



Jaco de Bruin from Dairysmid shows that the horizontal system ensures more comfort for the cow and hoofsmith (Photo: Dairysmid)

# Keep your cows on their feet

by Liza Burger

*Heel erosion, sores, abscesses, foot warts, infections and physical injuries to the hoofs can have a profound influence on milk production as well as cows' quality of life. This is also one of the main reasons for culling animals, as it influences both reproduction tempo and success.*

Dairy Mail Africa talked to Jaco de Bruin from Dairysmid and Rykie Visser, export and regional sales manager of DeLaval, about how to control and manage diseases that influence hoof health.

A cow with a sore foot that remains untreated "wilts away", says De Bruin. "She loses condition, produces less and eventually becomes reluctant to stand up. Bear in mind that the value of a

replacement heifer, as well as the potential income one can generate from milk and genetics are lost when a cow is slaughtered."

### **Manage cow comfort**

De Bruin is of the opinion that cows that are kept in housing, are more prone to hoof problems, unless cow comfort is managed strictly. A cow must lie down for 12 to 14 hours a day, so that her

feet and legs can rest. When lying down, the cow ruminates, produces milk and there is maximum blood supply to the udder and hooves.

"Managerial practices and housing systems must be focused on getting conditions as comfortable as possible. Standing and walking surfaces must preferably be covered with rubber. This prevents the cow from slipping, makes heat detection easier and absorbs shock."

### What is footrot?

Footrot is sometimes used as a generic term for sores and illnesses associated with hooves. However, this illness has its own unique characteristics, symptoms and treatment.

The first indication of the illness is a painful, warm foot. The animal becomes cripple overnight and is reluctant to step on her foot. Footrot influences an animal's ability to move around, which has a detrimental effect on feed and water intake, and also negatively influences milk production.

The bacteria *Fusobacterium necrophorum* causes footrot. Clean, dry conditions and footbaths can help prevent these illnesses. A range of autogenous inoculants are available in South Africa and in other African countries. Footrot can also be treated with antimicrobial treatments. A veterinarian should preferably administer these inoculants.

According to De Bruin, footrot is not as common as other hoof problems. However, it is a serious illness that develops in wet conditions. Some 50% of cripple animals De Bruin comes across, are due to sores and abscesses. Foot warts are almost just as common.

### A programme for healthy hooves

According to Visser, a good hoof health programme includes a balanced diet, regular hoof care, manure management, treatment protocol, a footbath programme, and keeping hoof treatment records. Take a thorough look at bought-in animals' hooves. This will prevent cross-contamination. Surfaces in your milking parlour and yard must contribute

towards keeping hooves as clean and dry as possible.

Passageways must have adequate drainage during wet weather and should be free of any large or sharp stones, and must be maintained in such a way that animals who walk long distances, are kept as comfortable as possible. Passageways must be between 4-6 metres wide, so that cows can walk in a group. Cows must have proper footing in wet conditions.

Injured hooves with abscesses, warts and sores must be treated as soon as possible. An artificial hoof made of rubber or wood, is glued to a healthy hoof to keep the cow's weight off the injured hoof. "A contorted back and cripple movements are clear indications that the cow is uncomfortable when she walks around," says Visser. Keep a record of these cases.

Feed plays an important role in good hoof health. Rations must include a healthy combination of calcium, phosphorous, Vitamins A, D and E, and biotin trace elements of zinc, copper and manganese. This ensures good bone and tissue health.

### Inflammation

Laminitis (inflammation of the sensitive laminae in the claws) can lead to the dying of cells, bleeding and swelling. Laminitis is often caused by factors such as metabolic and digestive problems, which is directly linked to diet. Hard resting places, inadequate bedding, stress caused by mastitis and other diseases, too little exercise and overweight, can make cows more susceptible to laminitis.

De Bruin explains that a cow's claw growth is very similar to human nail growth (some 5 mm every month). Cows with too long claws have difficulty walking and experience pain. "When the cow's claws become too long and unbalanced, it can lead to sores in the claws. It is necessary to look after these cripple cows, as they lose weight very quickly, milk production and fertility drops, and it can lead to the animal's death."

According to De Bruin, who studied in the Netherlands and the USA, hoof health is a new

occurrence. Crippleness is the third largest reason for culling in the USA. Fertility and mastitis are the two main culprits. Bear in mind that crippleness can lead to poor conception and mastitis.

### **Cut claws every year**

Claws must be cut at least once a year. This is mainly influenced by environmental factors. Farms with soft, sandy soil would have to cut their animals' hooves more often, while cement surfaces' finishes and angle also play a role. Cement should not be too coarse or slippery. One of the biggest disadvantages of cement is that it does not absorb any shock.

"In most cases cows experience problems with their hind legs. In only 20% of the cases they experience problems with their front legs," says De Bruin. A cow has a much better frontal shock absorbing system, as strong muscles attach the animals' front legs to its skeleton. The hind legs are attached with joints.

### **Tilt tables and vertical systems**

"In the old days farmers used ropes to lower the animals to the ground, so that they could work on their hooves. In later years, mechanical tilt tables were developed to immobilise the cow. Hydraulic tilt tables have been used for the last 20 years.

"The disadvantage of tilt tables is that the cow lies in an unnatural position. Misplaced abdomens and damaged scapular nerves are a common occurrence in countries where tilt tables are used.

"The biggest disadvantage of using a tilt table to treat claws, is the position and free movement of the legs. But this makes thorough, accurate cutting work very difficult. Moreover, the hoofsmith is under pressure to get the animal in a standing position as soon as possible."

"The more expensive vertical system is more comfortable for the cow. With this system the paw and leg is clamped securely, and the cow stands comfortably."

"The firm leg support also calms the animals down during handling. The hoofsmith can also

pay attention to correct balancing. The design has also enabled the use of power tools, as the foot is firmly kept in place and receives adequate support."

### **Help them to walk correctly**

Pregnant heifers should receive hoof care if they are kept in areas with inadequate footing. Heifers who enter the stable with long claws and a poor hoof gradient, stretch their ligaments and tendons and teach themselves to walk on their heels.

Cattle on pasture are less susceptible to hoof problems, compared to cows in housing, as there are enough soft spots to lie down. However, these animals do have more problems associated with wear and tear. When cows are part of a big herd, they walk long distances on gravel roads on their way to the milking parlour.

De Bruin says that farmers must be wary of administering antibiotics for footrot, as the problem could be something completely different. So-called "hospital milk" (milk containing antibiotics due to antibiotic usage) must be discarded. In many cases a hoofsmith can solve the problem without using antibiotics.

"In the past, many cows were wrongly slaughtered due to a hip or back problem. When an animal has problems with the outside claw of her hind leg, she will walk wide-legged and put her foot down in such a way, that the inside claw carries more weight."

"When there is something wrong with the cow's rear inside claw she can do absolutely nothing to alleviate the pain. She has a funny walk, which could then wrongly be diagnosed as a 'hop' problem."

"A very practical way of determining where the injury might be, is to make her walk over an obstruction (such as a pole). If she drags her leg over the obstruction, the animal is most likely cripple in the hind quarter, hip or back. However, if she is able to lift her leg over the obstruction, the problem might lie in her foot." **DMA**