

Section 8



Lameness

by Keelin O'Driscoll



Introduction

Lameness is not only a problem for the cow; it can lead to significant financial losses for the farm business. Working together, farmers and vets can greatly reduce the prevalence of this painful disease.

- ① How do you identify lameness?
- ② Why is lameness important?
- ③ What are the common causes of lameness?
- ④ What factors contribute to lameness?
- ⑤ What is the standard annual preventive programme for farmers?
- ⑥ How do I design a footbath and what should it contain?

Lameness

① How do you identify lameness?

Clinical lameness: Walking is obviously affected, the cow is unwilling or slow to place one or more feet on the ground and is likely to be near the back of the herd when walking to be milked.

Subclinical lameness: Changes are more difficult to detect, and can be overlooked if animals are not locomotion scored.

Indicators include:

- an arched back while either standing or walking
- stiff joints
- one limb moving faster or slower than the others
- 'short' steps i.e. the hind legs not coming far enough forward
- the hind legs swinging either outward or inwards
- standing with the front legs crossed.

② Why is lameness important?

Prevalence and cost

- 20-35% of cows suffer some degree of lameness.
- 90% of lameness is in the foot, with 80% in the hind limbs, and 80% of these cases in the outer claw.
- Clinical lameness is estimated to reduce milk yield by 350kg per lactation.
- A case of clinical lameness is estimated to cost €160 – €300.

Costs

Direct costs include:

- reduced milk yield for up to 4 months before, and 5 months after, clinical lameness
- discarded milk
- veterinary bills and antibiotics
- labour.

Indirect costs include:

- reduced fertility: cows are unwilling to stand in heat, jump on other cows, can have delayed cycling after calving
- increased risk of further lameness
- increased risk of secondary disease
- cows lose condition due to unwillingness to stand to feed
- increased risk of culling.

③ What are the common causes of lameness?

Infections

Dermatitis/Mortellaro: Highly contagious, this initially looks like a red rash, and can develop into extensive skin loss and scabbing around the cleft between the claws and on the heel. Formalin or copper sulphate footbaths are as effective at prevention as antibiotic footbaths, and should be carried out regularly. It is important that feet are cleaned before walking through the bath.

Foot rot/foul in the foot: Symptoms include swelling above the hoof, splayed claws, and a foul smelling secretion between the claws. It is caused by bacteria entering the foot through cracks in the skin caused by dirty wet conditions. Treatment requires antibiotics.

Claw injuries

Sole bruises: Red to dark purple discolouration, which only becomes visible about 2–3 months after the damage has been done. Cows are particularly susceptible to bruising after calving, especially if hooves are soft, so the damage appears during summer. Cows with bad bruising should be kept in paddocks near the parlour.

Sole ulcers: Can develop from very severe bruising. These occur when the tissue under the hoof becomes inflamed and can break through the horn, or cause under-run sole. Excess horn should be trimmed from around the ulcer, a shoe applied to the opposite claw, and topical antibiotic applied.

White line disease: Ranges from a thin black line to complete separation of the sole and wall, usually located near the heel in the outer hind claw. It results from stones and dirt penetrating the white line, and working up into the tissue causing pain, under-run soles, and possible infection. Treatment involves hoof paring to remove foreign objects and dirt, providing drainage for any infection, and removing of weight from the affected area.

Other disorders

Laminitis: Claws become overgrown (high heels, long toes, and misshaped soles), and the horn is weaker than normal. Associated with concentrate feeding, and not enough roughage, and can lead to erosion of the heel, under-run soles, bruising and ulcers. Stones can pierce the sole of the foot and cause underlying tissue damage and infection, if not treated by hoof paring to reduce weight on the affected claw.

Monitoring and recording lameness

- All clinical cases should be recorded, and cows that consistently become lame culled out of the herd.
- Observe the cows on a level non-slip surface; stony or soft tracks can hide gait problems, or cause walking to be uneven in the absence of lameness.
- View the cows after milking as cows are less likely to have impaired walking due to a swollen udder.
- Cows walking with difficulty should have their hooves examined to determine the cause, and treatment applied.

Key Risks



4 What factors contribute to lameness?

Poor genetics

- Bad hoof and leg conformation can lead to misshapen hooves that are weak and prone to injury.

Off pasture

- Poorly designed/sized cubicles: cows need plenty of space to perform normal lying down and getting up movements. Cubicle dividers should be unsupported at the kerb, and the neck rail should be about 1.7m from the kerb and 1.2m high.
- Inadequate cubicle number: aim for 10% more cubicles than cows, and at least one per cow.
- Inadequate bedding: lying on concrete can cause swellings and injuries to the limbs, and inhibit changes between standing and lying behaviour. Mattresses or mats in cubicles give cows somewhere comfortable to stand as well as promoting lying.
- Poorly laid concrete floors: uneven floors with poor concrete joins cause sole bruises and injury.

- Poor housing lay-out. Ensure good access to feed areas, wide passages, no sharp corners especially where cows are grouped.
- Good ventilation reduces lameness.
- Heifers should be trained to use cubicles before introduction to the main herd.
- Out-wintering pads: cleanliness should be monitored and woodchip cleaned off and replaced regularly to prevent blockages and bad drainage. Ideally cows should have either shelter or a hard drained area to stand on to prevent hooves becoming soft.

Grazing season

- Farm roadways should be free-draining, well-maintained, and free from stones and holes.
- Rushed herding: heads of cows should not be sticking up, so cows can see where to put their feet. Poor herding causes sole bruising and white line disease.
- Backing gates: these should be used to reduce space, not to move cows. Heads of cows should not be up. If cows won't move forward, there is some other problem, such as stray voltage or a poorly designed entrance to the parlour.
- Sharp corners in raceways and the entrance or exit of the milking parlour.

5 What is the standard annual preventive programme for farmers?

Checklist

Lameness control programme



- Record all clinical cases and causes so that ongoing problems can be identified.
- Carry out routine hoof trimming, at least once a year at drying off.
- Conduct regular foot bathing to control infectious disease.
- Get prompt treatment for clinically lame cows.
- Provide clean, dry and comfortable walking and lying areas.

⑥ How do I design a footbath and what should it contain?

- Footbathing is used for prevention, not treatment, of dermatitis (similar to teat dipping for control of mastitis).
- Baths should be at the far end of the lane from the parlour, to avoid jamming up of cows at the footbath.
- Footbath programmes should always contain a disinfectant:
 - copper sulphate (5–10%)
 - zinc sulphate (10%)
 - formalin (3–5%)
- A cleaning bath that washes the feet first is recommended because manure contamination reduces disinfectant activity.
- Antibiotics are only necessary if there is a severe disease outbreak.
- The footbath should be 4-6 feet in front of the treatment bath to prevent dilution.
- Baths should be at least 5cm deep, 8–10 feet long, and as wide as the alley, with a non-slip surface.
- Treatment solutions remain active for approx 200 walk-throughs (more for formalin).
- Footbathing should be carried out once weekly at pasture, more frequently if cows are managed indoors.

