

## INTRODUCTION

- **Serious problem in breeding:** hoof disease and lameness fundamentally disrupt the health, welfare and productivity of cattle.
- **Clinical lameness:** significant decrease in milk production
- **Lameness in the early lactation phase:** higher losses (200 kg) than in the later phase (158 kg)
- **Severe cases of white line disease, ulcers:** losses of 1.47 to 2.66 kg/day
- **Economic impact:** complicated lameness has up to **3 times higher** financial losses than the mild form.

## METHODOLOGY

- **Animals:** 310 individuals of the Fleckvieh breed
- **Statistical methods:** Linear mixed model
  - **Fixed factors:** lactation, lameness order, number of affected limbs, type and duration of the lameness
  - **Random effect:** individual cow
  - **Comparison of means:** least squares means
- **Economic evaluation:** conversion of production losses into sales at a realization price of 8.75 CZK/l of milk

MOBILITY INDEX 3  
REDUCED MOBILITY

REDUCED FEED  
INTAKE

RISK OF PRODUCTION  
DISEASES  
METABOLIC DISORDERS

REDUCED MILK  
PRODUCTION

## Infectious diseases

Digital dermatitis

Necrobacillosis



## Combined

Necrobacillosis with horn capsule defect

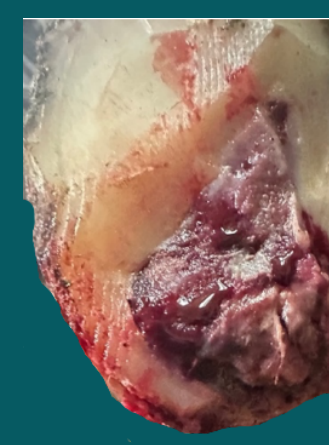


## Non-infectious diseases

White line disease

Sole ulcer

Toe necrosis



## RESULTS

Monitored factor	Factor specification	Decrease in milk production (kg)	Financial losses (8,75 CZK/l)	Statistical signification
Incidence of lameness	lame cows	355	3 106	*
	the first	340	2 975	-
Lameness order	the second	346	3 028	-
	the third +	378	3 308	-
Number of affected limbs	one	154	1 348	*** a
	two	61	534	*** a
	three	850	7 438	*** b
Type of lameness	non-infectious	227	1 986	** a
	infectious	395	3 456	** b
	combined	442	3 868	** b
Duration of lameness	short-term	385	3 369	-
	long-term	324	2 835	-

\*\*\* p < 0,001 high statistically significant difference, \*\* p < 0,01 high statistically significant difference, \* p < 0,05 statistically significant difference, - p > 0,05 no statistically significant difference

## CONCLUSION

- **Significant effect of lameness** on milk production
  - decrease by 355 kg per lactation
  - healthy cows: 9215 kg per lactation
  - lame cows: 8860 Kg per lactation
- **No effect** of the order of lameness or the duration of the disease on productivity has been proven
- **The highest economic losses** when lameness occurs simultaneously on 3 limbs
  - **7,438 CZK/cow** compared to healthy cows
- The type of disease with the greatest economic impact is **combined**
  - **3,868 CZK/cow** compared to healthy cows
- **Recommendation:** prevention and early therapy prevents increase farm losses



English version



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