

Golden rules for a healthy herd

Advice on restocking cattle herds

The golden rules

For purchasers

- Develop a herd health plan with your veterinary surgeon.
- As far as possible purchase from herds of known disease status.
- Know what questions to ask the prospective vendor.
- Apply the principles to **ALL** purchased cattle.
- Make sure you consider TB in cattle.
- If purchasing from abroad ensure that you comply with **all** of the post-import rules and regulations.

For vendors

- Develop a herd health plan with your veterinary surgeon.
- Provide evidence of whether or not the important diseases have occurred in your herd.
- Provide details of your latest TB test or have the herd tested prior to sale.

Introduction

The re-stocking and replenishment of herds affected by the Foot and Mouth Disease outbreak requires careful planning. Unplanned re-stocking risks introducing a number of economically important and distressing diseases. This will put at risk the investment in new stock and those on neighbouring farms. The purpose of this leaflet is to remind farmers of the risks and the ways in which those risks can be managed. A structured approach involving your veterinary surgeon is recommended.

The development of a healthy herd

Develop a plan

Before taking any firm decisions about restocking, cattle farmers should first consult their veterinary surgeons and develop an overall health plan, not only for evaluating prospective purchases, but also a more long term plan for incorporation into the farm management system. Herd health plans are an essential requirement of Farm Assurance schemes and in the future will become an important part of the “Farm to Fork” approach to ensuring food safety.

The British Cattle Veterinary Association (BCVA) have developed a herd health plan package for veterinary surgeons to use on their clients’ farms which can be implemented within a fairly short time.

Advice on keeping disease out of farms is available in a booklet (“Farm Biosecurity Protecting Herd Health”, available from DEFRA, formerly MAFF publications, Admail 6000, London SW1 2XX, Telephone 08459 556000 – calls charged at local rate).

This is an ideal opportunity for farmers to establish a high health status herd free of certain diseases. Farmers may also wish to consider co-ordinating their activities to form disease free local areas.

There are three Cattle Health Schemes in existence which provide a framework for establishing freedom from disease, together with appropriate certification.

- The Premium Cattle Health Scheme (Contact PCHS, tel. 01463 226995 or view the website www.cattlehealth.co.uk)
- Herdcare (tel. 0131 445 6294 email:herdcare@biobest.u-net.com)
- Hi Health Highlands and Islands Cattle Quality Guarantee Scheme

All movements of cattle must comply with current livestock movement regulations.

The Cattle Health Certification Standards (CHeCS) is a body which co-ordinates and certifies such schemes.

Establishment of a disease free herd requires a very high standard of disease security.

Many farmers will not be seeking to establish completely disease free herds and for them it is a matter of working out the risk of buying in a disease from a particular source. It is worth remembering that if you buy in disease it is not just a problem for your herd, it also puts your neighbours at risk.

The risks

Buying in animals is inevitably associated with the risk of introducing disease. For the prospective purchaser it is important to be aware of which diseases pose the greatest risks and what questions to ask of prospective vendors to find out the likelihood of a disease being present. For the vendor it is an advantage to have information for prospective purchasers on the disease status of the herd supplying animals for sale. Remember there are no absolute guarantees of freedom from disease but it is possible and worthwhile to determine the degree of risk.

The sources of replacement livestock influence the degree of risk.

 <p>Lowest risk</p>	Animals from health scheme herds certified free of specific diseases
	Animals from health scheme herds being monitored for specific diseases
	Single source herds of known disease status
	Animals from multiple sources of known disease status
	Single source herds of unknown disease status or in which the disease is known to have occurred
	Highest risk

The age of an animal can affect the risk. More diseases are likely to be carried by adult cattle than heifers or calves. It should be remembered, however, that **all ages and types of cattle can carry disease, therefore all livestock introduced to the farm should be subject to the same disease control considerations.** This includes calves or stores, which may be used as sentinel animals in the process of establishing freedom from foot and mouth disease. Cattle may also acquire diseases from other species such as sheep. An advisory leaflet, entitled 'Golden Rules for a healthy flock' (PB6145) is available from DEFRA Publications (see page 12 for contact details).

Transport

The latest FMD outbreak has highlighted the need to control the spread of infection from farm to farm and consequently there has been considerable emphasis on the effective cleansing and disinfection of animal transport. Every effort should be made to ensure that your newly purchased replacements are transported in clean vehicles. Avoid sharing transport and mixing of stock at other farms/holding centres.

The diseases

There are numerous infectious diseases which can be introduced into cattle herds. They can be broken into three main categories:

1. The ordinary, common diseases which occur in GB and other countries (known as endemic diseases) such as Bovine Viral Diarrhoea (BVD), Infectious Bovine Rhinotracheitis (IBR) and Johnes disease.
2. Those subject to national control policies and international trade rules. (Notifiable diseases such as Foot and Mouth, Brucellosis, BSE and tuberculosis (TB)).
3. If buying from another country, diseases that are not present in GB and which are not currently subject to national control measures or import rules. These include new types of Leptospira infection and Type 2 BVD virus.

The endemic diseases

The most important of these are:

- Bovine Viral Diarrhoea (BVD) – page 7.
- Infectious Bovine Rhinotracheitis (IBR) – page 8.
- Leptospirosis ★ – page 9.
- Johnes disease★★ – page 10.
- Salmonella★ – page 12.

Also important are:

- Neospora infection (abortion).
- Campylobacter infection (venereal disease spread by bulls).
- Digital dermatitis (one of the commonest causes of lameness).
- Mastitis.
- Udder skin infections.
- Ringworm★.

- Parasitic diseases★.
- Redwater (Babesia infection).

★Disease transmissible to humans (zoonoses).

★★There is some evidence which links this disease with Crohns disease in humans.

Its importance may increase in the future.

This list of diseases is not comprehensive and animals, particularly those which have been stressed by transport and mixing will be susceptible to a wide range of diseases which include other respiratory infections. Animals should be observed closely in the days after purchase and timely veterinary treatment instigated if problems occur.

Notifiable diseases

The notifiable diseases are subject to rules and regulations which protect farmers from introducing the disease via animals purchased from the EU or other countries and provide control measures for those that do occur in the UK (such as TB). More details of the rules for the importation of cattle can be found on the International Trade section of the DEFRA Internet site (www.defra.gov.uk).

Needless to say it is important to remain vigilant for Foot and Mouth disease after restocking.

TB is present in the UK and there is a real chance of introducing it to newly established herds. Some extra precautions, which can be taken to minimise this risk, are:

- Enquire of the vendor the date and result of the last TB test carried out on the herd in question or encourage prospective vendors to have a TB test completed prior to purchase. (This will have to be agreed with the Local DEFRA Divisional Veterinary Manager).
- Enquire about the testing frequency of the TB test (tests are carried out more frequently in areas where there is more disease).
- Consider having your vet carry out a private TB test on the newly established herd. (This will have to be agreed with the Local DEFRA Divisional Veterinary Manager).

There is an advisory leaflet advising on reducing the risks of TB available from DEFRA (“TB in Cattle Reducing the Risk”, DEFRA Publications, Admail 6000, London SW1A 2XX. Telephone 08459 556000 – calls charged at local rate).

Bovine Virus Diarrhoea (BVD)

BVD virus is closely related to the viruses that cause Classical Swine Fever in pigs and Border Disease in sheep. This virus causes a complex of diseases in cattle, the most important of which interfere with reproduction, affect the foetus and lead to Mucosal Disease. BVD virus can also cause enteritis, which is usually mild but is occasionally severe enough to kill even adult cows. BVD virus infection is also believed to cause significant suppression of disease resistance and may contribute to the pneumonia complex in calves.

Infection immediately before or during the breeding season will reduce conception rates and cause early death of the embryo. Infection at any stage of pregnancy can result in abortion. The virus can also cause deformities in the calf. However, of particular importance, is infection in the first third of pregnancy, when developing calves which survive, remain **Persistently Infected** with the virus (PI calves). It is these calves, once born, which provide the major route of spread for this virus. They often appear normal, but they shed virus throughout their lives without ever developing antibodies. Many develop fatal enteritis known as Mucosal Disease before they reach maturity. However, significant numbers of PI's survive well into adulthood. Semen from transiently infected bulls can also spread infection.

Where possible, identification and removal of PI animals is advised, with subsequent exclusion of any potential sources of re-infection. Screening tests for antibodies can be carried out on blood or milk samples (including bulk milk), with secondary screening for BVD virus of animals which have low or negative antibodies.

A vaccine is available.

Preventive strategy

To reduce the risk of introducing an infected PI, purchase animals from:

 Lowest risk	1. CHeCS certified disease free herds.
	2. Herds where all breeding animals have been subject to a BVD vaccination programme prior to the conception of the purchased animals.*
	3. Herds which can demonstrate a recent negative bulk milk antibody level.
	4. Herds from which a recently taken representative set of blood samples has been shown to be negative for BVD antibodies.
	Highest risk

*Pregnant cows with antibody to BVD can carry PI calves unless they were vaccinated prior to conception.

Where disease status is unknown consult your veterinary surgeon about a whole herd vaccination policy.

Infectious Bovine Rhinotracheitis (IBR)

IBR is an acute virus disease that principally affects the upper respiratory tract (windpipe) and can lead to fatal pneumonia. In adult cows, infection is associated with a severe and prolonged drop in milk yield, reduced fertility and abortions. The virus is usually shed in secretions from the respiratory tract but can also be spread in the semen of infected bulls. Once an animal has become infected, it remains infected for life despite the development of an effective immune response, and thereafter these animals can shed virus at any time in their lives when stressed. Movement of such animals into a herd is often the source of new infections. Vaccination is an effective means of control, but this does not stop infected animals from shedding the virus at a later date.

Screening tests can be carried out on blood or milk samples to detect antibodies produced by the animal in response to previous infection. This test cannot differentiate between antibodies stimulated by the virus and those stimulated by the live vaccines licensed for use in the UK.

In addition to the effect this disease has on animal health and productivity, its presence in a herd is a barrier to the export of live cattle to some other regions or countries within Europe, which have already eradicated the disease.

Preventive strategy

Purchase animals from:

	1. A CHeCS certified disease free herd.
	2. Herds which can demonstrate negative antibody levels in recently taken bulk milk or negative blood samples in a whole herd blood test.
	3. Herds of unknown disease status or with evidence of infection. Where buying in single or mixed batches of animals of unknown disease status or from farms with known infection consult your veterinary surgeon about a vaccination policy on arrival.

Leptospirosis

Leptospirosis is caused by a bacterium *Leptospira interrogans* serovar *hardjo*. It causes Milk Drop in cattle and has been associated with infertility and abortion. Most cases of abortion occur during the second half of pregnancy, in the period from five months to full term. After infection, the bacterium localises in the reproductive tract of the cow as well as in the kidneys. The organism can be shed in the urine, although the pattern of shedding is variable. Some animals shed it for a short time and then stop, others shed continuously or intermittently for life. Infection arises from contact with infected urine, or from water or pasture contaminated with urine. Disease is usually introduced into a herd by the purchase of infected cattle. There is a risk

of infection in humans, with dairymen working in the milking parlour at particular risk. The infection causes flu-like symptoms and severe headaches and on rare occasions can be more serious. Herd owners must therefore be aware of their responsibilities under the COSHH regulations.

Confirmation of infection in premature or still-born calves is difficult, but evidence of infection in a herd can be obtained by blood sampling the cows or examining the bulk milk for antibodies. In infected herds, vaccination is an accepted means of control.

Preventive Strategy

Purchase animals from:

 <p>Lowest risk</p>	1. CheCS certified disease free herds.
	2. Herds that can supply evidence of recent negative bulk milk antibody tests or whole herd blood test.
	3. Herds of unknown disease status and those in which the disease is known to have occurred.
<p>Highest risk</p>	

Discuss the merits of a vaccination programme and/or post-purchase treatment with your veterinary surgeon if sourcing animals from:

- Herds of unknown disease status.
- Herds with a history of infection whether or not there is a current vaccination policy. (Vaccination is not guaranteed to eliminate carrier status).

Johne's Disease

This disease is a chronic, progressive, wasting condition with diarrhoea that affects cattle and is caused by the organism *Mycobacterium avium* subspecies *paratuberculosis*. The bacterium is shed in large numbers in faeces and can be

found in milk and colostrum. Animals are infected by ingesting the agent and young animals are considered to be the most susceptible to infection. However, signs of diarrhoea and weight loss usually do not occur until some time after 18 months of age. Infection is nearly always introduced to a herd by purchasing infected replacement breeding stock, including bulls.

Tests carried out on blood samples to detect antibodies and the culture of the bacterium from faeces are both valuable tests for the diagnosis of Johne's Disease. However, they can only be used to detect infected animals in the later stages of the disease, when clinical disease has become apparent, or in the short period prior to this.

This means a simple test and cull programme is not sufficient. It must be supplemented by the removal of offspring of any positive dam from the breeding herd, in an effort to exclude animals before they show signs of the disease.

Vaccination is useful in heavily infected herds to reduce the number of animals which develop disease. Whilst vaccination will not remove the infection from the herd, it is an aid in control.

Preventive Strategy

Purchase from:

 <p>Lowest risk</p> <p>Highest risk</p>	1. Herds which are CHeCS certified to be free of disease.
	2. Herds which have been found to be negative to a whole herd blood test within the last 3 months (provided no test and cull policy has been in operation in the last three years).
	3. Herds that can provide evidence of freedom from clinical disease for at least five years (veterinary certification should include evidence of laboratory examination of scouring cows).
	4. Herds of unknown disease status or where the disease is known to have occurred. This includes vaccinated herds.

Salmonella infection

Infection with Salmonella organisms can cause diarrhoea, abortion, pneumonia and septicaemia (bacteria in the bloodstream).

There are over 2000 different types (serovars) of salmonella but the most important in cattle are *Salmonella typhimurium* and *Salmonella dublin*. About 18% of dairy herds have evidence of salmonella infection.

The infection spreads via contact with the faeces of infected animals and the most common way of introducing infection into a herd is by purchase of an infected animal. Faecal contamination of vehicles and clothing can also spread infection. Wildlife and other farm animals can act as carriers of infection. The disease is particularly important because it affects people and can cause serious illness.

Cattle can remain carriers of *S.dublin* for a considerable time and it can be very difficult to eliminate from a herd. *S.typhimurium* and other types of salmonella are less persistent and where controls are applied correctly can be eliminated.

Preventive strategy

Request evidence from the vendor of freedom from the disease for at least the last two years. Veterinary certification should include evidence of laboratory examinations of animals with diarrhoea or abortion and post mortem examinations.

Sampling and testing of pooled faeces or slurry from the herd of origin can detect salmonella, however there is only a 35% chance of detecting infection on a single sample.

Vaccines are available; discuss the appropriate vaccination policy with your veterinary surgeon.

This leaflet was produced in collaboration with BCVA (British Cattle Veterinary Association); NFU (National Farmers Union); SAC VSD (Scottish Agricultural Colleges, Veterinary Science Division); CHCS (Cattle Health Certification Standards); VLA (Veterinary Laboratories Agency); NBA (National Beef Association)

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