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The Influence of Laminites on the Economic Efficiency of Dairy Cows

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Abstract: Laminites caused economic losses by decreasing milk production and worsening reproductive indicators. Thus, cows diagnosed with digital dermatitis recorded a 5.7% lower milk production, in cows with horn box diseases the milk production was 4% lower and those with interdigital dermatitis 4.8% more small compared to the healthy cows on the farm.

• Introduction

Laminites represent a group of medical diseases that are located at the level of the acropodial region. They negatively influence the animal's ability to move, to feed, to drink, and because of the pain produced when touched, the cow prefers long periods of time in the decubitus position.

• Material and method

The present work was carried out at the Balotesti Bovine Development Research Institute, on a herd of 60 heads, Romanian Black Spotted cows the property of the Institute. The analyzed data capture the activity on the farm between 2021-2023, the period in which the prevalence of cows with acropodial diseases was between 17.4% and 20.3%.

• Results and discussions

Influence of laminites on milk production/305 days						
Statistical indicators	Healthy cows	Digital dermatitis	Diseases of the horn box			Interdigital dermatitis
			hemorrhagic ulcer	double sole	abcesses of the white line	
X	6687,31	6306,11	6177	6635,89	6556,75	6366,29
SD	793,51	503,54	421,79	588,94	524,73	534,61
CV%	11,86	7,98	6,82	8,87	8,13	8,39
Milk production/305 days healthy cows ~Milk production/305 days cows with digital dermatitis						0,03127
Milk production/305 days healthy cows ~Milk production/305 days cows with diseases of the horn box						0,102232
Milk production/305 days healthy cows ~Milk production/305 days cows with interdigital dermatitis						0,103004

- Cows diagnosed with digital dermatitis had a milk production/305 days lower by -6.04%
- Cows diagnosed with Rusterholz ulcer recorded a milk production/305 days lower by -8.26%
- Cows diagnosed with abscesses on the white line recorded a milk production/305 days lower by -1.99%
- Cows diagnosed with interdigital dermatitis recorded a lower milk production by -5.04%

The influence of laminitis on reproductive activity						
Statistical indicators	Healthy cows	Digital dermatitis	Diseases of the horn box			Interdigital dermatitis
n	20	19		26		16
			hemorrhagic ulcer	double sole	abcesses of the white line	
P - I AI	79,86	88,38	92	80,06	88,75	84,93
Service period	109,4	113,03	120,6	105,31	114,75	110,25
% fecundity	68,18	57,69	60	68,75	50	62,5
services per conception	2,2	2,53	3,33	2,27	2,5	2,6

- Cows diagnosed with digital dermatitis recorded a lower fecundity percentage by 18.18%
- In cows diagnosed with Rusterholz ulcer, 51.36% more inseminations/gestations were performed
- In cows diagnosed with abscesses on the white line, a lower fecundity percentage was recorded by 36.36%
- Cows diagnosed with interdigital dermatitis have 18.18% more inseminations/gestations

• Conclusions

Laminites influence the economic efficiency of dairy cows by decreasing milk production and worsening reproduction indicators