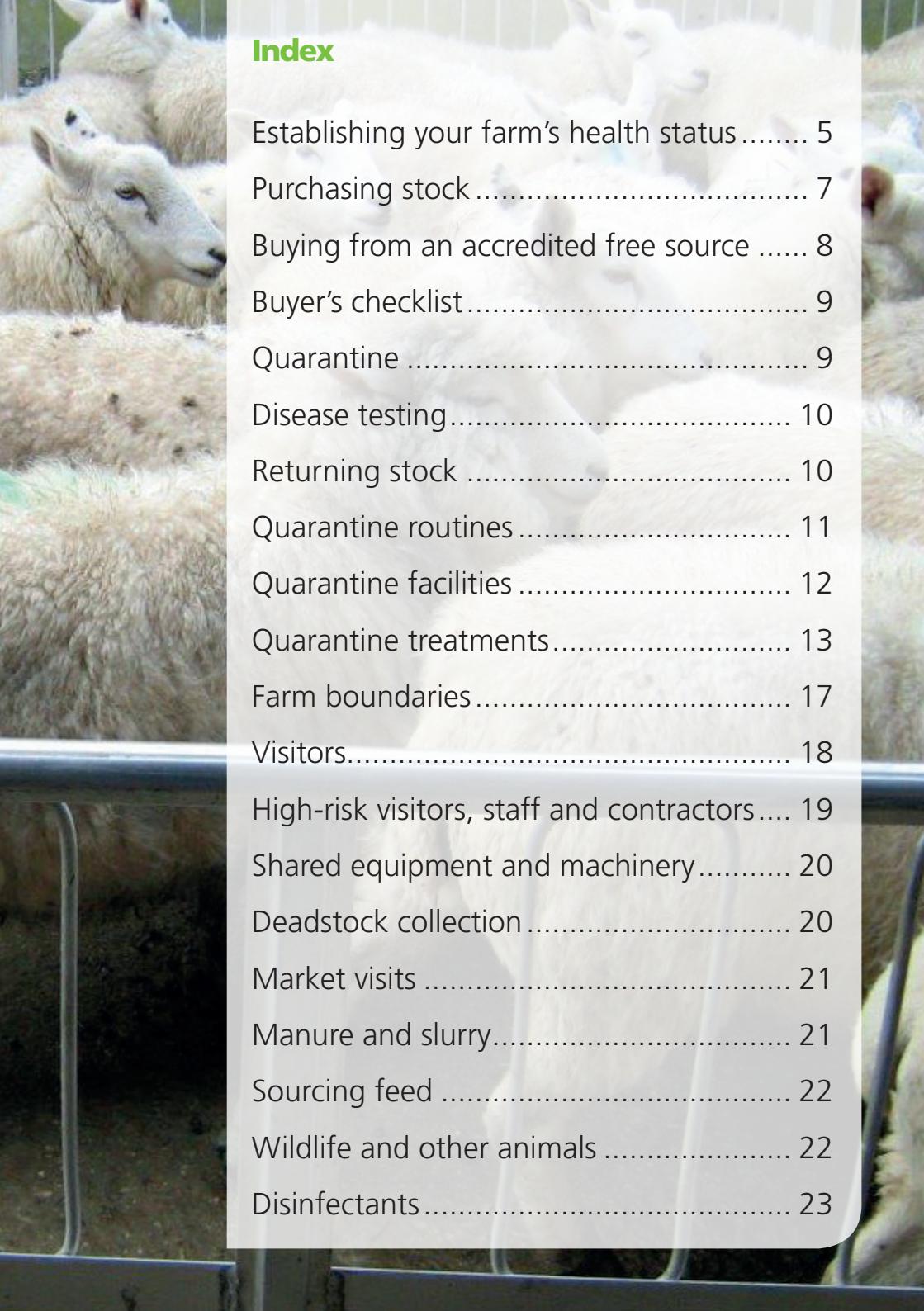
Liver fluke

A blue speech bubble shape containing text.

**Resistant
worms**

A purple speech bubble shape containing text.

**CODD &
virulent
footrot**



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What is biosecurity?

Biosecurity is a simple management plan to reduce the risk of disease entering your farm and to reduce the risk of it spreading once on your farm.

Protecting profits

Take the time to consider your biosecurity management plan with the help of your vet and avoid the risk of introducing diseases which could have serious and long-term financial effects on your farm's profitability.

Protecting human health

When diseases can be passed from animals to humans (zoonotic diseases), biosecurity planning will protect not only the health of your stock but also the health of your family and farm workers.

How to use this booklet

Flock health status and management is different on every farm. This booklet will help you to review the biosecurity risks to your farm. Each section will allow you to quickly gather information about your farm and help you to assess the level of risk associated with particular management practices.

This booklet can be used as a tool to help you and your vet prioritise and plan your biosecurity strategy. Working through this booklet with the help of your own vet will allow you to develop a comprehensive biosecurity policy which is specific to your farm and that is practical to implement.

When you have developed your biosecurity policy, don't forget to review and update it at least once a year.

Biosecurity measures differ for different diseases and the disease control measures described in this booklet represent general biosecurity advice. Further information and advice about specific disease control measures should always be discussed with your vet.



Establishing your farm's health status

Go through the list of diseases presented below and tick the relevant boxes.

List of sheep diseases	Disease already on farm	Free from disease	Disease to keep out	Disease to control/eradicate	Disease vet views as risk
Toxoplasma abortion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Enzootic abortion of ewes (EAE) or chlamydial abortion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Campylobacter abortion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Salmonella abortion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scab	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resistant worms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Haemonchus worms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liver fluke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Footrot and scald	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contagious ovine digital dermatitis (CODD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maedi visna (MV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caseous lymphadenitis (CLA)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Border disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
John's disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ovine pulmonary adenocarcinoma (OPA) or Jaagsiekte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bluetongue	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schmallenberg virus (SBV)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Establishing your farm's health status

Finally ask your vet to go through the list and highlight and discuss any further diseases which might pose a risk to your farm.

This list represents some examples of infectious diseases that can be introduced into your flock. It is not comprehensive, if there are other diseases which you are concerned about please write them here:

With this information and the advice of your vet, can you identify your disease risk priorities? Which diseases could you target for control or eradication? If you would like to know more information about the diseases listed here, speak to your vet or visit the XLVets website www.xlvets.co.uk

Notes

Purchasing stock

The biggest disease risk to your flock is through the purchase of new animals. Even apparently healthy animals can be carriers of disease.

Please tick boxes relevant to your current farm practice.

Please tick boxes if there are any lower risk practices you could adopt.

LOWER RISK

- Closed flock**
- Use home bred replacements**
- Use AI to introduce new genetics**
- Purchase from accredited sources**

MODERATE RISK

- Buy in occasionally**
- Purchases limited to small numbers**
- Know the health status of source farms**

HIGHER RISK

- Frequently buy in sheep**
- Purchase from market**
- Purchase from unaccredited sources**
- Do not know the health status of source flocks**



Buying from an accredited free source

An accredited free farm is one which has joined a monitoring scheme for a particular disease or diseases. Farms undergo repeated and regular testing in order to confirm their disease free status.



The *Premium Sheep and Goat Health Scheme* provides disease free accreditation for Maedi visna (MV), Enzootic abortion of ewes (EAE) and Caseous lymphadenitis (CLA). They also offer a monitoring program for Scrapie.

A list of accredited and monitoring flocks can be found at www.psghs.co.uk



Buyer's checklist

Always take time to ask the vendor questions regardless of whether you are purchasing directly from a farm or from a market. Minimum questions for vendors:

- Do they test or monitor for any disease (Including anthelmintic resistant worms)?
- What does the farm routinely vaccinate for?
- Does the farm currently have any of the diseases you wish to avoid?
- In the past has the farm had any of the diseases you wish to avoid? How long ago?
- Have these animals been tested, treated or vaccinated for anything?
 - If so, what has been done and when?

Be cautious:

- You must judge the accuracy of the information you are given by the vendor and evaluate the disease risks that purchased animals from this source might pose to your farm.
- Judge the effectiveness of any vaccine or treatments given on the source farm. What are the risks if animals haven't been treated correctly?
- Ask the vendor if they can provide any supporting evidence or if you can contact their vet about the health status of the farm.
- Consider arranging for animals of unknown disease status to be tested before purchase.

When risks are identified there are usually actions that can be taken to reduce these risks. Work with your vet to develop a specific action plan for animals entering your farm.

Quarantine

The quarantine period provides an opportunity to monitor animals for signs of disease that were not present on the day of purchase. Regardless of the source, all purchased animals should be placed in isolation for a minimum of three weeks. The isolation period may vary for different diseases; specific disease advice should be discussed with your vet.



Disease testing

The quarantine period allows for animals of unknown disease status to be tested and for those test results to be returned and acted upon. Discuss with your vet which tests should be conducted on quarantined stock. Whenever possible test stock before purchase rather than after.

Please tick boxes relevant to your current farm practice.

Please tick boxes if there are any lower risk practices you could adopt.

LOWER RISK

Animals disease tested before purchase

MODERATE RISK

Animals disease tested after purchase

HIGHER RISK

Animals not tested at all



Returning stock

Please tick boxes relevant to your current farm practice.

- Keep stock on away grazing
- Show stock
- Stock returned from sales
- Loaned or shared tupps

- All returning animals can pose a disease risk so must also undergo quarantine procedures.
- Assess the disease risks posed by animals leaving and returning to your farm.
- With your vet, develop a specific plan for animals which leave and return to your farm.
- Consider protecting these animals with vaccination.



Quarantine routines

Please tick boxes relevant to your current farm practice.

Please tick boxes if there are any lower risk practices you could adopt.

LOWER RISK

- Animals quarantined for at least three weeks**
- Incoming breeding ewes segregated until after lambing**
- Quarantined stock separated from other livestock by at least a three metre gap**
- Stock yarded on arrival**
- Stock closely inspected on arrival**
- Quarantine treatments administered immediately after arrival**
- Separate equipment used for quarantine stock**
- Protective clothing changed or disinfected after working with quarantined stock**

HIGHER RISK

- Animals not quarantined at all**
- Animals quarantined for less than three weeks**
- Incoming breeding ewes not segregated**
- Quarantined stock can have nose to nose contact with other stock**
- Purchased stock put straight onto pasture**
- Purchased stock not subjected to close inspection**
- Purchased stock do not receive quarantine treatments**
- Equipment moved from quarantine pens without being disinfected**
- Protective clothing is not changed or disinfected after working with quarantined stock**

Quarantine period

The quarantine period for all purchased or returning sheep should be at least three weeks. Some diseases will require a much longer quarantine period and specific advice should be sought from your vet. Segregate incoming breeding ewes from the main flock until after lambing to reduce risks from infectious abortion, and when possible, lamb this group last.



Quarantine facilities

Yards

Treat sheep for worms on arrival and yard on concrete for 48 hours after worming treatments have been given. This will avoid contamination of the farm with resistant worm eggs. If only one or two sheep require yarding a trailer can make a suitable alternative.

Fields & paddocks

Following yarding sheep should preferably be turned out onto 'dirty' pasture which has been grazed by other sheep within the last six months. This dilutes the eggs of any resistant worms which may have survived quarantine treatment. Animals kept in quarantine fields should not have direct contact with other stock. If stock must be grazed next to a quarantine field's boundaries there should be a double fence leaving a three metre gap between isolated stock and other livestock. Incoming sheep should be placed on low fluke risk fields (well drained and away from host snail habitat) for 30 days following a quarantine fluke treatment.

Buildings

If quarantined stock are to be kept indoors leave a three metre gap between isolated stock and any other livestock in the building. Ensure that water, feed, bedding, urine and faeces from quarantined animals does not come into contact with other livestock.

Shared facilities

Where there is a risk of scab from quarantined sheep leave a period of 18 days before using handling facilities, fields and buildings again with potentially susceptible sheep. Other diseases will require a much longer waiting period and specific advice should be sought from your vet.



Quarantine treatments

Please tick the boxes relevant to your current quarantine practice.

Treatment

- Treatment for worms
- Treatment for fluke
- Treatment for external parasites
- Treatment for foot conditions
- Routine vaccinations
- Other treatments please specify

Products used

-
-
-
-
-
-

Quarantine treatments should be given as soon after arrival as possible. Whilst treatments are being given it is a good opportunity to closely inspect individuals for signs of disease. Observe sheep for signs of lameness, orf, CLA and any other target diseases. If there is any doubt as to the cause of illness in any sick sheep in quarantine your vet should be contacted.

Discuss with your vet which quarantine protocols are appropriate for your farm. Your vet can also help you to develop a quarantine treatment policy which follows SCOPs guidelines. More information about SCOPs (sustainable control of parasites in sheep) can be found at www.scops.org.uk



Quarantine treatments

Minimum treatment considerations

Worms and scab

- Assume all incoming sheep are carrying worms with some resistance.
- Drench with a new generation product (Orange 4-AD, Zolvix™ or Purple 5-SI Startect™). Give an injectable clear, 3-ML, product. 1% Moxidectin is recommended but must not be used in sheep that ever have or ever will be treated with Footvax™.
- Following drenching, yard sheep on concrete for 48hrs whilst any remaining worm eggs in the gut are voided.
- Turn sheep out onto 'dirty' pasture recently grazed by home sheep.

Fluke

- Appropriate products and timings of a quarantine fluke treatment are always best discussed with your vet.
- Flukicide resistance should be discussed with your vet.
- Following fluke treatment sheep should be kept on low fluke risk fields for 30 days whilst remaining fluke eggs are voided.



Quarantine treatments

Footrot and CODD

- Lift feet and inspect sheep for any lameness. Look for acute and chronic lesions.
- Isolate and immediately treat stock with lesions with a suitable antibiotic recommended by your vet.
- Appropriate products and timings of a quarantine foot treatment are always best discussed with your vet.
- Typically stock are run through a footbath (3% formalin or 10% zinc sulphate; zinc requires a prolonged standing time to be effective) weekly at least three times during the quarantine period.
- Individuals can alternatively be sprayed with an antibiotic spray.

Effective treatments

Please tick current farm practices. Are there any best practices you could adopt?

- Always check the product label for route, dose and timing
- Check the expiry dates
- Use weighing scales to establish accurate weights
- Dose for the heaviest in the group
- Calibrate dosing equipment
- Make sure drenches are delivered over the tongue not into the mouth
- Store products where they are not exposed to extreme temperatures



Quarantine treatments

Effective vaccination

If your biosecurity policy and disease control relies on vaccination, take steps to ensure that this vaccination is effective. Whenever possible vaccinate purchased stock before they mix with other stock.

Please tick current farm practices. Are there any best practices you could adopt?

- Always check the product label for route, dose and timing
- Keep product in a cool box during transport and immediately before use
- Always store vaccine in a working fridge
- Once the product has been breached, use within the stated period
- Ensure the vaccination equipment is hygienic and calibrated
- Consider use of Sterimatic™ – to reduce the potential of infection and cross-contamination
- Check the expiry dates
- Seek vet advice for the timing of vaccination
- Use a calendar to plan when vaccinations take place



Farm boundaries

Please tick the types of land use which border or pass through your farm.

LOWER RISK	MODERATE RISK	HIGHER RISK
<input type="checkbox"/> Arable <input type="checkbox"/> Forestry	<input type="checkbox"/> Main road <input type="checkbox"/> Water course <input type="checkbox"/> Public footpath <input type="checkbox"/> Livestock other	<input type="checkbox"/> Livestock (sheep) <input type="checkbox"/> Livestock (cattle) <input type="checkbox"/> Common grazing

Please tick boxes relevant to your current farm practice. Are there any lower risk practices you could adopt?

LOWER RISK	HIGHER RISK
<input type="checkbox"/> No adjoining grazing with neighbours livestock <input type="checkbox"/> Boundary fences are secure <input type="checkbox"/> Double fencing between adjoining grazing <input type="checkbox"/> Double fencing with a gap of at least three metres between stock <input type="checkbox"/> Stock prevented from accessing shared water courses	<input type="checkbox"/> Sheep can have nose to nose contact with neighbours stock <input type="checkbox"/> Stock frequently break through boundary fences <input type="checkbox"/> Stock can access shared water

Assess with your vet the risk any neighbouring livestock enterprise or land uses may pose to your farm. What actions can you take to reduce these risks?

Double fencing

A distance of three metres is preferable when double fencing. When a permanent double fence is not feasible use an electric fence to temporarily create a boundary that can be taken down when the stock are removed from the field.

Cooperation with neighbours

Finding out what your neighbour's health status is and working together on a local disease control strategy is particularly important on extensive hill farms. You could arrange to use grazing at boundary fields at different times (a waiting period of at least 18 days should be observed where scab is an issue). This may be easier than trying to double fence.

Water access

Avoid allowing stock access to surface water, streams and rivers. These are at risk of becoming contaminated by neighbouring stock and wildlife. Fence off streams and rivers; supply clean fresh drinking water in troughs instead.

Visitors

Please tick boxes relevant to your current farm practice. Are there any lower risk practices you could adopt?

LOWER RISK	HIGHER RISK
<ul style="list-style-type: none"><input type="checkbox"/> Visitor parking is away from livestock areas<input type="checkbox"/> Visitor parking is on hard standing, visibly clear of faeces and mud<input type="checkbox"/> Records are kept of all visitors to the farm<input type="checkbox"/> Restricted contact between visitors, livestock and feed<input type="checkbox"/> Visitors asked to wear clean protective clothing and boots<input type="checkbox"/> Clean protective clothing and boots provided<input type="checkbox"/> Disinfection points provided	<ul style="list-style-type: none"><input type="checkbox"/> Visitor vehicles can pass through livestock areas<input type="checkbox"/> Visitor vehicles pass through mud and faeces before parking<input type="checkbox"/> Visitor access not recorded<input type="checkbox"/> Visitor access not restricted<input type="checkbox"/> Farm biosecurity policy not communicated<input type="checkbox"/> No disinfection points provided



Effective footbaths

- Follow product mixing instructions
- Replenish footbaths at required rate
- Prevent dilution by rain
- Site near a hose and provide brushes
- Ensure boots are scrubbed clean before immersion



Clear signage and maintained disinfection points around the farm, clearly indicate the farm biosecurity policy.

High-risk visitors, staff and contractors

High risk visitors, staff and contractors include:

- Vets
- Livestock technicians eg. scanners, shearers
- Farm contractors
- Staff who move between farms
- Other farmers
- Livestock hauliers
- Deadstock collectors

- Clearly communicate the farm's biosecurity policy to all high-risk visitors, staff and contractors.
- Ensure that equipment brought into direct contact with livestock is cleaned and disinfected before and after use.
- Consider providing high-risk personnel with protective clothing and boots to use and leave on the farm.
- Ask contractors to give written declarations specifying what cleansing and disinfection will take place before they enter your farm.

Are there any best practices you could adopt?

Ask all high-risk visitors to arrive wearing clean protective clothing and boots and to ensure all equipment is disinfected.

All contractor vehicles and trailers accessing livestock areas should be clean and free of visible manure on the outside of the vehicle, wheels, mudguards and wheel arches.



Shared equipment and machinery

Please tick boxes relevant to your current farm practice. Are there any lower risk practices you could adopt?

LOWER RISK	MODERATE RISK	HIGHER RISK
<ul style="list-style-type: none"><input type="checkbox"/> No equipment and machinery shared with other farms<input type="checkbox"/> Wash station and disinfectant sprayers provided for incoming vehicles and equipment	<ul style="list-style-type: none"><input type="checkbox"/> Any shared equipment is cleaned and disinfected between farms<input type="checkbox"/> Contractors clean and disinfect their vehicles and equipment between farms<input type="checkbox"/> Contractor machinery has no contact with stock	<ul style="list-style-type: none"><input type="checkbox"/> Equipment and machinery shared with other farms<input type="checkbox"/> No requirement for contractors to clean and disinfect equipment

Deadstock collection

Please tick boxes relevant to your current farm practice. Are there any lower risk practices you could adopt?

LOWER RISK	HIGHER RISK
<ul style="list-style-type: none"><input type="checkbox"/> Carcasses moved out of livestock areas by farm vehicles before collection<input type="checkbox"/> Specific collection area – away from other livestock, feed and water<input type="checkbox"/> Collection area can be cleansed and disinfected<input type="checkbox"/> Collection area located at the perimeter of the farm<input type="checkbox"/> Carcasses collected as soon as possible<input type="checkbox"/> Small carcasses stored in lidded containers	<ul style="list-style-type: none"><input type="checkbox"/> Carcasses are collected directly from livestock pens<input type="checkbox"/> No designated collection area<input type="checkbox"/> Collection vehicle must pass through parts of the farm contaminated with manure or mud<input type="checkbox"/> Collection vehicles pass near livestock, feed or water areas<input type="checkbox"/> Vermicomposting, wildlife and dogs can access carcasses

Market visits

At every market there is a risk of coming into contact with potentially infected livestock or equipment. Minimise these risks by:

- Wearing protective clothing and boots when entering the animal areas.
- Not leaving the animal area without cleansing and disinfecting your boots.
- Wash protective clothing in laundry before it is worn on your own farm.
- Wash bare skin with soap and hot water.
- Ensuring your vehicles and equipment arrive and leave the market clean and disinfected.

Are there any best practices above you could adopt?

Manure and slurry

- Manure from quarantined animals and imported manure taken from other farms should be considered a high disease risk.
- Whenever possible try to ensure that high-risk manure is spread on arable land rather than pasture.
- Before spreading ensure that high-risk manure or slurry has been stored for a suitable length of time.
- Before allowing sheep to graze recently spread fields ensure a suitable length of time has passed.
- Suitable waiting times should be discussed with your vet.
- Small quantities of manure from quarantined animals could be incinerated.

LOWER RISK	MODERATE RISK	HIGHER RISK
<ul style="list-style-type: none"><input type="checkbox"/> No imported manures taken from other farms<input type="checkbox"/> Muck heaps fenced off or stock unable to access muck heap<input type="checkbox"/> Livestock kept away from freshly spread manure for an appropriate period of time	<ul style="list-style-type: none"><input type="checkbox"/> Farms from which imported manure is taken have been assessed for potential risks	<ul style="list-style-type: none"><input type="checkbox"/> Imported manure or slurry taken from other farms<input type="checkbox"/> Imported manure or slurry spread on pastures<input type="checkbox"/> Stock can access muck heaps<input type="checkbox"/> Livestock not prevented from accessing recently spread fields

Sourcing feed

- Whenever possible buy from a known source with a reputation for producing well made, high quality feed or forage.
- Assess the disease risk whenever buying from a new source.
- Avoid buying high risk feedstuffs which could be contaminated with faeces or soil, or have been poorly made.

Wildlife and other animals

- Make efforts to make the farm yard unattractive to wildlife:
 - Minimise or prevent animal access to feed stores.
 - Ensure that feed containers are sealed.
 - Clear up spilled feed as soon as possible.
 - Employ vermin control.
 - Remove debris piles around the farm in which vermin can hide.
 - Inspect buildings and forage stores for nesting and denning areas.
- Prevent all animals accessing carcasses and cleansings.
- Prevent faecal contamination of feed or forage from dogs and cats.
- Consider the disease risks posed between cattle and sheep.
- Assess the disease risks of fields which are accessed by dogs from public footpaths.

Animal	Disease risk to sheep
Birds and vermin	Salmonella
Cats	Toxoplasmosis
Dogs	Tapeworms
Cattle	Fluke and border disease

Notes

Disinfectants

A link to the list of DEFRA approved disinfectants can be found here:
www.gov.uk/controlling-disease-in-farm-animals

Your choice of product should be determined by:

- The disease risks you are concerned about.
- What you are trying to disinfect - boots, equipment or housing.
- How much organic matter is likely to be present?

There is no one product that will be suitable for all jobs in all circumstances.

To use any disinfectant effectively you must know:

- How sensitive the product is to deactivation by organic matter?
Surfaces must be thoroughly cleaned before disinfection begins.
- How long the product must be in contact with the surface to be effective?
- What concentration the product must be mixed at to kill all your target pathogens?
Some diseases will require a higher concentration than others.
- How often solutions will require replenishing?

Are you using the right disinfectant for the job?



**For further information or advice
please contact your veterinary surgeon.**