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The Cost of Lameness



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Functional Hoof Care



Why?

Losses



Welfare

Lameness



- Netherlands 25 – 40 % € 240,-
- UK 40 – 60 % € 300,-
- USA 30 – 60% € 350,-
- Ireland € 290,-

Lameness figures



- > 80 % of the cows show signs of 1 or more diseases (lesions)
- Lameness has a big impact on well being of the cow (80 %)
- 85% of lameness in the hindfeet
- 99 % of the lameness in the outerclaw
- Lameness in front feet 85% in the inside claw

CULLING RATE



- Fertility 25 %
- Udder/ Mastitis 15 %
- Lameness 10 %
- Milk Yield ? 30 %
- Other ? 20 %

Figures from The Netherlands 1992

COSTS PER CASE in EURO's

• Drop in Milk Yield	29
• Loss in weight	1(? 29)
• Veterinary costs	10
• Calving interval	13
• Extra labour	14
• Culling	37
TOTAL	€ 140

Figures from the Netherlands 1992

More recent research calculations in NL (2010)

- Average costs on a 65 head herd € 3500,-
- Varying between € 2300 - € 5000
- Cost per cow present € 53,-
- Cost per lame cow (40%) € 135,-
- Looking at sub clinical costs
- Looking at clinical costs

Cost factors for diseases

Cost factor	Value of cost	(Sub-) clinical lameness
Loss in milk yield	€ 0,12 per kg milk	Clinical lameness causing 8% milk yield loss Sub clinical lameness 3 % milk yield loss
Culling	€ 240 - € 913	Cost of replacing a cull cow, culled because of lameness based on replacing value depending on age and lactation value
Fertility	€ 0,70 per day	Cost per day of increased calving interval. Sub clinical lameness 20 % Clinical lameness 60 %
Discharge milk	€ 0,17 per kg milk	Cost of milk because of antibiotic treatment of lameness. (difference in cost with milk loss is the production cost of the milk)

Cost factors for diseases

Cost factor	Value of cost	(sub-) clinical lameness
Labour farmer	€ 20 per hour	Cost for labour of the farmer treating a lameness case
Cost of hoof trimmer	€ 26 per visit per cow	Cost for the extra visit of the hoof trimmer. More than the routine trimming
Cost of veterinarian	€ 30 of € 85 per visit per cow	Depending on disease if only cost for the visit (€ 30) calculated or also treatment costs (€85)
Cost of other treatment	€ 0,40 - € 6,00 per treatment	Cost of for example block or antibiotics

Cost per disease

Disease	Sub clinical	Clinical	Total
Foul in the foot	-	339	339
IDD (Slurry heel)	313	272	585
DD (Mortellaro)	191	886	1076
Sole haemorrhage	473	237	710
White Line Disease	83	113	196
Sole Ulcer	-	455	455
Granuloma	48	66	114
Total	1108	2368	3476

Sub clinical and clinical lameness

- Locomotion scoring (1-5)
- Mobility scoring (0-3)
- Foot score (cow hocked posture) (1-3)
- Claw scoring (record keeping of lesions)

Costs of Common Diseases/Cow

Disease	Case Rate %	% Death per case	% Culled per case	Milk not made lb/case	Milk Discard lb/case	Extra Days Open days/case	Farmer labor hr/case	Vet & Drug \$/case	Cost/case in dollars
Mastitis	40	1	7	275	300	9	1	15	\$262
Lameness	30	2	12	940	70	12	0.5	32	\$478
LDA	5	2	8	840	77	12	1	115	\$489
Ketosis	8	0.5	5	506	0	10	0.67	19	\$235
RP/Metritis	15	1.5	6	550	248	15	0.67	20	\$325
Milk Fever	5	4	5	286	0	13	0.5	25	\$284
Dystocia	18	1	2.2	390	90	12	1	44	\$228

Chuck Guard, personal communication, 2009.

The cost of lameness exceeded only by LDA

However, on a herd basis – lameness is by far the single most costly disease of dairy cattle

Costs of Common Diseases - Herd Basis

Disease	Case Rate %	% Death per case	% Culled per case	Milk not made lb/case	Milk Discard lb/case	Extra Days Open days/case	Farmer labor hr/case	Vet & Drug \$/case	Cost/case in dollars	Herd cost/yr.
Mastitis	40	1	7	275	300	9	1	15	\$262	\$10,490
Lameness	30	2	12	940	70	12	0.5	32	\$478	\$14,330
LDA	5	2	8	840	77	12	1	115	\$489	\$2,447
Ketosis	8	0.5	5	506	0	10	0.67	19	\$235	\$1,883
RP/Metritis	15	1.5	6	550	248	15	0.67	20	\$325	\$4,871
Milk Fever	5	4	5	286	0	13	0.5	25	\$284	\$1,419
Dystocia	18	1	2.2	390	90	12	1	44	\$228	\$4,110

Cost of Lameness


	Amount Lost	Value in US Dollars
Death	2% - replacement cost \$2200	\$44.00
Culling	12% replacement/cull \$2200 - \$600	\$192.00
Milk Loss	940 lb milk at \$0.09/lb	\$170.00
Reproduction	20 extra days at \$3.00/day	\$60.00
Treatment	.05 hr. labor + trimmer fee + supplies	\$32.00
Total		\$498.00

Adapted from CC, Doolittle, 2008. Bovine Lameness: Diagnosis & Control. Proceedings, 2008, 24, 104-105.

Lameness caused by Diseases

- Non infectious
 - Laminitis
- Infectious
 - Interdigital Dermatitis (slurry heel/ heel horn erosion)
 - Digital Dermatitis (Mortellaro disease)
 - Interdigital Phlegmon (Foul in the foot)

Laminitis



Metabolic disorder of the hoof

Changes in blood supply degeneration of the blood vessel



EH - 17
Adapted from Genevieve L. Fontaine, DVM, DACVIM
University of Florida

Laminitis symptoms:

- Discoloration of the sole
- Sole haemorrhage
- Red and/ or yellow Haemorrhage



Laminitis symptoms:

Sole Ulcer (typical place, complicated, heel ulcer, toe ulcer



Laminitis symptoms:

Heel ulcer



Toe ulcer



Laminitis symptoms:

- White line Defects



- Loose Walls



Laminitis symptoms:

- Wall Ulcers



Laminitis symptoms:



- Cork Screw Claw



Hereditary factor?

Double sole



Symptoms Interdigital Dermatitis



- Fissures in the Heels or Bulbs



- Hard Ridges in the Heel
- Swelling of the Heel Area

Symptoms Interdigital Dermatitis



Swelling in pastern



Interdigital overgrowth/
Tyloma

Prevention of interdig. dermatitis



• Regular Foot bathing



Size Footbath:
Length: ± 3m
Width: ± 1m
Dept: ± 0.15m

Walkthrough footbath

Digital Dermatitis



Mortellaro's Disease

Symptoms of Digital Dermatitis



• Strawberry skin like disease around coronet

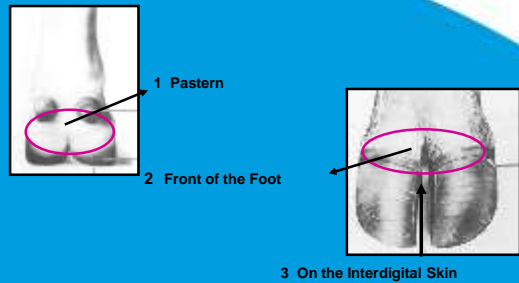


• Painful and Dirty Smelling

Symptoms Digital Dermatitis



Locations of Digital Dermatitis



1 Pastern

2 Front of the Foot

3 On the Interdigital Skin

Symptoms Digital Dermatitis



The Pastern



Symptoms Digital Dermatitis



Front of the Foot



Symptoms Digital Dermatitis



Interdigital Skin



On Overgrowth (Tyloma or Granuloma) + D.D. / Mortellaro

Toe necrosis



Interdigital Phlegmon



Foul in the Foot

Symptoms of Interdigital Phlegmon



Hard Swelling



Tiptoeing





Tyloma (Granuloma) between the claws



Management aspects



- Nutrition
- Calving
- Housing
- Grazing/ cow tracks
- Milking Parlour/ collecting yard/ Robot
- Footbath
- Foot trimming

• Nutrition:

- Roughage : Concentrate
- **Quality Roughage**
Dry Matter
Fibre (scratch factor)
- **Rumen acidosis (SARA)**
- **Changes in: * Quality**
* Ration



Parturition or Calving

- **Changes:**
 - nutritional
 - hormonal
 - oedema
 - ketosis
- Retaining Placenta
- Difficult calving



• Housing conditions:

- Cow comfort



- Cubicles
- Ventilation
- Floors
- Hygiene
- Stockingrate



grazing



Milking parlour/ collecting yard/ Robot

- Forcing cows to collecting yard
- Free cow movement



Prevention of interdig. dermatitis

• Regular Foot bathing



Walkthrough footbath

Size Footbath:
Length: \pm 3m
Width: \pm 1m
Dept: \pm 0.15m



Functional Hoof Care



Once a year
Twice a year
Three times a year

Why

When

How often

Whole herd trimming

Strategic trimming



Conclusion:

- Sensible feeding
- Good grazing/ cow tracks
- Good Housing Conditions
- Regular Foot bathing
- Regular Functional Trimming



- Cost per cow or on herd size tremendous
– € 150 - € 350/ lame cow
- Welfare issue?!
- Lameness/ Cost will rise after quota are gone



Thank you for your attention

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