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Behavioural changes of goats as affected by different rearing systems with special emphasis on eating behaviour

D. Senaratna, A. A. P. Madusanka, P. I. Peiris, H. M. S. S. K.Herath, A. D. C. Priyadarshana, R. T. Kodithuwakkuarachchi and N. S. B. M.Atapattu

Department of Animal Science, University of Ruhuna, Kamburupitiya, Sri Lanka.

Sound understanding of the normal behavior (BE) of an animal is important to assess its welfare. Goats as browsers, perform specific grazing pattern once they free to graze in a free range system (FRS). By keeping goats in houses certain BEs are restricted leading to some welfare problems. Objective of this study was to understand the welfare restrictions via behavior changes when goats kept in a stilted/slated houses (SH). BE of 5 randomly selected Sanan, Jamnapari cross bred female goats (14Kg-37Kg) from a 20 animal flock was assessed under both rearing systems (RS) by scan sampling. Frequency and time spent on nineteen BEs [standing(ST), resting(RE), freezing(FZ), walking(WK), lying(LY), eating(ET), head movement(HM), animal interaction(AI), saltating(SL), body shaking(BS), drinking(DR), running(RN), rumination(RU), licking(LI), chattering(CH), chirping(CP), wagging tail(WT),sniffing(SF) and other(OT)] made at every 2 minutes were recorded for 4 morning and evening sessions of the day. RS significantly($p<0.05$) influenced on 53% of BEs.

Highest time spent on ET than any other BEs in both systems. Restriction of ET observed under SH (19.57%) compared to FRS (34.76%). RS*Session interaction significantly affected on FZ, WK, ET showing highest values for FZ(10.54%), ground level eating[GLE](25.8%)in the morning and evening respectively at SH whereas WK(27.19%); total eating [TE](32.76%) in the evening, upper level eating [ULE] (11.39%) in the morning in FRS. ST, WK, ET, AI, BS, RN, RU, LI, WT and OT were significantly affected ($p<0.05$) by the RS. Out of total time budget, goats spent on ST(19.83%), WK(18.4%) and RU(11.93%) under SH. RU significantly higher in the evening (17.39%) compared with morning (6.47%). Most frequent BEs under FRS were WK(25.79%), ET(32.33%) and WT(12.73%). Neither RS nor Session affected on RE, LY, HM, SL, DR, CH, CP and SF. Among OT behaviours observed in SH, stereotypic and bar biting BEs were prominent that shows the animals are in stress at SH. It is concluded that by keeping the goats in SHs most of the BEs are restricted leading to welfare problems.

Keywords: behavior, free range, goats, stilted house, welfare