

Greenhouse Gas Measurements with Fourier Transform Infrared Spectroscopy – Reference article list



Gaset FTIR gas analyzers have been used for high-quality greenhouse gas research already for more than a decade. Gaset analyzers have been used to measure greenhouse gases from soils, manure, ruminants, geothermal sources as well as aquatic environments.

Agricultural soils

Kandel, T. P., Gowda, P. H., & Northup, B. K. (2020). Influence of Tillage Systems, and Forms and Rates of Nitrogen Fertilizers on CO₂ and N₂O Fluxes from Winter Wheat Cultivation in Oklahoma. *Agronomy*, 10(3), 320.

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Singh, H., Kandel, T. P., Gowda, P. H., Somenahally, A., Northup, B. K., & Kakani, V. G. (2019). Influence of Contrasting Soil Moisture Conditions on Carbon Dioxide and Nitrous Oxide Emissions from Terminated Green Manures. *Agrosystems, Geosciences & Environment*, 2(1).

Teutscherova, N., Vazquez, E., Arango, J., Arevalo, A., Benito, M., & Pulleman, M. (2019). Native arbuscular mycorrhizal fungi increase the abundance of ammonia-oxidizing bacteria, but suppress nitrous oxide emissions shortly after urea application. *Geoderma*, 338, 493-501.

Shrestha, D., Wendroth, O., & Jacobsen, K. L. (2019). Nitrogen loss and greenhouse gas flux across an intensification gradient in diversified vegetable rotations. *Nutrient Cycling in Agroecosystems*, 114(3), 193-210.

Kandel, T. P., Gowda, P. H., Somenahally, A., Northup, B. K., DuPont, J., & Rocateli, A. C. (2018). Nitrous oxide emissions as influenced by legume cover crops and nitrogen fertilization. *Nutrient Cycling in Agroecosystems*, 112(1), 119-131.

Arctic soils

Brummell, M. (2015). *Greenhouse gas production and consumption in soils of the Canadian High Arctic* (Doctoral dissertation, University of Saskatchewan).

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Wetlands

Duval, B. D., Curtsinger, H. D., Hands, A., Martin, J., McLaren, J. R., & Cadol, D. D. (2020). Greenhouse gas emissions and extracellular enzyme activity variability during decomposition of native versus invasive riparian tree litter. *Plant Ecology*, 1-13.

Falk, J. M., Schmidt, N. M., Christensen, T. R., & Ström, L. (2015). Large herbivore grazing affects the vegetation structure and greenhouse gas balance in a high arctic mire. *Environmental Research Letters*, 10(4), 045001.

Falk, J. M. (2014). *Plant-soil-herbivore interactions in a high Arctic wetland-Feedbacks to the carbon cycle*. Lund University.

Falk, J. M., Schmidt, N. M., & Ström, L. (2014). Effects of simulated increased grazing on carbon allocation patterns in a high arctic mire. *Biogeochemistry*, 119(1-3), 229-244.

Forests

Bell, J. K., Siciliano, S. D., & Lamb, E. G. (2020). A survey of invasive plants on grassland soil microbial communities and ecosystem services. *Scientific Data*, 7(1), 1-8.

Korkiakoski, M., Tuovinen, J. P., Penttilä, T., Sarkkola, S., Ojanen, P., Minkkinen, K., ... & Lohila, A. (2019). Greenhouse gas and energy fluxes in a boreal peatland forest after clear-cutting.

Karu, H. (2015). Development of ecosystems under human activity in the North-East Estonian industrial region: forests on post-mining sites and bogs.

Karu, H., Pensa, M., Rõõm, E. I., Portsmouth, A., & Triisberg, T. (2014). Carbon fluxes in forested bog margins along a human impact gradient: could vegetation structure be used as an indicator of peat carbon emissions?. *Wetlands ecology and management*, 22(4), 399-417.

Manure

Vadas, P. A., & Powell, J. M. (2019). Nutrient Mass Balance and Fate in Dairy Cattle Lots with Different Surface Materials. *Transactions of the ASABE*, 62(1), 131-138.

Holly, M. A., & Larson, R. A. (2017). Effects of manure storage additives on manure composition and greenhouse gas and ammonia emissions. *Transactions of the ASABE*, 60(2), 449-456.

Powell, J. M., & Vadas, P. A. (2016). Gas emissions from dairy barnyards. *Animal Production Science*, 56(3), 355-361.

Livestock

Difford, G. F., Løvendahl, P., Veerkamp, R. F., Bovenhuis, H., Visker, M. H. P. W., Lassen, J., & de Haas, Y. (2020). Can greenhouse gases in breath be used to genetically improve feed efficiency of dairy cows?. *Journal of Dairy Science*.

Aruquipa, J. E. R. (2020). Efecto del tamaño de partícula del forraje en el consume, ganancia de peso y producción de metano en llamas y alpacas. *Revista de Investigaciones (Puno)-Escuela de Posgrado de la UNA PUNO*, 8(4), 1350-1357.

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- Hu, E., Sutitarnnontr, P., Tuller, M., & Jones, S. B. (2018). Modeling temperature and moisture dependent emissions of carbon dioxide and methane from drying dairy cow manure. *Frontiers of Agricultural Science and Engineering*, (2), 13.
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- Pszczola, M., Strabel, T., Mucha, S., & Sell-Kubiak, E. (2018). Genome-wide association identifies methane production level relation to genetic control of digestive tract development in dairy cows. *Scientific reports*, 8(1), 1-11.
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- Porsavathdy, P., Do, H. Q., & Preston, T. R. (2017). Growth rate and feed conversion were improved, and emissions of methane reduced, when goats fed a basal diet of pigeon wood foliage (*Trema orientalis*) were supplemented with sun-dried cassava foliage (*Manihot esculenta*, Crantz) or water spinach (*Ipomoea aquatica*). *Livestock Research for Rural Development. Volume 29, Article, 68*.
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Schiller, D. V., Marcé, R., Obrador, B., Gómez-Gener, L., Casas-Ruiz, J. P., Acuña, V., & Koschorreck, M. (2014). Carbon dioxide emissions from dry watercourses. *Inland waters*, 4(4), 377-382.

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Geothermal

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Etiopie, G., Tsikouras, B., Kordella, S., Ifandi, E., Christodoulou, D., & Papatheodorou, G. (2013). Methane flux and origin in the Othrys ophiolite hyperalkaline springs, Greece. *Chemical Geology*, 347, 161-174.

Other

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