

# Condition Scores And Body Weight Prediction In Asian Elephants

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Accurate estimates of body weight can be useful in the evaluation of feeding programs, nutritional status and general health, and in calculation of dose levels (such as anesthesia). Body weight estimates, especially when paired with a condition scoring system, provides a valuable tool for captive elephant management. Body measurements of 75 Asian Elephants (*Elephas maximus*) were used to predict body weight. Weight, heart girth, height at withers, body length and foot-pad circumference were measured. All possible linear regressions of weight on 1, 2, 3, or 4 body measurements were calculated. The highest correlation with a single measurement was that between heart girth and weight ( $r^2 = 0.90$ ). The data were also divided into age groups (1-13, 18-28, 29-39, and 40-57 yr.) and all possible linear regressions calculated for each group. There were no elephants aged 14-17 yr. Again, the correlation between heart girth and weight was the highest of a single measurement for all age groups ( $r^2$  values of 0.94, 0.75, 0.75, and 0.90 respectively). Adding body length or pad circumference to heart girth resulted in a slight increase in  $r^2$ . We conclude that body weight in Asian elephants can be predicted from body measurements and that heart girth is the best predictor. A second body measurement might improve predictive accuracy for some age groups.

**Key words:** *Elephas maximus*; heart girth; weight; nutrition