



Challenge Note 2A: The Economic Cost of Lameness

After infertility and mastitis, lameness is the third most common reason for culling cows on dairy farms. In the average dairy herd 16 out of every 100 cows is affected by lameness per year, with an average incidence of 22 cases per 100 cows – some cows being affected more than once. Lameness has both direct and indirect costs and together these are estimated to total approximately £170 per case. This costs the average 100-cow dairy herd almost £4000 per year and the Northern Ireland dairy industry approximately £11 million per year. The aim of this *Challenge Note* is to describe how the costs associated with lameness are accrued.

Contents

- **The cost of lameness**
- **Direct costs**
- **Indirect costs**
- **The “average” case**

The Cost of Lameness

Lameness has significant costs in both loss of production and in animal health and welfare. These can generally be classified as direct and indirect costs, respectively:

Direct costs:

- Veterinary treatments
- Discarded milk
- Reduced lactation yield
- Farmer’s time (labour input)

Indirect costs:

- Increased culling
- Extended calving intervals
- Poor/reduced fertility

Direct Costs

The direct cost of a single case of lameness can be easily measured. Loss of milk sales during treatment and reduced milk yield in the remaining lactation is the largest cost in most cases. This ranges from £20 in mild cases to £75 in severe instances. Milk withdrawal is also necessary in the 20% of cases requiring antibiotic therapy.

Approximately 15% of all lameness cases are treated by a vet. This together with an allowance for the farmer’s own time adds significantly to the cost of a case.

Indirect Costs

The indirect costs of lameness are more difficult to measure. However, there is no doubt that lameness reduces the cow’s

mobility and causes loss of body condition through reduced feed intake. This can affect the cow's fertility through:

- Loss of body condition;
- Inability to show signs of heat;
- Increased likelihood of being hurt during bulling activity;
- Cow "depression".

The reduction in fertility is related to the severity of lameness and is evident in a number of ways. Lamé cows require more services and typically one in five cows with mild lameness require an additional service. In severely lame cows, almost three out of every four require an additional service.

With mild and transient cases, the number of days added to the calving interval is generally fairly low - typically 8-10 days. However, chronic lameness such as solar ulcer can add 40 days or more to the calving interval of the affected cow.

Most cases of lameness are treatable. However, the risk of a cow being eventually culled is significantly increased - up to 18% of cows with a solar ulcer are prematurely culled.

The "Average" Case

When attributing costs to lameness on a herd basis it is important to remember that the more severe the case, the more costly it becomes. On average the direct costs of a case are £70-£80 but the indirect costs are

approximately £100 per case, making the total cost of lameness around £170 per case (see Table 1).

The total cost of a single case of lameness can vary dramatically depending on the severity – from around £80 for a case of digital dermatitis to around £320 for a sole ulcer. In a 100-cow herd there are typically around 22 cases of lameness per year, with a total cost of approximately £4000.

Table 1: The cost of lameness in dairy cows (Source: DAISY Report No. 5).

	Average cost (£)	Range (£)
Direct costs:		
Treatment (shoes/spray, etc)	6.60	6-10
Vet time (15% cows treated by vet)	3.10	2-4
Farmers time (£10/hour)	5.80	4-10
Discarded milk (20% of cases)	1.20	1-2
Reduced milk yield	55.00	22-75
Total direct costs:	71.70	36-101
Indirect costs:		
Increased culling	53.70	0-117
Extended calving interval	38.40	19-83
Extra inseminations	7.70	4-14
Total indirect costs:	99.80	39-214
Total costs	171.50	76-315

Summary

- Lameness is one of the most important health issues on dairy farms in Northern Ireland and has a significant economic cost.
- The major costs of lameness relate to loss of milk production and a decline in fertility.
- Lameness is estimated to cost a dairy herd of 100 cows approximately £4000 per year.
- Lameness must be dealt with promptly as it is a significant animal health issue.