

Calving and lactation as fertility controlling factors in reindeer

E. Eloranta¹ & M. Nieminen²

¹ Department of physiology, University of Oulu, Kajaanintie 52A, SF-90220 Oulu, Finland

² Game and Fisheries Res.Inst., Reindeer Research, Koskikatu 33A, SF-96100 Rovaniemi, Finland

Abstract: The semi-domesticated reindeer (*Rangifer tarandus tarandus* L.) is extremely well adapted to the harsh arctic and subarctic environments. Patterns of growth and seasonal changes in body condition are an important aspect of deer ecology. Energy requirements of lactation and growth are the two major processes in deer elevating the metabolic rate above the levels of maintenance. For animal living in seasonal environments this means that births must be coincident with a period of food abundance. The timing of births does not however only affect calf survival but late calving is also documented as reducing the females probability of being fertile in the next year.

In this study calving and lactation stress as fertility controlling factors were studied in 836 female reindeer. The reindeer were housed outdoors during 1970-86 in the Kaamanen Reindeer Research Station (69 °10' N). The fertility rate of hinds calving in two consecutive years was clearly higher than that of those having been barren in the previous year (84.3 % and 75.4 %, $P < 0.01$). Hinds calving in both years were also in better body condition in autumn than yeld hinds (71.7 ± 0.3 kg and 69.5 ± 0.7 kg respectively). Calf birth-weight was significantly related to the weight of the hind at the time of conception. The age of hind was without effect once the effect of age on body weight was discounted. Sex-ratio of calves was slightly male biased, 53.6% of calves born were male. There was a non-significant trend to male biased sex-ratio in primiparous hinds. In adult hinds the number of female and male progeny was nearly equal.

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