

Effect of Pen Size on The Behaviour of Ewes

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Structured Abstract

Background: Sheep farming is an important sector of the Malaysian livestock industry, primarily because of the rising demand for mutton and lamb due to changes in dietary preferences and cultural heritage. However, a large number of Malaysian small-scale farmers do not have formal education on sheep farming and instead rely on traditional methods. As a result, sheep may experience more stress due to inefficient management techniques like overcrowded pens or inadequate feeding spaces. Sheep exhibit adaptive and natural behaviours including rumination, self-grooming, lying and feeding behaviour. Therefore, this study aims to analyse the differences in the behaviour of ewes in relation to pen size, at Amen Livestock Trade Sdn. Bhd. in Shah Alam.

Methods: A total of 14 Santa Inés ewes were observed, with seven placed in a larger pen (5.16 m × 2.07 m) and the remaining seven in a smaller pen (2.58 m × 2.07 m). Over a 15-day period, the general behaviours of the ewes including feeding, standing, lying, ruminating and self-grooming were monitored and recorded using a closed-circuit television (CCTV) system. Instantaneous scan sampling method and continuous sampling method have been implemented to observe the general behaviour and aggressive behaviour performed by the ewes. An analysis of data using Generalized Linear Model shows significant result in several behaviours.

Results: In general, ewes placed in smaller pen displayed more standing, greater self-grooming and lesser lying behaviour. Meanwhile, ewes housed in larger pen exhibited more time lying compared to ewes in smaller pen. Sheep spent more time standing and ruminating in the morning and in the afternoon, sheep spent more time feeding. Aggressive behaviour during feeding is higher in smaller pen due to restricted space and increased competition.

Conclusion: This study highlights the importance of space allowance in sheep housing systems and its impact on animal welfare. The findings provide valuable insights for improving management practices and designing better housing environments for ewes in confinement. This study can also help in achieving the first and second goals of the Sustainable Development Goals (SDG), which are no poverty and zero hunger as effective sheep farming can secure food security and job opportunities.

Keywords: Santa Inés ewes, Pen size, Sheep

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