

Ramzaev et al. ^{137}Cs and ^{90}Sr in live and dead reindeer lichens from Kraton-3 JER 93

Ramzaev, V., Mishine, A., Kaduka, M., Basalaeva, L., Brown, J. and Andersson, K.G. 2007.

^{137}Cs and ^{90}Sr in live and dead reindeer lichens (genera *Cladonia*) from the "Kraton-3" underground nuclear explosion site. *Journal of Environmental Radioactivity*, 93, (Issue 2), 2007, 84-99.

The contents of ^{137}Cs and ^{90}Sr have been determined in 29 samples of live and dead reindeer lichens (genera *Cladonia*) collected at the "Kraton-3" underground nuclear explosion site (65.9°N 112.3°E, event year - 1978) in Yakutia, Russia in 2002. The area contamination was within the range of 0.36-700 and 0.13-770m² for ^{137}Cs and ^{90}Sr , respectively. The dead organisms were on average much more contaminated than the live ones. Vertical fractionation of the live lichen carpet demonstrated maximal activity concentrations of both radionuclides in the lower older section of the plants, while for the dead lichens the maximal activity concentrations of ^{137}Cs were detected in the upper part. The vertical distribution of ^{90}Sr was more or less homogeneous in the cushions of dead lichens. Elevated levels of ^{137}Cs and ^{90}Sr activity concentrations were also detected in the re-establishing young lichens growing over the residua of some dead lichens.

<http://dx.doi.org/10.1016/j.jenvrad.2006.11.008>