

Carcass and internal organ weights in semi-domesticated reindeer

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Estimates of the mass of the different organs and tissues within organisms have been used in many ecological and physiological studies. Weight gain of reindeer fetuses is most rapid during the last trimester of gestation (see Roine et al. 1982). The developing reindeer fetus shows a well-advanced circulatory system at an age of 5 months. The locomotion system shows a faster rate of growth than the weight gain and is satisfactorily matured during intrauterine life (Timisjärvi et al. 1986). The growth of the reindeer from birth to adulthood is cumulative consisting of a rapid weight accretion during summers followed by a weight loss of stasis during winters (Timisjärvi et al. 1982). Altogether 92 fetuses (44 females and 48 males) were collected either from slaughtered reindeer hinds or as stillbirths during 1985–88 within the Finnish reindeer rearing area. During November and December 1988 altogether 69 reindeer (50 calves and 19 adults) were slaughtered in Kaamanen reindeer research station. Reindeer were freely grazing or supplemental fed with concentrates. The weighing of fetuses and internal organs was performed on ordinary laboratory scales with a precision of 10 g. The reindeer calves and adults were weighed using a spring balance to nearest 0.5 kg. Significant linear regressions were found between body weight and heart weight ($r = 0.985$ and $r = 0.985$), body weight and lung weight ($r = 0.952$ and $r = 0.989$) and body weight and kidney weight ($r = 0.986$ and $r = 0.985$) in female and male fetuses, respectively. Significant linear regressions were also found between live weight and heart weight ($r = 0.919$), live weight and lung weight ($r = 0.864$),

live weight and liver weight ($r = 0.958$), live weight and kidney weight ($r = 0.813$) and live weight and spleen weight ($r = 0.760$) in slaughtered calves and adult reindeer. Supplement feeding of reindeer increased live and carcass weight and weight of different internal organs and tissues and also meat production. Live weight (mean) of freely grazing calves was in December 47.0 kg, hinds 77.1 and castrated males 95.2 kg. Proportion of boneless meat was 2.3 kg higher in calves (live weight, mean 53.5 kg) fed together with their hinds during 6 months with commercial feed (crude protein content 20.7 %, Nieminen and Heiskari 1989) than that of freely grazing reindeer. About 16 % of the reindeer carcass weight consisted bone. Organ and tissue weights that were larger in supplemental feed than in freely grazing calves included pelt, head, antlers, legs, heart, lungs, liver, kidney, spleen and different carcass joints.

References:

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