

Program for Postdoctoral Fellowship Awards in Agriculture

<i>Internal Ref #</i> 26	Title of Research Project: Effects of long term irrigation with treated wastewater on soil physical and physico-chemical properties*.
Project Leader: Guy Levy	Email : vwguy@volcani.agri.gov.il Phone : 03-9683502
Institute: Soil, Water and Environmental Sciences	
Department: Soil chemistry, plant nutrition and microbiology	
The research team (other scientists): D. Russo, M. Ben-Hur, M. Borisover	
Short Description of Research Project (3-5 lines): The recently observed decline in productivity of fruit trees, irrigated for many years with treated wastewater (TWW) and grown mainly in clay soils, are not clear and could stem from degradation of soil physical and physico-chemical properties. Our objective is to investigate the impact of long term irrigation with TWW on various physical properties of clay soils (e.g., porosity, aeration, water retention, aggregate stability, water movement into and in the soil), and their association with possible changes in soil sodicity and organic matter content and characteristics imposed by the use of TWW for irrigation. The results obtained will be used to revise and tailor for soil conditions a model (originally developed for pure clay systems) that predicts water flow in the soil profile.	
Required Qualifications of Visiting Scientist: Education: Holding a PhD/DSc degree in Soil Science with specialization in soil physics and/or soil physical chemistry. Scientific Experience: The candidate is expected to have experience in basic and/or applied research, at both laboratory and field scale, aimed at studying various soil physical properties and the mechanisms involved. Abilities and Skills: The candidate is expected to (i) manage a research program and be able to analyze, interpret and summaries experimental results; (ii) participate in a multidisciplinary research team and collaborate with other scientists from the institute. Language - Proficient in English (spoken, written and reading).	

* This project is part of an interdisciplinary research program on "Degradation of soil properties following long term irrigation with treated wastewater and its effects of fruit tree plantations". The principal investigator of this program is Dr. A. Bar-Tal from ARO.