

## Abstract

Three ruminally cannulated zebu steers were used in a water restriction study. Three drinking frequencies were imposed on the steers: watered daily, once in 2 days, and once in 3 days. Particulate rate of passage was estimated by dosing steers with Yb-labeled forage and collecting fecal grab samples for a 5-day period. Steers were grazed from 0700 h to 1800 h, then brought back to drink, and penned overnight. Particulate passage rate decreased ( $P<0.05$ ) from 3.8 to 2.5 and 2.1 %/h, while total mean retention time increased ( $P<0.01$ ) from 54.0 to 65.2 and 80.2 h for steers watered once daily, once in 2 days, and once in 3 days, respectively. In situ dry matter disappearance in the rumen was increased ( $P<0.01$ ) and dry matter intake decreased by one-third to two-thirds ( $P<0.01$ ) by water restriction.