

## ABSTRACT

Lameness is a cause of worry to dairy producers for being indicative of welfare problem with resultant economic losses from reduced milk yield, veterinary cost or premature culling. Risks for lameness are both animal and herd level factors, but the magnitude varies with housing conditions of the cows. This study compared farmer estimated and observed prevalence, types of lameness, risk factors and economic losses from lameness of cows in farms practicing zero- and pasture grazing. The study was conducted in Nakuru County, Kenya where zero- and pasture-grazed cows were obtained in an observational study design. In a random sample of 172 smallholder farms, 485 cows were examined for lameness, individual records and performance histories. Data were subjected to Chi square test, means comparisons and spearman rank correlation. Results showed that lameness prevalence was not different between zero-grazed (23.0%) and pasture grazed (20.2%) cows. The prevalence of lameness observed (22.1%) and that estimated by farmers (22.7%) closely matched with a strong positive and significant correlation ( $r=0.959$ ;  $p<0.05$ ). Four types of lameness were identified of which prevalence was in the order: laminitis (43.1%), digital dermatitis (32.1%), white line disease (14.7%) and sole ulcer (10.1%), but their prevalence did not vary with the grazing system. Lameness was more prevalent among the zero than pasture -grazed cows for cows kept on earth floor (46.4% vs 20.4%), small dairy breeds (46.0% vs 27.5%) or those kept on dry bedding (15.0% vs 4.9%). Estimated economic loss from lameness was 51% higher in zero- than in pasture grazing (KES 4,695.49 vs 3,109.41/farm/year) with a larger proportion attributable to production losses and veterinary costs. The loss is equivalent to loss of 104 to 157 litres of milk in a herd in a year for farmgate milk price of KES 30 a litre. Production losses were more in zero- than in pasture grazing (68.3 vs 55.7%) but veterinary costs were lower in zero- than in pasture grazing (29.1 vs 34.4%). It is recommended that farmer training focuses on skills upgrading on routine care of claws and hooves to reduce incidences of lameness and the resulting economic losses from lameness.

### Keywords:

River, visits, disturbance, sites, discharge, people, animals