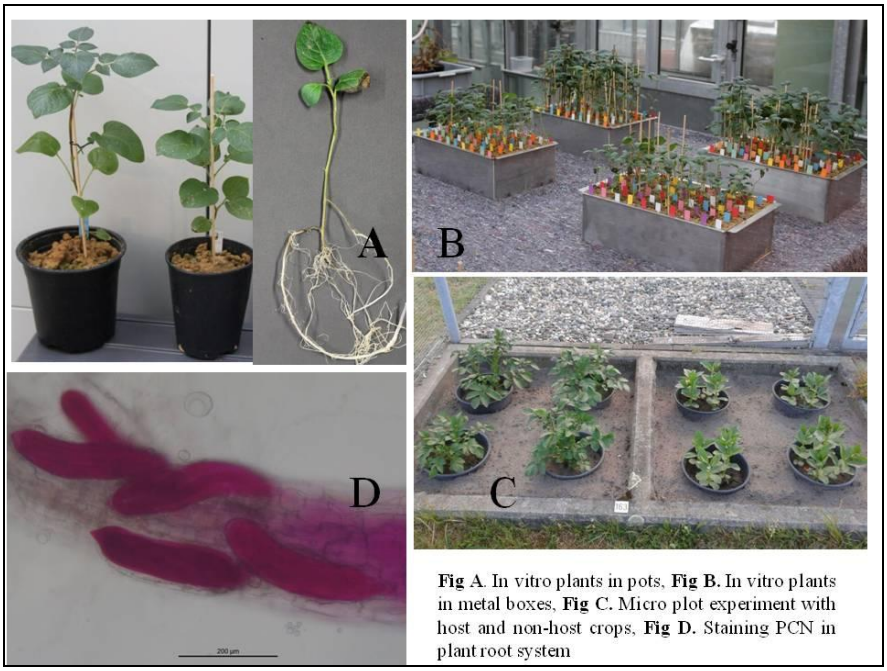
Bundesministerium
für Ernährung
und Landwirtschaft

PhD Funding-Programme of BMEL

Sustainable potato cyst nematodes management through the use of resistant potato varieties

Funding Agency	German Federal Ministry of Food and Agriculture – BMEL
Project Administrator	Federal Office for Agriculture and Food – BLE
Regional focus of arch	East Africa – Kenia
Project Duration	01.04.2016 – 31.03.2019
Project Budget	**101.464,0 €**
Research institute	Julius Kühn-Institute – JKI
Partner institutes	**Chuka University, Chuka, Kenia**
Thematic area	Phytonematology
Background	Potatoe Cyst Nematodes (PCN) are most relevant pests of potatoes worldwide. In Germany potato production is severely threatened by PCN. This is amplified by the recent evidence of a new and highly aggressive pathotype in Northern Germany. Recently PCN also was detected in Kenia. As part of the PhD Funding-Programme of BMEL this project aims at improving the expertise on this particular pest in East Africa. The JKI has long

	experience in the field of determination of virulence types and the resistance rating of crops against plant parasitic nematodes. Knowledge on virulence of nematodes and resistance of crops embrace an essential basis for the development of pest management programs. The research result will nationally (Germany) and internationally (e.g. Kenia) contribute to a sustainable potato production.
Brief description of project	The project follows three main subjects. Firstly biological differences of a PCN population recently discovered in Kenia are to be compared with existing European and South American PCN Populations. Using germplasm cultures of reference material showing defined resistance/ susceptibility towards PCN a high throughput screening method for the detection of resistance will be developed. Targeting a sustainable management of resistance properties of crops as part of a regional cropping system the project finally will focus on the influence of crop rotation, use of catch plants and management of volunteer potato plants.
Picture(s) of project/Map of research area or the like	 **Fig A.** In vitro plants in pots, **Fig B.** In vitro plants in metal boxes, **Fig C.** Micro plot experiment with host and non-host crops, **Fig D.** Staining PCN in plant root system