

PhD projects at Faculty of Agriculture – Agronomy Group

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Maize Production in the Namulonge Inland Valley; Effect of Water Regime and Cropping Intensity on Crop Yield and Nutrient Flows

Keywords: Maize; Wetlands; green manure; eco-intensification, Organic farming; Integrated Soil Fertility Management

Enhanced soil fertility and improved environmental qualities are both important goals of today’s agriculture. The PhD research project presented will develop sustainable wetland land use options – focusing on maize production to meet future food requirements amid strong competition for limited resources. The proposed strategies will be based on exploitable yield gaps, production potentials and nutrient balance models applying the concept of eco-intensification. These strategies will be evaluated in 3 hydrological/water regimes along the wetland gradient i.e. fringe, mid-slope and center.

The study will focus on soil nitrogen (N) and crop management. Soil N limitations will be addressed by addition of inorganic N, farm yard manure, and biological N₂ fixation using *Sesbania rostrata*.

The study will also examine complementarities and synergies between organic and inorganic nutrient inputs for the management of soil fertility in wetlands.



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Work Package	Cluster B: Alternative options for wetland use
Countries of work	Uganda
1 st Supervisor	Professor Dr. Ulrich Köpke (<i>University of Bonn, Germany</i>)
2 nd Supervisor	Dr. Daniel Neuhoff (<i>University of Bonn, Germany</i>)
3 rd Supervisor	Dr. Senthilkumar Kalimuthu (<i>AfricaRice, Tanzania</i>)
Subject	Agronomy
Faculty	Faculty of Agriculture
University	Bonn
Working period	1-Oct-2014 to 31-Sept-2017