

New Entrants to Farming

Cattle Health

Factsheet



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This factsheet aims to highlight the general considerations for cattle health and what to look out for. It should be used as a guide for when to seek veterinary advice, rather than being used to decide when an animal requires treatment. However, prevention is better than cure as once an animal has become ill, any treatment may only be symptomatic, not curative. Therefore, potentially leaving the animal with long term effects that could reduce weight gain, efficiency and consequently profitability.

Signs to identify sick animals

The early identification and treatment of sick animals limits the impact on productivity, efficiency and subsequent profitability. Livestock should be inspected at least once per day, ideally twice, for signs of ill health. There are a range of signs that may indicate ill health in livestock, which are sometimes termed “sickness behaviours”, and include:

- Not coming forward to feed / anorexia
- Not drinking
- Unkempt coat indicating less grooming
- Lying down more
- Reduced play in young animals
- Staying away / isolating from others in the group
- Abnormal posture e.g. hunched back, standing with neck or legs extended
- Drooped ear(s)

It should be noted that not all the above behaviours may be seen, or even at the same time in the same animal. Sick animals can vary in the level of expression of these behaviours and some of them can be quite subtle, requiring careful observation. Also, these signs are non-specific and can be seen with a range of illnesses, so further investigation by a vet is usually required to identify the cause. This may involve taking blood, tissue or faecal samples. In advanced cases or where treatment is unlikely to be effective, euthanasia may be the best option. Your vet will then be able to conduct a post-mortem examination and obtain additional samples for further analysis.

Healthy cattle should appear bright in the head, be alert to your presence and respond to touch or sound. An average healthy cow will spend 3 – 4 hours per day eating and 12 – 14 hours lying down. Approximately half of the time spent lying (6 - 8 hours) will be spent chewing their cud (cudding) which plays an important role in healthy digestion and rumination and is a sign that the animal is content. Although, this may depend on the diet being fed and the fibre content consumed.

Any animal that has not been drinking may have sunken eyes, but this can also occur with a loss of fat behind the eye in very thin animals. The level of dehydration can also be assessed by measuring the time it takes a skin tent (formed by pinching the skin then gently rotating it by 90°) to return to normal. In a well hydrated animal this should take less than two seconds but will be prolonged in dehydrated animals.

If an animal is seen to be frequently shifting from lying down to standing up when combined with kicking at the abdomen and vocalisation this may be a sign of abdominal pain (colic) and animals that are in pain may grind their teeth (bruxism).



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Regular monitoring of growth rates in youngstock or body condition score (BCS) in adults can be used to identify any problems with nutrition or health. Young cattle should be gaining over 0.7kg/day on average. It is recommended that livestock are maintained at the correct BCS throughout the year, but especially at calving. Information on how and when to assess body condition scores in cattle can be found in the QMS Spring Calving Suckler Cow Nutrition and Body Scoring Timeline and NADIS Condition Score (BCS) in Beef Herds or Cow condition scoring video demo: https://www.youtube.com/watch?v=i_vlJ39ZARs

Normal parameters

To help determine whether an animal is sick or not, and to assist with diagnosis, it is recommended to check the individual's rectal temperature, respiration rate and rumination pattern. The normal parameters for each of these is detailed in Table 1 with further information on how to measure these parameters below.

| PARAMETER | COW | CALF |
|--------------------|---|--|
| Rectal temperature | 38.0 – 38.5 °C (beef) 38.3 – 38.9 °C (dairy) | 38.5 – 39.5 °C |
| Respiration rate | 26 – 50 breaths per minute | 24 – 26 breaths per minute (<1 month old) 15 – 30 breaths per minute (>1 month old) |
| Rumination | 1 contraction per minute | Not seen in pre-ruminant * |

* The rumen of a calf is usually fully developed by 12 weeks of age.

Rectal temperature is a useful indicator to determine health or potentially help to diagnose an issue in cattle. To obtain an accurate rectal temperature the tip of the thermometer should be held directly against the rectal wall, otherwise you may get a falsely low result or take the temperature of the faeces. Rectal temperatures over 39.6 °C in cattle, warrant further veterinary investigation as they suggest the presence of infection or inflammation.

Respiration (breathing) rates can help indicate whether the animal has any respiratory tract infection or disease. Respiratory rates can vary depending on the ambient temperature and if the animal is stressed however, increased respiration rates can indicate pain, stress, respiratory disease or heat stress. When monitoring respiration rate, you should count the number of breaths taken in 15 seconds then multiply this by 4. You should only count inspiration (breaths in) or expiration (breaths out), not both as this will falsely elevate the respiration rate. Normally cattle do not make any noise during respiration and the presence of respiratory noise can indicate respiratory disease. Your vet may be able to localise the problem within the respiratory tract depending on whether the noise coincides with inspiration or expiration.

It is important to determine whether an animal is eating or not to ensure good rumen function is maintained. Rumen movements and a gauge of rumen fullness are the best indicators of whether the animal has been eating. Rumen movements can be felt by placing a fist in the sub-lumbar fossa (the triangle between the last rib, pelvis and short ribs) on the left-hand side of the animal as shown below. By placing an ear in this area, you should also be able to hear the rumen movements, which sounds like a washing machine on a spin cycle. The fill of the rumen can also be assessed on a scale of 1 – 5, with 1 indicating an empty rumen due to not eating in the last 24 hours and 5 representing a full rumen. Although this can be done roughly by visual assessment, it is best to use a clenched fist. The rumen score gives an indication of food intakes in the last 2 – 6 hours so can vary throughout the day, depending on feeding times. Also, advanced pregnancy can lead to difficulty in accurately scoring rumen fill. In a normal animal, the rumen should feel “doughy” and there will be no imprint left when you remove your hand. If the rumen is distended and feels like a drum, this is indicative of bloat which is an emergency and the vet should be called immediately.



The red triangle indicates the sub-lumbar fossa area.
Photo credit: Alberto Radolphi.

In addition to the above parameters, the presence or absence of ocular (eye) or nasal discharge when combined with information on the colour, consistency and which eyes/nostrils are affected, the presence or absence and frequency of a cough can be useful for determining if an animal has respiratory disease or not. Also, taking note of the animal's faecal matter can provide useful information to help diagnose potential issues with health or diet. This can be done by faecal scoring, which is based on the consistency (firm vs liquid), colour and presence or absence of food (particularly whole undigested grains), blood or mucous in the faeces.

Tools to assist the identification of a sick animal

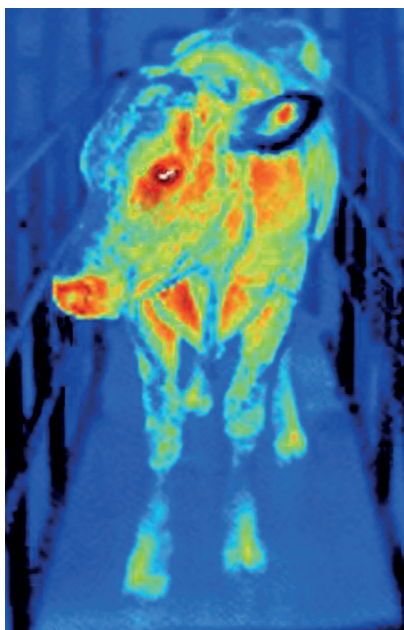
It is important to have a suitable handling area when dealing with sick animals to avoid injury to farm staff and animals. Ideally cattle should be restrained with a halter in a crush when being examined.

The most important tool for identifying sick animals is a simple digital thermometer. It is advised to have a quick reading one, to avoid stressing animals too much. Digital thermometers are widely available from pharmacies, veterinary practices, livestock wholesalers and supermarkets for under £10. It is worth having more than one so that many cattle can have their temperature taken at the same time while in the race.

A range of additional technology is available to assist in the identification of sick cattle including:

- Reusable, battery-operated temperature tags e.g. FeverTags® which flash when a calf's temperature is consistently above a specific threshold.
- Rumen boluses to record temperature, rumen pH and rumination rates.
- Activity collars which can be worn around the neck or leg to monitor patterns of movement, resting, eating and rumination.
- Infrared thermography to highlight "hotspots" on the animal that may indicate the location of the lesion/inflammation.
- Visual image analysis cameras for cow body condition score.
- Weigh crate or Beef Monitor to regularly monitor body weight changes.

Each of these technologies will have advantages and disadvantages and vary in cost. Although, these technologies can be useful in large groups of individuals, they should not be a replacement for good stockmanship.



General biosecurity principles

It is recommended to remove any sick individuals from the main group as soon as they are identified and keep them in a separate 'sick' or isolation pen, as they may pose a risk to others in the group. A sick pen should provide a clean, dry and warm bed and access to food and water. However, it is important to ensure that they can continue to see and hear other livestock of the same species. These animals may return to the main group once they have recovered, but they will need to be monitored as others within the group may bully them.

Once one animal in a group shows symptoms of disease, many others within the group may be in the early stages of infection but not yet showing obvious clinical signs. Therefore, you should investigate the first case of illness with your vet as you never know when an outbreak may start.

Before purchasing any animals, the disease status of the existing herd should be known to provide the baseline health status. Key questions to ask are:

- Is it a closed herd?
- Is the herd accredited/monitored for infectious diseases e.g. BVD, IBR, leptospirosis, Johne's disease, neospora?
- What is their vaccination status? What product was used and when? Care should be taken to ensure that the vaccine was administered as per the data sheet instructions, otherwise the animal may not be fully protected.
- What is their treatment history? What product was used and when?

You should avoid buying in any stock with a lower health status than your own existing stock and any newly introduced animals should be quarantine for 28 days. During this quarantine period, animals should be monitored for signs of illness and any quarantine treatments agreed with your vet should be administered.

More information on purchasing livestock can be found in the [New Entrants Guide to Buying and Selling at the Mart factsheet](#).

Stress has been shown to negatively impact an animal's immunity. This stress can be caused by transport, feed changes, group changes, crowding, poor ventilation, temperature fluctuations or drafts so reducing these as much as possible is advised. It is also recommended, that you avoid too many changes at the same time e.g. don't wean calves and house them on the same day. Newly arrived animals (either purchased or returning from summer/winter grazing) should be allowed to rest following transport and be fed a diet like the one they were previously fed. Any dietary changes should be made gradually over a period of 2 – 3 weeks. Also, animals of different ages or from different groups should not be mixed or share the same air space as this increases stress and potential exposure to disease. While older animals may be immune to some pathogens, they can still carry them even if not showing any signs and pass them to younger, more susceptible individuals. Further information on the ventilation of livestock housing and minimising drafts can be found in [TN689 \(Cattle housing and ventilation\)](#).

Between batches of stock it is recommended that buildings including water troughs, feeders, equipment and surfaces are cleaned and disinfected to reduce the pathogen load. In addition, good personal hygiene including regular cleaning and disinfection of clothing and footwear is recommended. This is particularly important after treating diseased individuals or groups or after contact with livestock from another source.

Good biosecurity and implementing preventative measures result in improved immunity of livestock and decreases the level of pathogens (infectious agents) that livestock may be exposed to. This leads to reduced antibiotic use, improved farm productivity, efficiency and profitability and a better product for consumers.

Health planning

Each year you should review the herd performance and disease levels, biosecurity, quarantine procedures for bought in and sick stock, parasite (internal and external) control, euthanasia and general husbandry procedures e.g. castration, dehorning, with your vet. This discussion will result in the production of an active document, tailored to your farm, which will include details on planned schedules for routine treatments and vaccinations. Annual completion of a health plan is now a requirement of many farm assurance schemes, including QMS Cattle and Sheep Assurance Scheme.

Top tips for livestock health

- Avoid buying in problems and check health status of own herd prior to purchasing stock.
- Avoid mixing different sources or ages of stock.
- Identify sick animals, isolate and treat them as soon as possible.
- Investigate the first case of illness within a group – it may be the start of an outbreak.
- Discuss treatment protocols and prevention plans with your vet to ensure you are using the most appropriate product at the correct time.
- Complete an annual herd/flock health plan with your vet to review health problems, treatment and vaccination protocols.
- If there is any doubt about the diagnosis or best treatment regime then you should contact your local farm vet immediately.

Further information on livestock health including a number of timely articles, fact sheets, videos and podcasts are available on the Scottish Farm Advisory Service website (www.fas.scot)

