

Detecting Lameness in Dairy Cows

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Background:

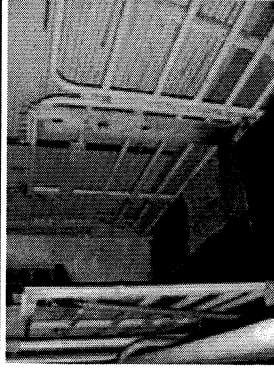
- Lameness affects animal welfare, reproduction and profitability
- Identifying the early stages of lameness in dairy cattle is difficult
- Clinically lame cows obviously favor a leg, but do sub-clinically lame cows show more subtle changes in the weight distribution among their four limbs?



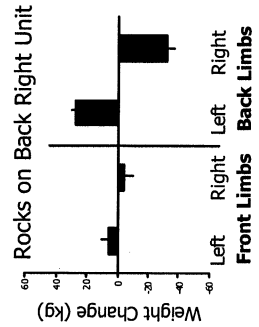
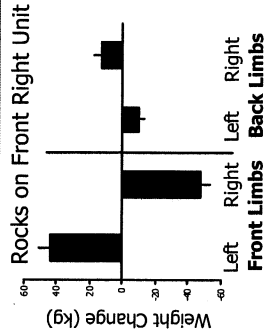
Objective: To detect changes in weight distribution associated with hoof pain

Methodology:

- The weight distribution of 11 sound cows was recorded when standing on a rubber surface (Animat®). Changes in this distribution were then evaluated when a limb was placed on a rock embedded surface
- The rock surface was placed on either the right front and right back weight recording units



Results:



- On average, cows kept 54.7% of their weight on the front limbs and 45.3% on the back limbs
- Cows placed on average 48.0 kg less weight on the right front limb when it was on the rock surface compared to the rubber, and increased the weight placed on the left front and right back limbs
- Cows placed on average 32.4 kg less weight on the right back limb when it was on the rock surface compared to the rubber, and placed more weight on the left back limb

Conclusions:

- Dairy cows alter their weight distribution to accommodate discomfort
- Recording weight distribution may be useful in the early detection of painful hoof injuries