

## HOW TO PREVENT DISEASE IN CATTLE

Good care for dairy animals means preventing them from becoming ill. It is important for farmers to understand the reasons for good management practices and the links between nutrition, housing and health.

There are a number of key considerations, when it comes to preventing diseases on the farm.

**1. Biosecurity when purchasing new stock, coordinate introduction of new animals in the herd to minimise risk of introducing infectious diseases. The following biosecurity measures should be put in place:**

- Ensure their health status is known by checking their veterinary health certificate.
- Where possible, ensure details of their vaccination program are known.
- Avoid purchasing stock from unknown sources, or stock that have mixed with other cattle before sale.
- Purchase heifers, because they can be more easily quarantined and are less likely to have mastitis.
- Calves purchased with no signs of disease should be kept separate for at least a week.
- Transport purchased cattle preferably in the farmer's vehicle, in a clean truck or trailer.
- Isolate the animals for 10 days and vaccinate them during the isolation period to make sure they are integrated into the farm vaccination program.
- Control the movement of people, animals and equipment onto the farm.

**2. Provide nursing and support for sick or injured animals. Provide the following supportive care when needed:**

- Good nutrition for treated stock, with freely available water and quality palatable fodder and concentrates.
- Access to water, shade and clean bedding.
- A low-stress environment, with adequate housing. Remove competition from other stock. Also remove parasites.
- Provide pain relief. Also clean and dress wounds.
- Special care for stock that is unable to stand. The support of small hay bales can stop them rolling onto their sides. Move them to dry, warm shelter with good footing, in case they try to stand.

**3. Handle drugs used on the farm responsibly. Drugs should be sourced from veterinarians or registered agricultural merchants because medicines obtained from other sources may not be safe or effective.**

They should be stored correctly in accordance with the instructions on the label. Storage temperature is critical for some medicines, especially vaccines. Light can damage some drugs. Drugs should be stored securely and locked, where practical. They should also be kept out of the reach of children, animals and anybody not supposed to handle them.

Responsible handling of drugs involves:

- Keeping records of how many drugs were purchased and when, the batch number and expiry date, when the drugs were used and on what type of stock, as well as the withholding period (start and end dates) for sale of milk or for slaughter.
  - Using drugs only on the animals recommended on the label.
  - Disposing safely of unused medicines when treatment is finished. If using disposable needles and syringes, dispose of them in a safe container. For other reusable equipment, clean and sterilise them both before and after use.
  - Maintain high standards of sanitation at all times to prevent rapid spread of infectious diseases in both young stock and milking cows.
4. Record keeping of activities and events on the farm: Records of insemination, birth date, sire, dam, calving date, vaccination date, health problems, treatment, milk yield and feeding can help farmers to predict future or preventative needs for health care. These records also provide beneficial and relevant information for veterinarians to make correct diagnoses. Therefore, it is best to have well organised records kept for each animal, with the forms designed to allow for easy interpretation. Most smallholders do not seem to pay sufficient attention to keeping good records and yet bookkeeping is key.

## How to tell the difference between a sick cow and a healthy cow?

Vigilance, observation and understanding are the most important skills needed for maintaining a herd of healthy cows, because recognising that something is amiss is the first, necessary step of any action or treatment.

The physical appearance and behavior of a cow is a good guide to its health status. Symptoms are illustrated in the two figures below.

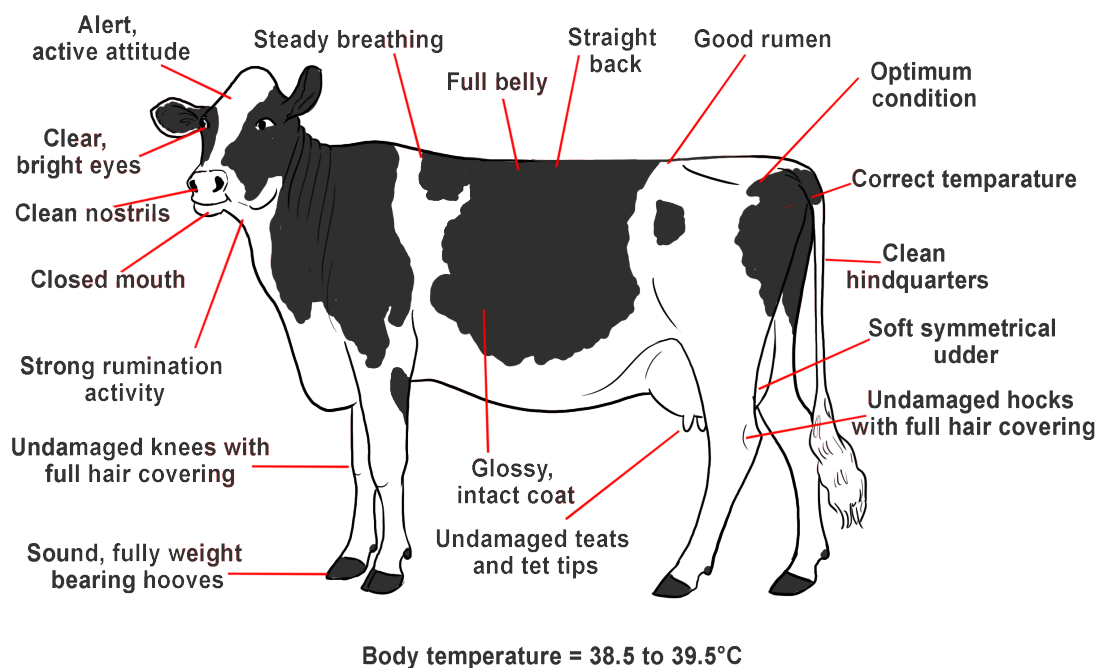


Figure 1: Features of a healthy cow.

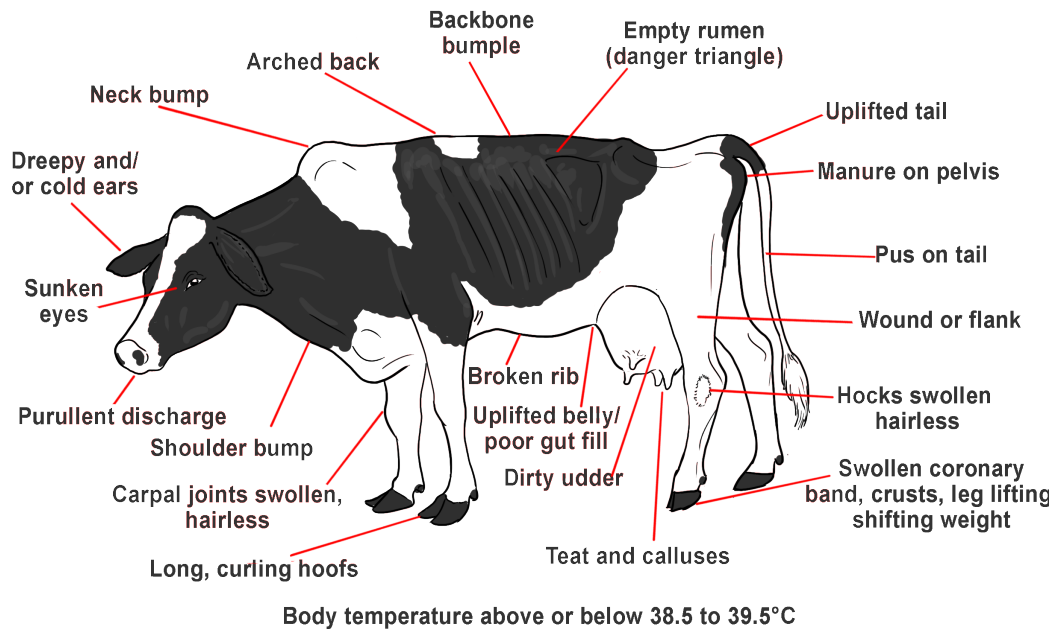


Figure 2: Features of an unhealthy cow.

## Disease prevention and management strategies

Prevention is better than cure. The goal of every farmer should be to prevent diseases. It is strongly recommended to call for veterinary assistance when health problems are suspected (veterinarian, veterinary assistant or animal health assistant registered with KVB). Most diseases can be prevented by the same management measures that enhance production.

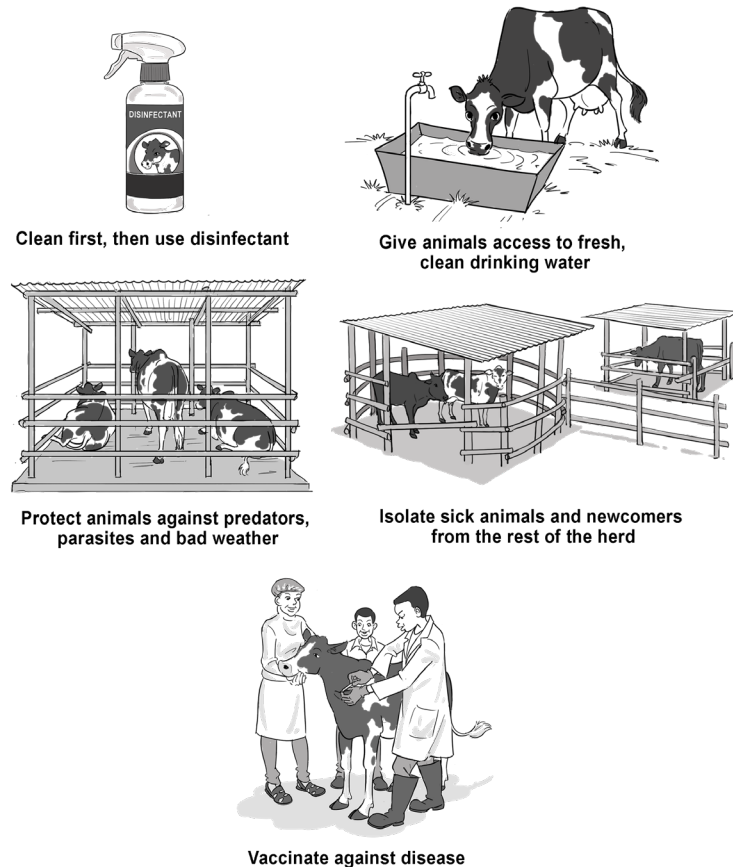


Figure 3: General disease prevention measures.

**Vaccinations against the following diseases may be relevant for dairy cattle:**

| Age                    | Vaccinate against                         | Application   | Remarks   |
|------------------------|---|---|---|
| 3-8 months for heifers | Brucellosis                               | S/C - Once in a lifetime  | During threats of outbreak the whole breeding herd may be vaccinated. Use vaccine with care. S19 live vaccine, if injected into humans, can cause brucellosis.  |
| 3 months - 3 years     | Anthrax and Blackquater                   | S/C - Yearly or upon warning of impending outbreak  | Vaccine is cheap, SO USE IT. Anthrax is deadly for humans and animals.  |
| After 2 weeks          | CBPP<br>Contagious Bovine Pleuropneumonia | Yearly in endemic areas. In other areas only upon warning of impending outbreak. Vaccinated into the tip of the tail. | Consult your veterinary authorities. To be administered by trained vets only. Animals can sometimes lose the tips of their tails from this vaccination.   |
| After 1 month          | ECF<br>East Coast Fever                   | S/C under the ear. Vaccine is commercialised in Tanzania and in Kenya   | Only to be used by licensed vets trained in the application of ECE Infection and Treatment Methods.   |
| After 2 weeks          | Foot and Mouth disease (FMD)              | S/C - Every 6 months in endemic areas. All of East Africa is endemic for FMD  | There are various strains. Consult your vet on choice of vaccine. To be administered by trained government veterinarians.   |
| After 3 months         | Rabies                                    | I/M or S/C - Cattle can be vaccinated annually and must be vaccinated when there is an outbreak                       | Vaccine is normally provided by government vets. This is the only way to protect herds affected by rabies (which is mostly introduced by bites from rabid dogs) if the vaccination is done within a week, at most, of the rabid animal coming into the herd. Report suspected cases immediately to the District Veterinary officer.   |
| After 6 months         | Rift Valley Fever                         | S/C - Preventive after heavy rains or when there is a risk of outbreak.   | A live vaccine is used. Vaccination is only carried out under order of the DVS. Vaccines can cause pregnant animals to abort. Live vaccines may also be dangerous for humans, so HANDLE WITH CARE. RVF in humans can be deadly, so control is very important. A new live RVF vaccine which does not cause abortions in livestock has been developed. It is not yet registered in Kenya. |
| After 1 month          | Lumpy skin                                | S/C - Preventive when there is a risk of outbreak.  | When using this live vaccine, separate cattle from sheep and goats, as the vaccine is derived from modified sheep pox virus. If sheep and goat come into close contact with freshly vaccinated cattle the vaccine can cause acute pox disease in the smaller animals.   |

## **Worm prevention**

An animal suffering from a worm infection will lose weight and become ill. Frequently, it will also have a distended stomach (or pot belly). Young animals are particularly susceptible to gastrointestinal worm infestation from grazing. Worms develop well under humid and hot conditions.

## **How to prevent worm infections**

- Regular cleaning and keeping the stable floor dry.
- Stall-feeding instead of grazing will help reduce the risk of infection. Avoid grazing in humid areas or use mobile pens in clean pasture plots instead.
- De-worming is common practice for young animals, starting from the age of two months and repeating treatment every 3-4 months until about 2 years of age. As most infections occur during the rainy season, de-worming before and after this season is useful in many areas.

## **Tick control**

Ticks can be a problem, especially under grazing conditions. They suck blood and infect cattle with tick-borne diseases. There are different methods of tick control. The one that will work best will depend on many factors such as the number of cattle, the facilities available, the tick and tick-borne disease situation in your area, how you want to control ticks (for example, whether you want to use strategic or intensive control) and the amount of money available for dipping compounds.

- The plunge dip is one of the common methods of tick control. The animal is completely immersed in the dipping compound. You need a dip tank.
- Spray races are sometimes used. The animal walks through a race where it is sprayed with the dipping compound.
- Hand spraying can be used. The dipping compound is applied to each animal with a hand-operated spray. This can be time consuming when you have several animals. You need a back-pack spray.
- Hand dressing or spot treatment involves treating the sites where ticks commonly occur. Tick grease, oil or dipping compound can be used.
- Pour-ons are dipping compounds which are applied on the back. They are easy to use, but can be expensive compared to other options.
- Other methods, such as removing ticks by hand, the use of chickens to remove ticks and pasture management, can also be considered.

## How to spray

Spray early in the morning before animals get thirsty to minimise ingestion of insecticide. A useful rule to remember is – do not spray in the heat of the day, spray before 9.00 am when the sun is not hot.

Hold the nozzle of the spray pump at a distance of 30cm (1 ft) from the animal and then spray the body parts in the order shown in Figure 4.

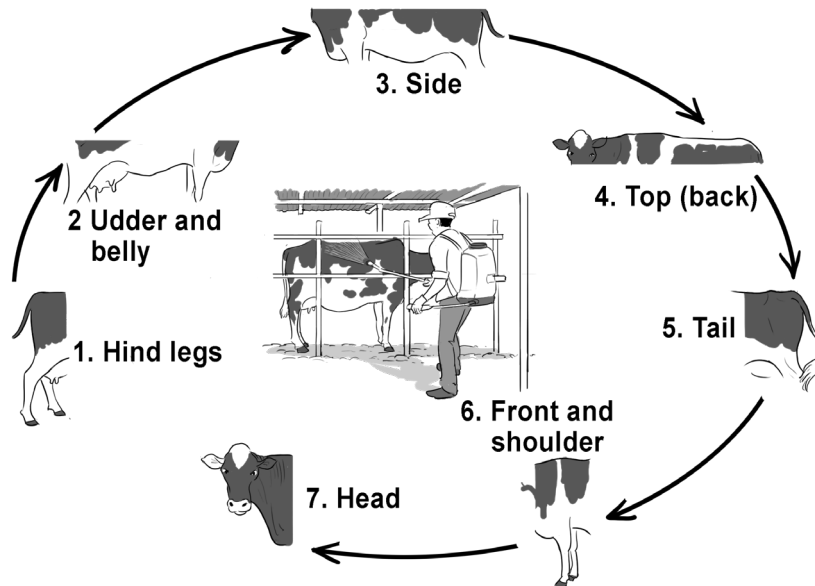


Figure 4: How to control for ticks.

Ensure that the whole body is covered by the wash. Give special attention to the following areas:

- Around the base of the horns
- Around the anus
- Udder and teats
- Around and between the hoofs
- Around the eyes
- Inside the ears
- For male animals, around the scrotum

## Hoof problems

Besides lameness, cows with hoof problems may present a serious drop in milk production. Hoof problems can be caused by infections or by hoofs growing out of shape. Prevention consists of the following measures:

- **Hygienic housing:** Clean and dry, well-levelled floors are required. Floors should not be slippery, so the surface should not be too smooth.
- **Nutrition:** Well-balanced feeding with sufficient roughage and no drastic changes is recommended. Provide sufficient mineral licks to the animals.
- **Hoof trimming:** Hoofs grown out of shape need trimming. This job requires special skills and should be done by an experienced person.
- **Footbath:** When problems occur frequently, a footbath with a disinfectant could be considered.