# Gomez-Ros et al. Estimation of exposures of reference organisms to natural radionuclides JRP 24

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Estimation of internal and external exposures of terrestrial reference organisms to natural radionuclides in the environment.
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In this paper, an estimation of the doses absorbed by terrestrial reference organisms due to naturally occurring radionuclides is described. For terrestrial organisms under normal circumstances, external exposure is estimated to be of the order of 0.1-0.4 mGy a1, depending on size and habitat, and the main contributor is 40K. Internal background exposures of terrestrial organisms are more variable. Again, 40K is an important contributor giving doses of the order of 0.3 mGy a1. The exposures of muscles and plant tissues to uranium, thorium, radium, lead and polonium are lower, but liver, bone and kidney may be exposed at levels of 0.1-1 mGy a1 absorbed dose. There can also be significant increases in the received dose under specific environmental conditions as is the case for burrowing mammals that receive relatively high lung doses due to the inhalation of radon and its progeny.

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