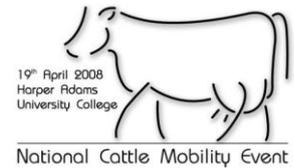


# Cattle mobility improvement strategies

## Dr Christer Bergsten, Swedish Dairy Association



In contrast to many other dairy producing countries, Scandinavian veterinary surgeons and researchers have focused primarily on properly diagnosing specific claw lesions in lame cows, rather than observing and scoring lameness. The reason for this is that traditionally, the majority of dairy cattle in Scandinavia have been housed in tie-stalls, and were therefore not routinely seen walking.

Farmers with tie-stall herds have had to learn to recognise other symptoms of discomfort in their animals, such as standing on the curb and prolonged period of lying down. As shown in a number of studies, including some carried out in the UK, the four diseases causing the majority of lameness cases in dairy cattle are Sole ulcer, White line abscess, Digital dermatitis (DD) and infectious foot conditions (e.g. foul). The first two are related to horn capsule lesions and often related to laminitis, whilst the latter two are infections and found in the digital and/or interdigital skin. There are many other lesions and diseases that may affect dairy cattle, including premature and chronic stages, and whilst these may or may not cause an animal to be lame, they are no less important to recognise, treat and ultimately prevent.

As a veterinary practitioner, there are different levels of attacking lameness problems on a farm - either in response to an acute situation or as part of a long term strategy, by identifying risk factors and then eliminating/reducing these risks. Often both situations are evident at the same time and actions can be taken in both the short and longer term.

The first acute preventative measure is regular foot trimming, primarily to treat new disease in lame cows and to detect and treat other lesions before a healthy animal becomes lame. However, by the time an animal is showing signs of lameness, foot trimming is unlikely to prevent economic losses being incurred and the animal's welfare being impaired. Swedish studies have shown that maintenance foot trimming twice yearly reduced lameness and sole ulcers by 40% compared to trimming once, and acute treatments between trimmings were reduced to half by twice-yearly trimming.

Infectious disorders like DD are linked to environmental hygiene, and the prevalence in an infected herd is also dependant on the interaction with the host. The latter can be easier to control by treatment and isolation of infected animals, whereas eradication of the disease requires a significant improvement in hygiene and can require more profound changes of management and housing. When designing a new facility, hygiene must therefore be a high priority, as making changes to improve hygiene in a poorly-designed system are always costly, and hence seldom made. Foot bathing may be used to prevent infection, but should be regarded as a temporary solution and other management changes may need to be made simultaneously.

Poor cow comfort is often an indirect cause of claw horn related lesions and should be considered for all areas the herd occupies, including cubicles, tracks and flooring. In the recently completed EU research project "LAMECOW" ([www.lamecow.info](http://www.lamecow.info)) our effort has focused on developing and investigating different flooring solutions which may improve the cows walking comfort and hygiene. It was found that cow tracks were improved with rubber chippings. Cows clearly preferred rubber compared to concrete, and solid compared to slatted, floors to stand or to walk on. Impaired walking on slatted concrete floors is therefore a compromise, as slats can lead to improved hygiene in cattle housing. Using slatted rubber on top of concrete slats may be the optimal solution and hygiene could be further improved with the use of automated scrapers. Although claw wear is less on rubber flooring, it is still comparable to claw wear on old, worn concrete, and claw growth is also slower on rubber. As part of the project, a number of different foot baths and foot bath solutions were also tested in a herd newly infected with DD, with a copper sulphate solution on a hoof mat being found to reduce DD up to 10 times, compared with water.

Swedish foot trimmers are trained to record claw lesions at maintenance foot trimming and the records are used to generate breeding values for claw health. Selecting bulls giving progeny with healthy feet is a long term measure for good mobility and top performance. Holsteins showed significantly higher prevalence of sole ulcers than Swedish Red Cattle.