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Preliminary study regarding the relationship between locomotion score and udder health in Romanian Spotted Dairy Cattle

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Abstract: *The present study was conducted with the purpose of investigating the relationship between lameness, as defined by locomotion score (LS), and udder health, as characterized by the somatic cell count (SCC) in Romanian Spotted Dairy cattle. The data set contained 1920 LS and SCC records, from 387 cows, collected monthly, over a period of six months. The locomotion score was assessed using a five-point system ranging from 1 to 5, where 1 was attributed to healthy cows and 5 was attributed to severely lame animals. Milk samples were collected from each quarter and the number of somatic cells was measured using an automatic cell counter (Combiscop, Delta Instruments). with lameness had considerably (p>0.01) higher milk SCC and inferior udder health status as compared to The relationship between LS, SCC and other physicochemical parameters in milk was investigated using the GraphPad Prism 9.5.1 Software. Cows healthy cows. Our results emphasize the value of lameness and mastitis control strategies, as well as the importance of developing farm-specific protocols and health management programs in order to reduce the economic losses associated with these diseases in dairy farms.*
Keywords: *locomotion score; lameness; udder health; somatic cells count; dairy cattle;*

• Introduction

The widespread incidence of mastitis and lameness in dairy herds is the consequence of an intricate connection between infectious agents, poor management practises, genetic and environmental variables, which challenges the self-defense mechanisms of the udder and the hoof.

• Material and method

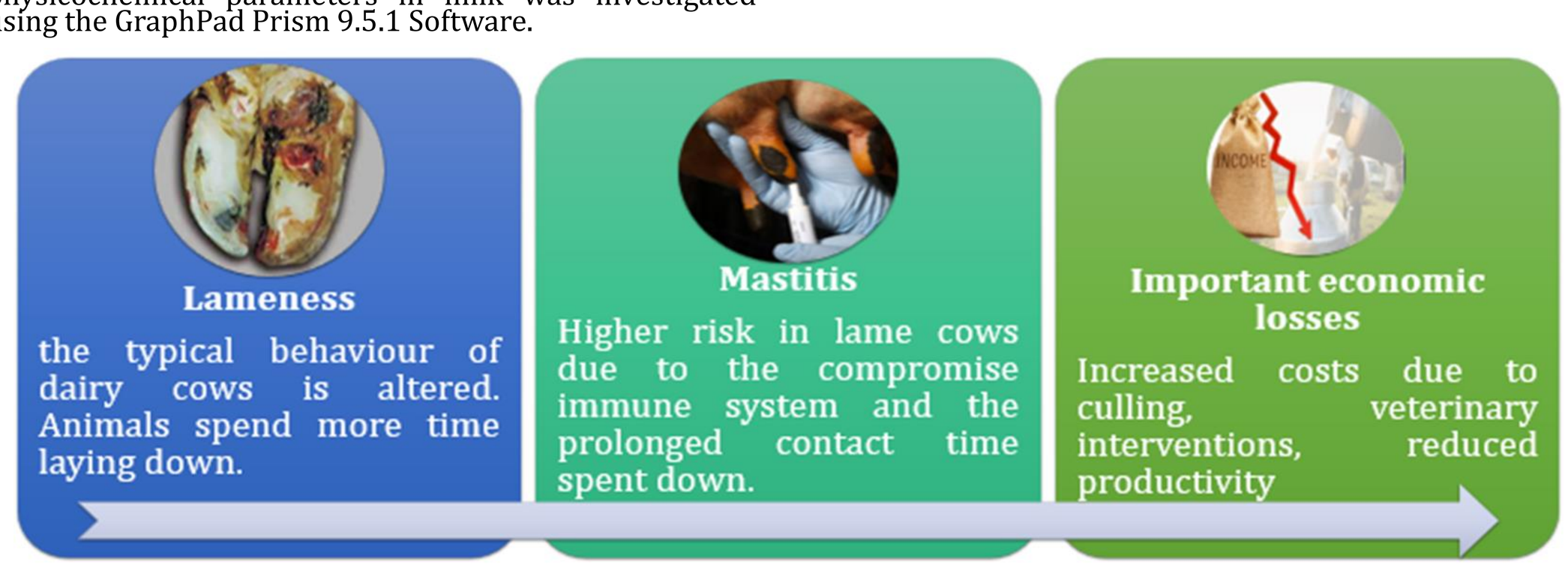
- ❑ This study was carried out over a period of six months, in a dairy farm located in the North-East of Romania.
- ❑ Data was collected monthly, over a period of six months, in accordance with the European Union's Directive 2010/63/EU on the protection of animals used for scientific purposes. Data were collected from a from 387 Romanian Black and White Spotted cows.
- ❑ A five-point system ranging from 1 to 5 was used to assess the locomotion score in dairy cows. Milk samples were collected in sterile containers, after prior carefully disinfection of the teat surface with a tissue with 70% ethanol. The number of somatic cells from each quarter was measured using an automatic cell counter (Combiscop, Delta Instruments).
- ❑ The relationship between LS, SCC and other physicochemical parameters in milk was investigated using the GraphPad Prism 9.5.1 Software.

• Results and discussions

- ○ 69% percent of the 387 dairy cows were non-lame, 25% had mild lameness, 25% had moderate lameness and 6% had severe lameness.
- ○ Cows with lameness had considerably (p>0.01) higher milk SCC and inferior udder health status as compared to healthy cows.

• Conclusions

- ✓ Lameness is a disorder that occurs in dairy cattle, and it has major repercussions for the health, welfare, productivity, and reproduction of the animals. Cattle are unable to lie down and get up normally due to the severe discomfort, which disrupts their typical behaviours. The likelihood of mastitis developing in lame cows rises as the length of time they spend laying down increases.
- ✓ Lameness and mastitis control strategies, tailored on farm-specific protocols and health management programs should be developed in order to reduce the economic losses associated with these diseases in dairy farms.



Relationship between lameness, mastitis and economic losses in dairy cows