

PhD student – Changing Soil Life in a Changing Agriculture. Causes and Consequences of Shifts in Fungal/Bacterial Ratios in Grassland Agroecosystems

**Wageningen, 40 h per week
Wageningen University and Research Centre**

Job description

Frequently, soils of less intensively managed grassland ecosystems have shown higher fungal/bacterial (F/B) biomass ratios. Therefore, both among scientists and in actual practice it has been suggested that high soil F/B biomass ratios are indicative for a more sustainable agroecosystem. However, so far experimental evidence for this is lacking. This project aims at identifying factors that determine the F/B biomass ratios in grassland agroecosystems, and at determining the effects of shifts in this ratio on the potential for nutrient losses. Rate and quality of fertilisation, management (cultivation frequency and manure application technique) and soil characteristics (organic matter and clay content) are considered possible factors controlling F/B ratios. Their contribution will be determined by evaluation of a dataset collected from various grassland systems. The effect of the F/B biomass ratio on nutrient cycling and potential for losses through leaching will be evaluated in pot experiments in which the F/B ratio will be manipulated and in which organic substrates of different quality will be added. The project should ultimately result in a careful evaluation of the F/B ratio as an indicator for soil quality.

Requirements

Completed MSc in Soil Science or Biology or related field. Ambitious, creative, devoted researcher with perseverance. Excellent communication skills in spoken/written English.

Organisation

The research is done in a joint project of Alterra (www.alterra.wageningen-ur.nl/english/) and the Sub-department of Soil Quality (www.dow.wau.nl/soil_quality/). Both are part of Wageningen UR. Alterra combines a range of expertise on rural areas and their sustainable use, including aspects such as water, the environment and soils. It engages in strategic and applied research to support design processes, policymaking and management at the local, national and international level. The Sub-dept. Soil Quality teaches and does strategic and fundamental research in on chemical and biological aspects of soil quality. Exchange of expertise and staff of both parts of Wageningen UR gives added value to our projects and provides an interesting training environment for a PhD student.

Conditions of Employment

This position is for 4 years fulltime in an enthusiastic, interdisciplinary research group. Salary is min. € 1.501,- and max. € 2.153,- per month on full time basis. In addition we offer you excellent training facilities.

Additional Information

Additional information about the vacancy and a project description can be obtained from:

dr Ellis Hoffland (0317 482115), Ellis.Hoffland@wur.nl

or: dr Jaap Bloem (0317 74464), Jaap.Bloem@wur.nl.

Application

You can apply for this job by sending your application to: mw. C.J.F.M. Linders, Bureau Departement Omgevingswetenschappen, Postbus 9101, NL-6700 HB Wageningen, The Netherlands. When applying for this job always mention the vacancy number: DOW03-18. The deadline for applications is 26 May 2003.