

LAMENESS – Avoiding the drag this Winter

Michael Tuhon

Whilst we are all hoping for good Autumn rains to kick off the season, wet weather will also lead to an increased risk of lameness within the herd. Prolonged exposure to moisture causes the hooves to soften, making them more susceptible to stone bruising and abrasion, as well as making it easier for bacteria to enter and infect the foot. Lameness can significantly decrease cow performance. By adversely affecting the cows ability to graze, feed intake will be reduced, production and fertility decline, and the cost of treatment eats into the bottom line. Not to mention the frustration caused by waiting for lame cows to slowly limp their way to and from the dairy each day!

Lameness has been estimated to cost between \$200-\$300 per case, so strategies to prevent it are well worth the effort.

Causes of Lameness:

Around 85% of dairy cow lameness is related to foot problems. Lesions that are generally responsible for this lameness and can be classified as either infectious or non-infectious (claw horn lesions).

Infectious – Most commonly digital dermatitis (footrot), inter-digital dermatitis or heel horn erosion. Wet weather, or cows standing in manure are high risk situations for infectious foot problems. Control revolves around hoof hygiene and a foot-bathing program.

Foot baths can be used to control bacteria on the foot. Formalin and Copper Sulphate are most commonly used in baths or treated hoof mats.

Formalin is probably more effective than copper sulphate, but is less user-friendly and is a suspected carcinogen.



Non-Infectious – Caused by trauma to the hoof (e.g. penetrating wounds, stone bruises, excessive abrasion), nutritional problems such as sub clinical acidosis, and can be triggered by changes occurring around calving time.

Excessive time spent on concrete, insufficient lying time, yard or lane surfaces that cause excessive wear, and heat stress are common contributing factors.

Allowing the herd to move slowly so that they can choose where to place their feet, and topping damaged tracks with sawdust or woodchips can reduce the risk of hoof injury. Carpet or matting at cow turning areas can reduce abrasion, and removing stones from the point where cows enter onto concrete will also reduce hoof damage. Hoof trimming can also be a useful tool to manage hoof condition.

Nutritional factors that can lead to hoof problems include lack of effective fibre, excessive amounts of protein or rumen fermentable carbohydrates, inadequate trace mineral levels, abrupt changes during the transition phase, and metabolic disorders such as milk fever and ketosis.

Feed Additives: Biotin and Zinc are two additives commonly used to reduce lameness through their role in hoof hardness.

Biotin is a Vitamin necessary for the synthesis of keratin, a hard structural protein involved in horn production. Generally higher protein feeds contain more biotin than low protein feeds. Biotin is also synthesised in the rumen, however synthesis decreases as the level of concentrate in the diet increases, such that it may become insufficient in some diets. Supplementation of 20mg/day of Biotin has also resulted in a positive milk response in high producing cows.

Zinc is also required for keratin synthesis and therefore plays a role in hoof hardness. Zinc is also involved in tissue repair and wound healing, which can therefore contribute to the reduction of hoof problems.

It is important to remember that hoof horn grows from the top down, just like our fingernails. The hoof horn in the sole takes 3-4 months to grow downward to the ground surface, whilst the outer casing of the hoof can take around 15 months to get to ground level.

Early treatment and pro-active management of hoof care is essential to get on top of lameness before it gets on top of you!