

Lameness in Dairy Cows

How to Score Walking Ability

The Problem

Lameness is one of the most serious and costly animal welfare issues for dairy cows. Scientific studies have estimated that between 25 and 30% of lactating cows in North America and Europe are lame. Lameness is painful, and results in decreased feed intake, reduced milk production, impaired reproduction, and early culling.

Hoof problems are the leading causes of lameness and are often related to nutrition and the housing environment that cows live in. For example, exposure to wet concrete flooring increases the risk of hoof injuries and infectious diseases that lead to lameness. If bed stalls are uncomfortable due to poor design or insufficient bedding, cows will spend more time standing rather than lying in a stall. This increases the risk of lameness significantly.

Risk factors include:

- High-grain rations, which may cause rumen acidosis
- Lack of effective fiber in the ration
- Standing on concrete, especially when wet or rough
- Infrequent or poor hoof trimming
- Poorly designed or inadequately padded bed stalls
- Physical hazards
- Contagious diseases such as digital dermatitis
- Unsanitary conditions
- Unsuitable management of transition cows
- Unbalanced genetic selection (corkscrew claw).



Code of Practice for the Care and Handling of Dairy Cows

The Code published by Dairy Farmers of Canada and the National Farm Animal Care Council includes the following requirements related to lameness:

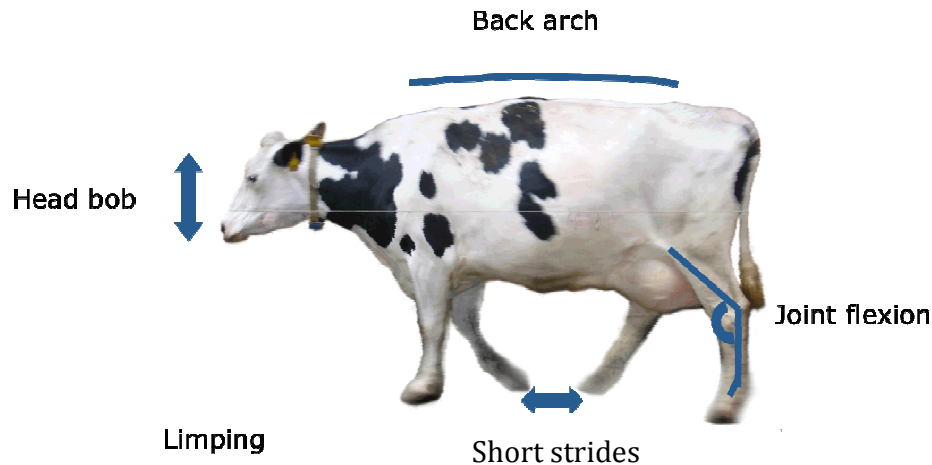
- Lamé cows must be diagnosed early and either treated, culled or euthanized.
- Feet and claws must be inspected and trimmed as required to minimize lameness.
- Severely lame cows (gait score 5) and cows that require hobbling in order to walk, must not be transported except for treatment under the advice of a veterinarian.
- Visibly lame cows (gait score 3 or higher) must not be transported to auction.

In addition, the Code recommends aiming for prevalence of obvious lameness of <10%.

Scoring for Lameness

Detecting lameness on-farm has been a challenge for dairy producers, and therefore the rate of lameness is often underestimated. Reluctance to bear weight on a hoof, or a noticeable limp, is an obvious indicator of lameness, but there are also more subtle signs.

Several gait scoring systems have been developed based on visual observation of how cows walk. The typical system uses a 5-point scale where 1 represents a sound cow and 5 represents a severely lame cow. Behavioural signs of lameness include: back arch, jerky head bob, short strides, stiff joints, uneven steps, and reluctance to bear weight on one foot (limping). To gait score, observe cows walking in a straight line on a flat, even surface, from the side.



- Gait score 1: **“Sound”** – walks with a smooth and fluid locomotion with flat back and even steps.
- Gait score 2: **“Imperfect locomotion”** – walks with a slightly uneven gait and slight joint stiffness but is not lame.
- Gait score 3: **“Mildly lame”** – walks with shortened strides, an arched back and a slight limp.
- Gait score 4: **“Moderately lame”** – walks with an obvious limp, a severely arched back and a slight head bob.
- Gait score 5: **“Severely lame”** – unable to bear weight on at least one limb and/or must be vigorously encouraged to stand or move; extremely arched back when standing and walking.

How to Minimize Lameness

Good record keeping of lameness and hoof injuries is critical. Regular gait scoring can help give you an idea of the extent of the problem in your herd. Recording the occurrence of lameness will also help provide clues as to the underlying cause. Examples of management practices that increase the risk of lameness include:

- 1) **Overstocking** at the feed bunk or bed stalls increase the time cows spend standing on concrete covered in wet manure.
- 2) **Uncomfortable, lying surfaces without bedding** or restrictive stalls can also increase standing time.

A professional hoof-trimmer should see your cows at least once a year, and cases of lameness must be treated with immediate attention. Providing seasonal access to dry, good-quality pasture can also reduce lameness in your herd.