



[An analysis of respiratory activity, Q\(10\), and microbial community composition of soils from high and low tussock sites at Toolik, Alaska.](#)

<https://arctichealth.org/en/permalink/ahliterature99462>

Author: O Roger Anderson
Author Affiliation: Department of Biology, Lamont-Doherty Earth Observatory of Columbia University, Palisades, New York 10964, USA. ora@ldeo.columbia.edu
Source: J Eukaryot Microbiol. 2010 Mar;57(2):218-9
Date: Mar-2010
Language: English
Publication Type: Article
Keywords: Alaska
Bacteria - isolation & purification - metabolism
Biodiversity
Eukaryota - isolation & purification - metabolism
Oxygen consumption
Soil Microbiology
Ubiquinone - analogs & derivatives - analysis

Abstract: High latitude microbial communities, incurring increased global warming, are a potential major source of respiratory CO₂ contributing to an enhanced greenhouse effect. Data on respiration and microbial density are presented for a moist, high tussock site compared with a low, water saturated site. The density of bacteria and eukaryotic microbes was nearly equivalent at both sites and potentially could yield substantial release of respiratory CO₂ with continued warming. Respiratory rates for soil from the high site were greater than the low. The Q(10) of 2.4 for the high tussock sample was approximately 1.3 x that of the low site sample (Q(10) of 1.7).

PubMed ID: 20021543 [View in PubMed](#) 