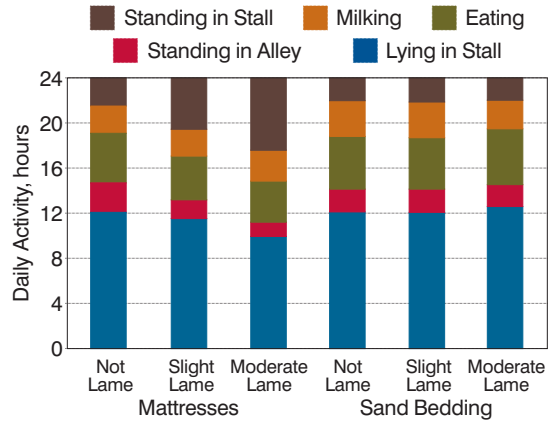


# Stall Surfaces and Lameness Affect Cow Behaviour

Differences in behaviour of nonlame cows, slightly lame cows and moderately lame cows in 6 free stall barns with sand bedding (SAND) compared with 6 free stall barns with rubber-crumb filled mattress surfaces (MAT) were documented in Wisconsin dairy herds. All lactating cows in the 12 herds were observed and given a locomotion score based on a 4-point scale: 1 = nonlame, 2 = slightly lame, 3 = moderately lame, and 4 = severely lame. Prevalence of clinical lameness (locomotion scores = 3 and 4) were 11.1 versus 24.0 for herds using SAND versus MAT surfaces, respectively. Three groups of 10 cows per herd with locomotion scores of 1, 2 or 3 were observed via video cameras for 24 hour periods.

Cows in MAT herds spent more time standing than those in SAND herds, irrespective of lameness class—for nonlame cows the difference was 0.73 hr/day; for slightly lame cows, 2.32 hr/day and for cows that were moderately lame, 4.31 hr/day. The time budget graph on the right illustrates how daily activities were affected by lameness within MAT and SAND herds.



The results of this study suggest that cows in sand stall herds do not modify their daily time budgets when they are lame. In contrast, cows in mattress stall herds spend more time standing in their stalls and, when they are lame, stall standing time increases at the expense of time spent lying down and standing in alleyways. The increase in standing time with the severity of lameness may partly explain why the number of clinically lame cows was higher in the mattress stall herds.

source: N.B. Cook et al., J Dairy Sci 87:2912(2004)