

**Abstract:**

Factors associated with growth and weight gains were examined in a prospective observational study that was conducted in 5 cohorts of female calves. A total of 225 calves on 1888 smallholder dairy farms were observed a period of one and a half years. The calves were distributed in 5 agro-ecological zones (AEZ) –grazing strata namely: Upper Midlands (UM)1, zerograzing, UM1 open-grazing, UM2, UM4 zero grazing and UM 4 open grazing. The calves were recruited within the first year of study that was conducted between March 1995 and August 1996. During each visit, the calves were weighed and data on calf management practice on the farm during the visits were also recorded. The overall mean daily weight gain were 0.26 kg and 0.25kg in UM1 zero-grazing and UM 1 open grazing respectively, 0.29 kg in UM2 and 0.26 kg and 0.24kg in UM4 zero-grazing and UM4 open grazing respectively. The main factors associated with calf mean dairy weight gains were mainly age of calf, concentrate feeds, T.parva antibodies, general calf sickness and occurrence of East Coast Fever.