



Ecosystem services driven by the diversity of soil biota – understanding and management in agriculture – The Biodiversa SoilMan-Project

Martin Potthoff (1), Guénola Pérès (2), Astrid Taylor (3), Stefan Schrader (4), Blanca Landa (5), Annegret Nicolai (2), Mignon Sandor (6), Maarja Õptik (7), Guzmán Gema (5), Holger Bergmann (1), Daniel Cluzeau (8), Martin Banse (9), Jan Bengtsson (3), Muriel Guernion (2), Johann Zaller (10), Tomas Roslin (3), Stefan Scheu (1), and José Alfonso Gómez Calero (5)

(1) University of Goettingen, Centre of Biodiversity and sustainable Land use (CBL), Goettingen, Germany (mpottho@uni-goettingen.de), (2) UMR INRA/Agrocampus 1069 SAS, Team MO-Sol Agrocampus Ouest, Rennes, France, (3) Swedish University of Agricultural Sciences (SLU), Department of Ecology, Uppsala, Sweden, (4) Thünen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries (TI), Institute of Biodiversity, Braunschweig, Germany, (5) Institute for Sustainable Agriculture (IAS), Spanish National Research Council (CSIC), Department: Crop Protection, Cordoba, Spain, (6) University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania, (7) University of Tartu, Institute of Ecology and Earth Sciences, Tartu, Estonia, (8) Rennes University, UMR CNRS EcoBio » Ecosystems - Biodiversity - Evolution, Station Biologique, Paimpon, France, (9) Thünen-Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries (TI), Institute of Market Analysis, Braunschweig, Germany, (10) University of Natural Resources and Life Sciences, Institute of Zoology, Vienna, Austria

Soil biota diversity is ensuring primary production in terrestrial ecosystems and agricultural productivity. Water and nutrient cycling, soil formation and aggregation, decomposition and carbon sequestration as well as control of pest organisms are important functions in soil that are driven by biota and biota interactions. In agricultural systems these functions support and regulate ecosystem services directed to agricultural production and agricultural sustainability. A main goal of future cropping systems will be to maintain or raise agricultural productivity while keeping production sustainable in spite of increasing food demands and ongoing soil degradation caused by inappropriate soil management practices. Farm based tools that farmers use to engineer soils for plant production depend as soil management factors on decisions by farmers, which are triggered by regional traditions, knowledge and also by agriculture policies as a governance impact. However, biological impacts on soil fertility and soil health are often neglected or overseen when planning and shaping soil management in annual cropping systems or perennial systems like vineyards. In order to get progress in conservation farming and in agricultural sustainability not only knowledge creation is in need, but also a clash of perspectives has to be overcome within the societies (generals public, farmers associations, NGOs) The talk will present the conception of the recently started SoilMan-project and summaries selected results from current and recent European research projects.