Project Summary

Title	Participatory Development, Testing and Validation of Concepts and Technologies for Site-Specific Detection and Control of Plant Parasitic Nematodes Infecting Tomatoes in Mwea, Kenya
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Purpose	The overall objective is to involve farmers in a participatory way in developing; testing and validating soil characteristics-based Site-Specific Detection and Control technology/strategies for plant-parasitic tomato nematodes in order to reduce both the production cost and crop loss.
Project Summary	Tomato (Lycopersicon esculentum Mill.) production in Kenya has been a lucrative business for smallholder farmers who cannot afford huge capital to invest in other cash crops. It is a major source of household incomes and has created employment that has resulted in improved livelihoods. Tomato production is hampered by among other factors pests and diseases. Plant parasitic nematodes, particularly root-knot nematodes (RKNs) are a serious pest problem in smallholder tomato farms in Kenya, yet the problem goes unnoticed by majority of farmers as they appear to be unaware of nematodes. Reduction of crop losses due to nematodes is one way of increasing crop yields. This project seeks to; create awareness of the damage caused by nematodes on crops and the economic implications; assess the spatial and temporal distribution of root knot-nematodes in both rainfed and irrigated tomato fields in Mwea area; define and quantify the

	significant edaphic factors that regulate the spatial and temporal population dynamics of nematodes in tomato fields and in particular develop, test and validate methods to identify areas in tomato fields that are prone to nematode infestations by correlating the soil factors to the distribution and population densities of root-knot nematodes; create nematode-density-distribution maps for individual fields/soil types which will be superimposed on the physical survey map of the farms; and to validate the developed precision farming technology by carrying out greenhouse and on-farm trials on areas on the nematode distribution map identified to be infested or prone to infestation by nematodes.
Country and Specific Location(s)	Mwea Tomato Fields, Kenya
Participating Institutions	Smallholder farmers
Start Date	May 2010
End date	May 2012
Amount of Funding	USD 59,981