



Next frontier in hoof health management

Arturo Gomez, Lic. Vet., PhD.
Zinpro Corporation

Lameness has the unfortunate privilege of being, along with mastitis, the disease that has the greatest impact on the productivity and welfare of dairy cattle. Despite the vast amount of research into hoof health that has been developed over the years and the tremendous efforts made by dairy producers to control this disease, the reality is that in regions with a well-developed dairy industry, up to 50% of animals inspected in a trimming chute can be diagnosed with hoof lesions. What is more, most clinical lameness is detected in the first part of lactation, which increases the likelihood of a cow leaving the herd and clearly has the greatest impact on milk production and reproduction.

New knowledge from both human and veterinary medicine has led us to rethink some of the management strategies to successfully control and prevent lameness. In addition, experience in the field also suggests a simpler approach to facilitate troubleshooting of hoof health problems. Let's discuss these two aspects and see what they mean in practice.

- In our day to day work, whether it is treating an animal with a lameness problem or performing functional trimming on a large group of animals, we can identify and record various hoof conditions. These records can be incredibly helpful in identifying the most effective management changes that would lead to a successful reduction in lameness. The key, however, is that the records must be kept simple and easy to summarise. The main reason for this is that we can now use the lameness records to identify the main areas causing lameness. For example, white line problems are associated with the way the animal, particularly the hoof, interacts with the walking surfaces, whether in confinement or on pasture systems. Sole ulcer problems, on the other hand, are associated with animal behaviour and how they distribute their activities throughout the day. In parallel, if the main problem on the farm is infectious, such as an increased incidence of digital dermatitis or footrot, then hygiene and skin care would be our main focus to solve the hoof health problem.
- Research and knowledge of how to manage energy and nutrient partitioning in animals has multiplied in the last decade. Even more revolutionary have been the new developments in human medicine to address muscle and joint problems. These advances have allowed us to better understand the origins of lameness and therefore the way in which we approach solving problems. Starting with the importance of inflammation in the efficient use of energy resources and the new hypothesis that inflammation is actually a primary factor in the onset of lameness and not just a consequence, we have challenged the traditional approach based on the accumulation of trauma as the main cause of lameness. The implications of this new understanding have implications for the way we look at different anatomical structures and organs when it comes to the development of hoof problems. In practice, it suggests important changes in the way we organise control and prevention programmes, which now include both nutritional and on-farm management strategies..

A healthy debate on the proposed changes would facilitate the always challenging adaptation to new practices. Let's promote hoof health with structure, function and behaviour in mind to improve performance and well-being.