The Economic Impact of Lameness Associated with Digital Dermatitis in Dairy Cows

CATEGORISATION OF EXPENDITURE VS. ASSOCIATED LOSSES LINKED WITH DAIRY COW LAMENESS[1]

EXPENDITURE = INCREASED COSTS

Treatment:

- Labour and therapeutics

Prevention:

- Environmental change, management practice upgrades, detection technology

LOSSES = REDUCED RETURNS

- Reduced milk production
- Reduced reproductive performance
- Increased risk of culling and death
- Reduced welfare effects

Losses represent up to 93% of total costs and outweigh expenditure in most cases[1]

PRE-CALVING HEIFERS WITH DD: IMPACT ON MILK PRODUCTION

1.8kg / day
lost milk over whole lactation[2]

5.5kg / day
lost milk for 3 weeks after DD diagnosis[3]

If DD diagnosed **ONCE** before first calving - **£199kg** milk reduction in the first lactation[4]

£56 / heifer*

If DD diagnosed **MORE THAN ONCE** before first calving – **335kg** milk reduction over first lactation[4]

£94 / heifer*

PRE-CALVING HEIFERS WITH DD: IMPACT ON REPRODUCTIVE PERFORMANCE

Delayed cyclicity • Increased anoestrus treatment • Increased cystic ovarian disease

Reduction in conception rate to first AI of up to **13.3%**[4]

Increase in calving to conception of up to **24-50 days**[4,5]

£72 - £225 lost / heifer (£3 -£4.50 per day)[6]

IMPACT OF TREATMENT

One injection of Ketofen® 10% for a dairy cow (weighing 700kg) costs less than £15*

Milk production from lame freshly calved adult cows with DD – 47.89kg / day[7]

Milk production from lame freshly calved adult cows with DD **treated with Ketofen® 10%** – 58.38kg / day[7]

Lame cows receiving Ketofen® 10% were **20x less likely to be lame** 1 week after treatment than untreated cows[7]

+10.49kg / day

Extra £21 earned per cow for the first week**

The economic consequences of DD relate not only to direct costs but also can have a significant impact on welfare and production.

The use of ketoprofens, such as Ketofen® 10%, can improve welfare and have a significant production benefit, which outweighs the cost of treatment.

*Prices based on Farmacy Nov 2021 and informal research across practices in G.B. **Assume average milk price of 28ppl

References: 1. Dolecheck K., J Bewley J. Animal board invited review: Dairy cow lameness expenditures, losses and total cost. 2018 Jul;12(7):1462-1474. doi: 10.1017/S1751731118000575. Epub 2018 Mar 20. • **2.** Yeruham, I. 2000. Association between milk production, somatic cell count and bacterial dermatoses in three dairy cattle herds. Aust. Vet. J. 78:250–253. • **3.** Pavlenko, A., Bergsten C., Ekesbo I., Kaart T., Aland A., and Lidfors L. 2011. Influence of digital dermatitis and sole ulcer on dairy cow behaviour and milk production. Animal 5:1259–1269. • **4.** Gomez A, Cook NB, Socha MT, Döpfer D. First-lactation performance in cows affected by digital dermatitis during the rearing period. J Dairy Sci. 2015;98(7):4487–98. • **5.** Huxley, J. (2013). Impact of lameness and claw lesions in cows on health and production. Livestock Science, 156(1-3), doi:10.1016/j.livsci.2013.06.012 • **6.** https://www.kingshay.com/wp-content/uploads/Dairy-Costings-Focus-Report-2019-WEB-VERSION.pdf • **7.** Kasiora K. *et al*. Evaluation of the use of ketoprofen for the treatment of digital dermatitis in dairy cattle: A randomised, positive controlled, clinical trial. Vet Rec. 2021;e977. https://doi.org/10.1002/vetr.977 2Okkinga, K., 1998.

Ketofen® 10% solution for injection for horses, cattle and pigs contains 100 mg ketoprofen per ml. **Legal Category:** UK POM-V

Further information is available from the product SPC, data sheet, pack insert or from the prescriber.

Prescription decisions are for the person issuing the prescription alone. Use medicines responsibly (www.noah.co.uk/responsible)

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