

The effect of construction of rubber mats on the concrete alley adjacent to the feeding trough on milk production and hoof health in the Israeli dairy.

Abstract

Effect of Rubber Mats Installed Along the Feed Bunk Alley on Milk Yield, Hoof Health and Reproductive Performance in Israeli Dairy Cows

Lameness is a major health, welfare, and economic concern in dairy farming. Concrete flooring, widely used in dairy barns, may contribute to claw wear and hoof disorders. Rubber flooring has been proposed as a means to improve cow comfort and reduce the risk of lameness, although previous studies have reported inconsistent results.

The objective of this study was to evaluate the effect of installing rubber mats along the concrete feed bunk alley on milk yield, hoof health, lameness incidence, and reproductive performance in a commercial Israeli dairy herd. The study was conducted at Yehuda Dairy Farm, Israel, from July 2023 to August 2024. Multiparous cows were randomly assigned to either a treatment group housed with rubber mats along the feed alley or a control group housed on conventional concrete flooring. Data collected included milk-recording results, hoof-trimming diagnoses, farmer-reported lameness events, and reproductive records.

A total of 2,272 milk-record observations were analyzed. Rubber flooring had no significant effect on milk yield ($P=0.46$), claw horn lesions (25.3% vs. 24.2%; $P=0.77$), infectious hoof diseases (4.4% vs. 4.2%; $P=0.88$), or reported lameness incidence (23.5% vs. 27.9%; $P=0.32$). However, cows housed on rubber flooring showed a tendency toward improved reproductive performance, with 42% higher odds of conception at first insemination ($OR=1.42$; $P=0.154$) and 31% higher odds of conception across all inseminations ($OR=1.31$; $P=0.094$).

Under the conditions of this study, rubber mats did not significantly improve milk production or hoof health, but may have contributed to improved fertility and reduced lameness. Further large-scale studies are warranted.