EFFECT OF SUPPLEMENTAL LIGHT ON GROWTH OF WATER BUFFALO (*BUBALUS BUBALIS*)

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Fifty Surti buffalo heifers between 17 and 42 months of age (n=24, <24 months; n=26, > 24 months) were used to study the responses in body weight to provision of supplemental light. Buffaloes were randomly assigned to either natural daylight +4 hour supplemental light (S; n=25) or natural daylight (C; n=25) groups on day 11 of the experiment. Data on individual body weights (BW) were obtained weekly for 14 days. Meteorological data were recorded throughout the study.

Daylight ambient temperature and relative humidity generally were 27°C and <70% respectively. S group had 5.8% heavier ($p < 0.01$) BW, 6.1 kg net BW gain ($P < 0.01$) than C. Older heifers had 67% BW ($P < 0.01$) during the treatment period, but a net BW loss (-7.8 kg vs 4.6 kg, $P < 0.01$) compared to younger heifers. High rainfall and himidity adversely affected ($p < 0.01$) BW. The S heifers had a greater rate of weight loss at rainfall above 60 mm than did C heifers.

Results indicate that 4 hour supplemental light can stimulate BW in peri-pupertal buffaloes under the existing plane of nutrition in Sri Lanka.