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Evaluation of hair coat quality with regard to histological appearance of skin in the polar fox population

S u m m a r y

Because of the inadequate quality of skins obtained and the frequent incidence of hair coat damage, the aim of the present study was to evaluate a population of polar foxes for the quality of fur parameters with regard to the histological appearance of skin. Hair coat quality was monitored and herd phenotype evaluated in 85 young foxes. Ten skins were randomly chosen for histological and fur analysis. Highly significant differences were found between sexes in the body size of young foxes, hair coat quality and total score. Detailed measurements of fur parameters showed significant differences in the length and thickness of guard hairs. Histological analysis showed that the number of bundles per tuft averaged 2.7, with 96 down hairs per tuft and 35 down hairs per bundle. Hair coat density, calculated in a laboratory, averaged 19,300 down hairs and 153 guard hair per cm² skin. The analysed population of polar foxes was characterized by good hair coat density, thicker cutaneous tissue compared to Finnish skins, and overly soft guard hair. This softness of hair coat is a defect because it makes hair felt and bunch together.