

SOME EFFECTS OF DIET AND AMBIENT TEMPERATURE ON WATER TURNOVER IN REINDEER. R. D. Cameron, R. G. White, and the late J. R. Luick, Alaska Department of Fish and Game, Fairbanks, Alaska 99701, and Institute of Arctic Biology, University of Alaska, Fairbanks, Alaska 99701.

Two adult female reindeer were restrained in metabolism stalls, within controlled environment chambers at temperatures of +10, -5, and -20°C; various amounts of a commercial pelleted ration (crude protein, 13%) or mixed lichens (crude protein, 3%) were offered, and water was provided ad libitum as either snow or in liquid form. Water transfer rate was determined using tritium water dilution, and the daily output of feces and urine was measured for each of 12 different combinations of diet and temperature. At -20°C, water transfer rate ($l \cdot d^{-1}$) was linearly related to dry matter intake for each diet; however, the relationships between water transfer rate and the intakes of nitrogen and ash were not significantly different between diets. Water transfer rates at -5°C were similar to values predicted at -20°C, but those at +10°C were appreciably higher. Osmotically active components of the diet, such as nitrogen and ash, appear to be of greater physiological influence than total dry matter in determining the water requirements of reindeer in winter.

ABSTRACTS OF PAPERS AND POSTERS

**FOURTH INTERNATIONAL
THERIOLOGICAL CONGRESS**



*Edmonton, Alberta, Canada
13-20 August, 1985*

**FOURTH INTERNATIONAL
REINDEER/CARIBOU
SYMPOSIUM**



*Whitehorse, Yukon, Canada
22-25 August, 1985*