TILMANN BRUNNBERG

Pest screening in Kenyan smallholder tomato production:

Comparison of occurrence and impact of root-knot nematodes (*Meloidogyne incognita)* on tomato production in wetland soils at different stages of cultivation

Keywords: Pest screening, tomato production, Kenya, *Lycopersicon esculentum*, wetlands, *Meloidogyne incognita*, root-knot nematodes.

This Master research project investigates the suitability of drained wetlands for tomato production under the aspect of pest pressure in the Ewaso Narok highland floodplain in Kenya.

Therefore it will compare a virgin soil against a soil after several years of tomato cultivation to point out, if there are differences in the pest pressure. So it will be possible to give general advice, if it is wise to use wetland soils intensively for vegetable production. It may help to find sustainable ways of production too.

Root knot nematodes are a severe problem, especially in sandy fluviatile soils which offer perfect conditions to the tomato plants as well as to nematodes, even though *Phytophthora* is the most aggressive pathogen towards tomatoes in Kenya.

The study will include field trials with different tomato genotypes, a field screening for all occurring pests as well as a quantitative and qualitative ananlysis of *Meloidogyne incognita* infestation of fields and plants. Also the yield loss of both fields will be estimated. There will be several dates of ranking to compare at which growth stages the influence of the nematode is most harmful. At the same time there will be greenhouse trials to confirm the results and get some information about the antagonistic potential of the soils under controlled conditions with an internal control (turf substrate). The findings may help to estimate the suitability of wetlands to perform as a future food basket for Eastern Africa.

Contact data:

Brunnberg, Tilmann
INRES
(Molecular Phytomedicine)
University of Bonn
Karlrobert Kreiten Str 13
53115 Bonn, Germany

s7tibrun@uni-bonn.de

www.wetlands-africa.de

Work Package	
Countries of work	Kenya (Nairobi / Rumuruti)
1st Supervisor	Prof. Dr. Florian MW Grundler
2nd Supervisor	Dr. George Kariuki
Subject	Master of Science Agricultural Sciences (Agrarwissenschaften)
Faculty	INRES (Molecular Phytomedicine)
University	Rheinische Friedrich-Wilhelms Universität Bonn (University of Bonn)
Working period	3 months from end of February to end of May