

Hoof problems – the hidden enemy of your yields

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Hoof problems are, along with udder conditions, among the most serious problems for dairy farms.

One of the reasons for this is, without a doubt, the fact that a cow which has to be put down because it is lame suffers for a long time prior to this. Heifers that develop serious hoof and foot injuries a few weeks after they start to lactate for the first time will usually remain very vulnerable to such problems for the rest of their lives.

This is because injuries such as constriction and thick hock leave traces that can serve as an entry route for subsequent relapses or can make the hooves more vulnerable to sole ulceration and infections, such as interdigital and digital dermatitis.

Welfare obligation

Structural preventive hoof care helps avoid hoof problems becoming sufficiently serious that cows need to be put down prematurely. So, preventive hoof care can be regarded as an animal welfare obligation.

In addition, cows repay this care very



quickly in the form of higher milk production.

It is the farmer who decides whether to have his cows' hooves trimmed regularly. He can do it himself or call on the services of a hoof care specialist or his veterinarian.

Intracare recommends using hoof care specialists. What is important is not the speed of the procedure but the skill of the operator.

Depending on the size of the herd, hoof care specialists can trim and treat the hooves of the entire herd within a few days, which will reduce the level of infection throughout the farm.

It is important for animal welfare reasons, among others, that both farmers who trim their animals' hooves themselves and professional hoof care specialists have undergone specific training so that they can treat the animals correctly and recognise any injuries they observe.

Many livestock farmers think that once you have trimmed an animal's hooves, that is the end of the story. Unfortunately this is not correct. Intracare advises farmers that they should leave hoof trimming to specialists and concentrate themselves on treating hoof conditions such as infections.

They also recommend that whenever the herd is brought in for hoof trimming a record is kept of any injuries observed. This will help get to the root of the problems so that they can be properly dealt with.

Hoof problems can have many causes, such as incorrect diet, wrong size pens, not enough pens, floor grids in poor condition, too much dung in the pens and the walkways in the cowshed, too much mud and stones in the area where cows congregate in front of the cowshed, around the drinking trough or on the paths they follow to reach the fields.

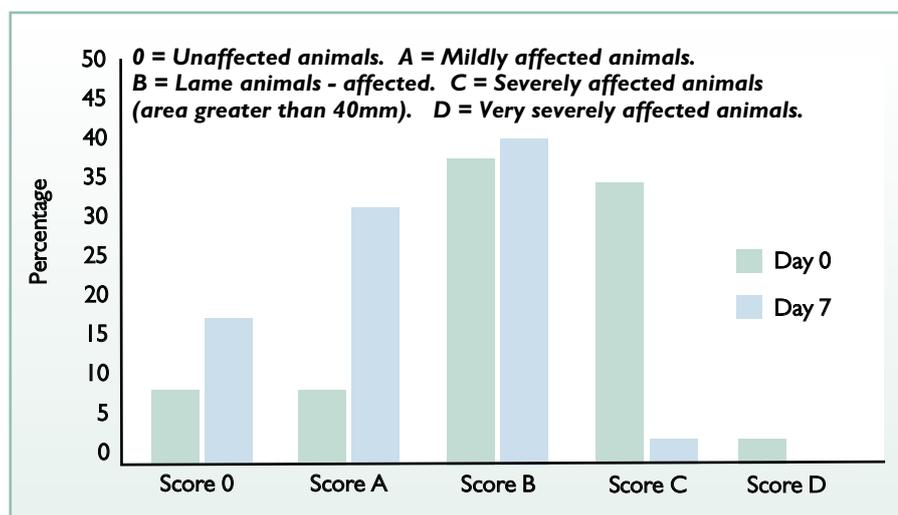


Intracare's Intra Hoof-fit concept focuses on five steps which will, in the long term, improve the condition of your entire herd's hooves.

Farmers should have their cows' hooves trimmed by a hoof care specialist two or three times a year. Outsourcing this task means that the farmer no longer has to do this job himself and only needs to treat the weaker animals with Intra Hoof-fit gel or liquid from time to time.

There are two key times when animals should be treated:

Fig. 1. Testing the efficacy of Hoof-fit on 2,500 dairy cattle. Percentage distribution of hoof scores on day 0 and 7.



Continued on page 16

Continued from page 15

- Two months after they have calved.
- When they are being taken off milk production.

Farmers unfortunately often think that hiring a hoof care specialist to trim and treat their animals is expensive, but this is a serious misconception. The operator's fees nearly always amount to only 15% of the additional income produced by cows with healthier hooves.

Pay attention to heifers

Complex environmental factors must not be ignored as a possible cause of hoof prob-

lems. Particular attention must be paid to heifers which join the dairy herd after calving for the first time, and which may adopt an increasingly strange posture because of visible or unseen hoof problems.

Farmers must look very closely at the following points:

- Pens that are too short and too narrow.
- A floor that is too high compared to the walkway.
- Neck rail incorrectly positioned.
- Not enough pens available.

These problems mean that some animals (especially heifers and cows that have

recently calved) are almost unable to lie down, or do so for only a short time.

You will also notice that these animals keep half of their bodies outside the pen, with their back feet on the walkway. They sometimes prefer to lie on the grids or on the walkway floor.



Cows with hoof problems

avoid lying down

because they know that getting up will be very painful.

The animals feel distinctly hampered by these poor conditions. As a result, they spend too long standing upright, which puts excessive strain on various parts of the body, including the outer hooves of the rear feet and especially the dermis, which can become damaged.

This causes bleeding and discolouration in the horn, horn injuries in the white line, and sole ulcers.

Always make sure that the walkways are clean and free from stones. Keeping the walkways inside and outside the cowshed clean takes less time than curing a sole ulcer.

Mortellaro's disease

The most common hoof disease is dermatitis digitalis, also known as Mortellaro's disease. Dermatitis digitalis is an inflammation of the skin around the crown edge and ball area of the hoof. Unlike interdigital phlegmon, this inflammation occurs mainly in the pastern cavity, at the junction between the hairy to hairless intra-hoof skin.

The condition can be encountered here along with stinky foot lesions, especially on the skin and the ball area where the horn is thin.

Typical features of the disease are extreme sensitivity to pressure, red colouration (wound) of the lesion, often accompanied by a strong, sickly odour caused by decomposition of the horn tissue and other factors.

The cause of dermatitis digitalis is not yet known, but it is thought that anaerobic bacteria (*Bacteroides* sp. with the exception of *Bacteroides nodosus*, *Spirochaeta*-like germs and various, serologically heterogeneous, strains of *Campylobacter faecalis*) in dung play an important role.

Dermatitis digitalis can occur in cattle of any age and is extremely painful. Animals with the condition are usually unwilling to even put the affected foot on the ground in the normal way, but rest the tops of the hooves on the ground.

If the condition persists, this can lead to



the horn in the ball area growing thicker. Tests in over 25 countries have found that the proportion of animals in a herd with clinical signs ranges from 25% to over 80%. Some farms have experienced problems with heifers when they are brought to join the milking cows at the end of summer or after calving.

Once Mortellaro's disease has spread in a herd, it is difficult, if not impossible, to control and eradicate it. Cows can become re-infected just a few weeks after the herd has been treated. Rapid action is then the only way of preventing a further massive outbreak.

Intracare's Hoof-fit concept reduces the level of infection to below 15%, the prevalence of hoof complaints from 60-80% to less than 15%, saving over €10,000 a year for every 100 cows. Farmers benefit from higher milk yields, better resistance, less premature disposal, shorter intervals between calving, lower drug bills, no weight loss and in general a healthier herd.

Tens of thousands of livestock farmers in 55 countries use the Hoof-fit concept every day, which shows how effective it is.

Local application of Hoof-fit to individual animals is a common procedure.

Constriction and its causes

Constriction is a condition affecting the dermis of the hoof, which usually starts around the time of calving but often only becomes visible at a later stage, taking the form of changes in horn production and hoof shape.

These changes include growth rings sagging backwards, yellow or red discolouration of the horn caused by bodily fluids or blood.

An attack of acute constriction only lasts for a short time (a few days), but the subsequent changes to the shape of the hooves can cause the animal to have difficulty bearing its weight for a considerable period, and even for the rest of its life. This is known as chronic hoof constriction.

Incorrect feeding, especially when cows are not producing milk, encourages constriction.

But chronic excess strain on the hooves is also a factor that promotes constriction.

That is why constriction and its consequences occur most often in the outer hooves of the rear feet, sometimes in the inner hooves of the front feet.

Slightly increasing the height of the feed trough will certainly help reduce pressure on the front feet, as cows do not have to reach so far.

Dermatitis interdigitalis, also known as stinky foot, is a condition, like Mortellaro's disease, that is found on almost every dairy farm. Both conditions are among the main causes of hoof lameness in cattle. It starts with a wet, stinking inflammation of the skin in the slit between the hooves, which is why it is called stinky foot.

The infection occurs as a result of direct contact with infectious material in dung, in other words before stinky foot infection can affect a herd the germ *Bacteroides nodosus* must have entered the herd. This can happen when infected animals join the herd or as a result of inadequate cowshed hygiene.

Fusobacterium necrophorum is also important for the development of stinky foot infection (the germ is already present in dung). The success of the infection depends not only on the presence of the two bacteria.

Too little attention is often paid to Mortellaro's disease, which reduces the resistance of the animals and makes them more vulnerable to other infections; but ambient humidity and temperature have a part to play as well. Intracare recommends an air inlet/outlet system of at least 1 m² per animal, or making sure that cowsheds are cool and well ventilated.

To control these infections the following is advised:

- Trim all the animals' hooves two or three times a year.
- Apply Hoof-fit gel to all the animals during this procedure.
- Treat all animals with Hoof-fit products as a preventive measure.
- Ensure that conditions in the cowshed are hygienic (clean floors and pens, and a cool temperature).



Sadly for people, animals and the environment, farmers are still sometimes advised to apply antibiotics in footbaths or directly to the hoof.

The consequences of these kinds of treatment on bacteria is completely unknown, as is the effect on their development of resistance in dung, which is then spread on the land.

We do know that many livestock farmers are facing problems with resistance, as antibiotics are becoming less effective in treating both animals and people.

An increasing number of hoof trimmers are refusing to use antibiotics every day in the interests of their own health. Intracare's views on footbaths in use at the moment are quite clear – they were invented 35 years ago, with the problems and outcomes that applied at the time.

Award winning footbath

Currently there are no affordable or even 'unaffordable' solutions on the market that actually work.

Although the market is flooded with automatic rinsing tanks, foam-based sprayers and so on, the results are generally very disappointing.

Historically, all livestock farmers had a footbath placed at the exit from the milking pen that contained formaldehyde.

Unfortunately, this was not a very clever idea, as the cows were back with their hooves in manure as soon as they had left the footbath, and so had no more than two seconds exposure to the liquid.

Hoof problems can not be solved by means of a footbath, but they can help alleviate the problems.

For example, Intracare has designed an award winning footbath that is clearly superior to all older footbaths with 70% less pollution and causing less dung contamination.

Intracare recommend placing the footbath in front of the milking pen, avoiding harmful or painful substances.

Once a cow has passed through the footbath it will spend at least 15 minutes in the clean milking pen, which means that its contact time with the liquid is 15 minutes.

Hoof problems are the hidden enemy. They must be made visible. These problems can be controlled without inordinate expense, and farmers will see their yields rise sharply as a result. ■