

Weather and soil effects on animal behaviour

Background

Dairy cows are motivated to access dry lying surfaces and will seek protection from wind and rain, but winter conditions may limit these opportunities. The primary aim of this study was to determine the effects of weather and paddock soil conditions on lying behaviour of dairy cows managed outdoors during winter and fed crop in situ. A secondary aim was to characterize eating and ruminating behaviours during winter weather and paddock soil conditions.

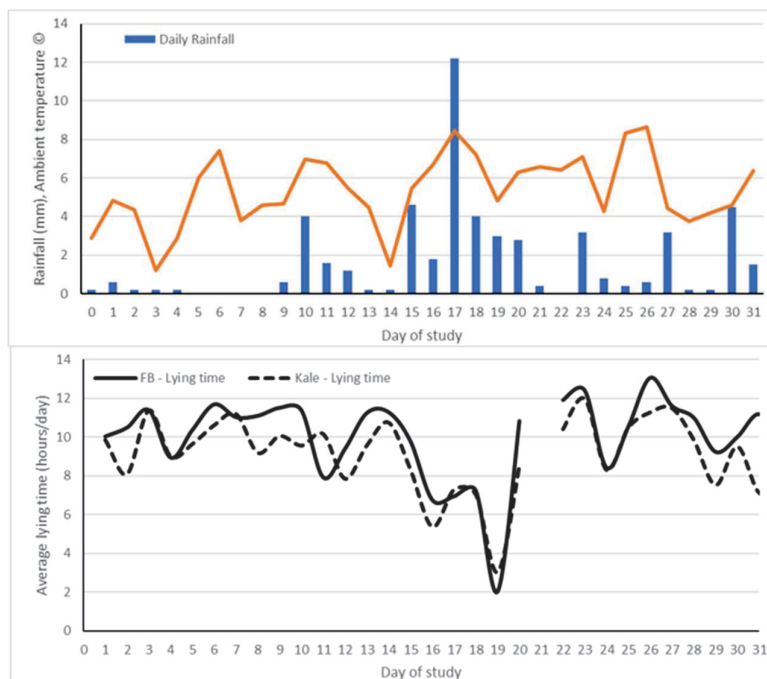


Figure 14: Daily rainfall and average lying time for the 30-day behaviour study

Key messages

- Dairy cattle managed outdoors in winter will experience periods of reduced lying time during inclement weather and sodden soil conditions.
- Prior rainfall and percentage of the available area with surface water pooling are useful measures to determine if lying time, and thus animal welfare, could be compromised
- Pugging depth is not a good indicator of the suitability of the lying surface
- To protect the area closest to the feed face farmers should consider the prevailing weather direction when planning the paddock grazing direction
- Cows are likely to ruminate less with increased surface pooling and fewer suitable spots for lying.
- Farmers should have a contingency plan to provide improved lying conditions when soils become saturated. Options include:
 - Increasing the area available
 - A bigger break or an additional break during the day for brassicas
 - Moving the back fence back to allow access to drier ground previously grazed
 - Rolling out cereal straw
 - Moving to drier, sheltered areas within the paddock that is being grazed
 - Moving to drier, lower risk crop paddocks on the farm
 - Providing access to grass buffer strips in the crop paddock
 - Moving to off paddock infrastructure/yards etc

Neave HW, Schutz KE, Dalley DE. 2022. Behaviour of dairy cows managed outdoors in winter: Effects of weather and paddock soil conditions. *Journal of Dairy Science* 105(10): 8298-8315