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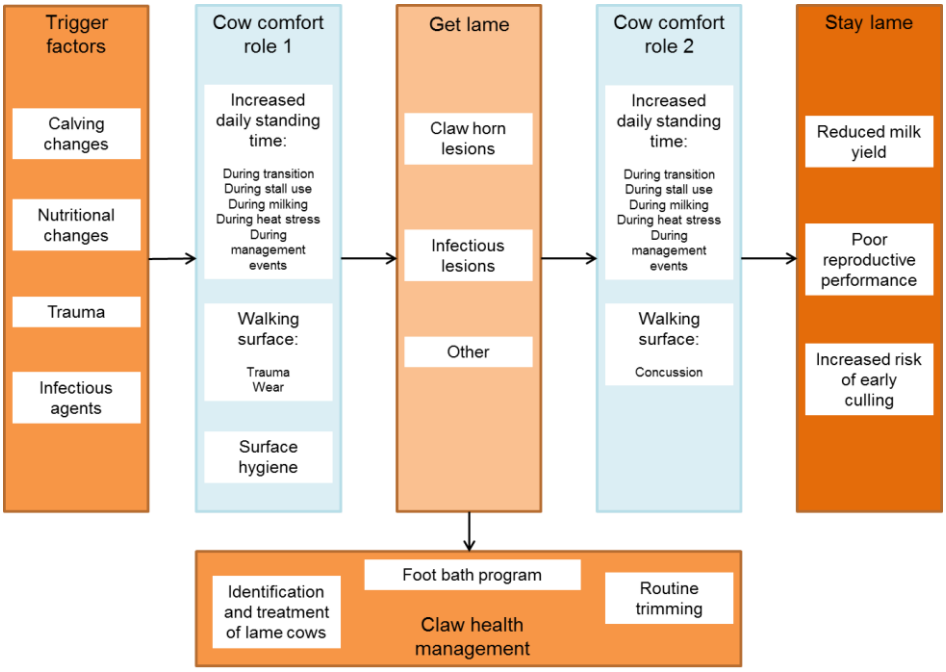
Claw problems, prevention is always best.

Claw diseases are still a common problem in cattle farming. Throughout the year, at any given moment about 80% of the animals present suffer from a claw disease. Only a quarter of these are visible or, therefore, clinically lame. As a result, the claw problems present on a farm are often underestimated. Claw problems cause discomfort in cattle. It is therefore logical that these animals eat less, produce less milk and have more difficulty becoming pregnant. A recent study in the Netherlands calculated that the costs incurred by claw problems on a dairy farm of 65 dairy cows are on average 3500 euros a year or, in other words, 53 euros per cow per year. Two thirds of these costs are incurred by clinically lame cows. There are multiple risk factors that can give rise to the development of lameness (see Figure). All the more reason why the focus should be on prevention instead of treatment.

Figure: Causes of becoming and remaining lame



Source: N.Cook, 2007

The most problematic *claw diseases* have a bacterial origin. In order to multiply quickly, bacteria need two things: heat and moisture. These two factors are often abundantly present in the shed in the form of manure. Therefore manure is the ideal breeding ground for all kinds of bacteria. *In winter,* the risk is all the greater because the cows are then continually in the shed, making it more difficult to keep the grids or solid floor and the cubicles clean and, more particularly, dry. This close contact between the claws and the manure allows infectious claw diseases to be transmitted easily from one cow to another. It is therefore important that the risk of infection in the shed is kept as low as possible by striving for good shed hygiene and a healthy climate, resulting in clean and dry claws. Good ventilation is essential for a good shed climate, but in autumn and winter, the shed is often ventilated too little so as to keep the wind and cold outside. This may drastically increase the risk of too high a humidity level at the height of the claws. Too high humidity will soften the horn and skin around the claws, making them more susceptible to infections. *In summer,* most cows will spend a part of the day outside the shed. This will allow the claws to dry. When pasture is used, the claws may even by "cleaned" in a natural way. However, an open-air enclosure may also cause problems. This is because weather conditions may cause the open-air enclosure or the pasture to become soggy after a long wet period. As a result, the cows often form deep pits and cracks. When this is followed by a dry period, these irregularities may dry out and continue to exist. Cows may sustain severe injuries from them. It is therefore also important to regularly check the open-air enclosure or the pastures and, if necessary, to smooth them again to avoid unnecessary claw injuries. For this reason it is also important to regularly check the track between the open-air enclosure and the shed. Often this track is walked on in the same way every day and is therefore very susceptible to damage. Another space that is often forgotten is the waiting area for the milking parlour. Cows often need to stand still here for a long time and these floors are often very slippery. It may be a good idea to coat the grids here with rubber so that there is less pressure on the claws.

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Prevention is therefore the key to a herd with healthy claws. The most important points for prevention are:

1. *Shed hygiene*

   As already stated, a clean and dry shed is a prerequisite to keep the infection risk low. This involves good ventilation, dry, rough shed floors and clean, spacious lying cubicles. The grids and cubicles need to be cleaned at least twice a day. A manure scraper or manure robot may be a good investment for this. As the manure is removed regularly, the claws stay drier so that they become harder and less susceptible to all kinds of infections. So, for this reason, it is also important that sufficient space is provided for manure storage, to prevent the manure pit from overflowing in long winters. After the cubicles have been cleaned, they are ideally covered with dry and clean sawdust. This provides more comfort so that animals will lay down more often. This improves the blood circulation in the tissues and will eventually contribute to better udder and claw health, among other things. The current advice for lying cubicles is a length of 2.4 to 2.5 metres for a cubicle against the wall and a length of 2.2 to 2.3 metres for a double row of cubicles with an open front. Cubicles that are too small will quickly cause thick hocks and will hinder the cows as they try to get up in a smooth movement.

2. *Preventive trimming*

   The real art is to balance the growth and wear of the claws by trimming. In addition, regularly foot trimming provides an opportunity to carefully inspect each claw, so that an impression can be formed of the claw health of the herd. Therefore it is indicated to treat all the cows at least twice a year. This is preferably done when they are dry and again soon after the peak lactation (between 3 and 4 months into lactation), since calving and the first months into lactation involve a greater risk of developing claw problems.

3. *Footbaths*

   Footbaths may certainly help in the prevention of infectious claw diseases. However, it is important that the hooves are cleaned in a bath filled with plain water first before the animals can step into the real footbath. Most products cause a mild irritation of the skin. Therefore a footbath needs to be sufficiently deep so that the skin will also come into contact with the product (i.e. at least 15 cm). As a reaction to this mild irritation, the skin will become stronger and the bacteria will have less chance of penetrating the skin.

4. *Avoiding acquisition*

   Frequent purchases of animals almost always lead to purchases of undesired infections. In most cases of digital dermatitis, the disease has crept into the farm after the purchase of one or more animals.

5. *Nutrition*

   Metabolic disorders affect the horn quality of the hoof and may lead to sole bleeding and chronic laminitis. Therefore one should pay attention to the following things with regard to nutrition:

   - Make sure the rations have sufficient structure and make sure that the cows have good roughage at their disposal day and night. Silage that is low in crude fibre (< 225) and too finely shredded green maize fodder (< 0.8 cm) may lead to acidosis. This will cause the blood vessels everywhere in the body to contract, so also in the claws. This causes poor blood circulation of the claws which will manifest itself in laminitis 6 to 8 weeks later. For this reason, limiting heat stress with the corresponding acidosis in summer is a must as well.
   - Make sure the rations do not contain too much protein. The urea content in the milk may provide a quick idea of the utilisation of the protein in the rations.
   - Do not forget the minerals and vitamins! They need to be present in the rations in the right amounts. Extra attention should be paid to biotin and zinc. For both there is now sufficient scientific evidence that they play an important role in strengthening the horn and claws.
   - Make sure the transitions in rationing around drying off and the start of the lactation are gradual.

With the ***Mervit range,*** *Nuscience* offers cattle farmers mineral mixtures that amply meet all needs of the dairy cattle. The ***Mervit TOP*** products have been especially developed to provide cows with extra support for combatting claw problems, among other things, thanks to the addition of organic zinc and biotin.