

How much does a Svalbard reindeer eat in winter?

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Abstract: Svalbard reindeer (*Rangifer tarandus platyrhynchus*) store large reserves of subcutaneous fat during summer and autumn which, it has been suggested, might be sufficient to meet a substantial part of their energy requirements during winter. An alternative suggestion (Tyler, in press), however, is that fat is not their main source of energy after all and, moreover, that principal role of their fat reserves is for enhancing reproductive success rather than for substituting for forage. Is it realistic to suggest that these high arctic herbivores could meet the greater part of their energy requirements in winter by feeding, given that the aerial biomass of available forage in Svalbard is very low in late winter? This question was investigated by using a simple model to predict what rate of food intake pregnant and non-pregnant adult female Svalbard reindeer would have to achieve to meet their daily energy demands from forage. The results are modest (3.1 and 1.7 g dry matter per grazing minute in pregnant and non-pregnant animals, respectively) which supports the suggestion that Svalbard reindeer could live off forage in winter.