

RADIOECOLOGY STUDIES IN ALASKA

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Measurements of Cs^{137} and Sr^{90} in large herbivorous animals, carnivores, and their forage, and the estimation of the Cs^{137} body burden in native people of northern and western Alaska were conducted. Lichens, an important winter food of caribou and reindeer, contain more Sr^{90} and Cs^{137} than other types of vegetation. Monthly mean values ranged up to 70 pCi Cs^{137} /g dry weight and 15 pCi Sr^{90} /g dry weight.

Since 1960, the concentration of Cs^{137} and Sr^{90} in lichen and caribou has increased fourfold or more. Levels of Cs^{137} in moose flesh were about one-tenth that of caribou as the result of different food habits.

Body burdens of Cs^{137} in people are directly related to their rate of consumption of caribou or reindeer flesh. People of the inland village of Anaktuvuk Pass have highest amounts of Cs^{137} , with an average adult body burden of 1330 nCi in summer, 1964. Seasonal variation in body burden of Cs^{137} is regulated by the availability of caribou and modified by methods and periods of meat storage. Sexual differences in body burden are not evident before adulthood. In the 30 to 50 year age group, Cs^{137} body burdens in men are approximately 50 percent greater than in women.

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