



Natural cycles and agricultural inputs: a farm gate Ecological Footprint analysis

Nicolo Passeri (1), Emanuele Blasi (1), Michael Borucke (2), Alessandro Galli (2), and Silvio Franco (1)

(1) Department in Economics and Management, University of Tuscia, Via San Carlo 32, 01100 Viterbo, Italy, (2) Global Footprint Network, 312 Clay Street 94601, Oakland, CA, USA

Land suitability for different crops depends on soil, water and climate conditions, as well as farmers' cultivation choices. Moreover, the use of agricultural inputs affects the natural cycles of crops and impacts their production. By assessing the ecological performance of farms as influenced by crop types, cultivation choices and land suitability one can therefore evaluate the effectiveness of agricultural practices and governance's options.

Ecological Footprint accounts can be used to measure such ecological performance. These accounts track human demand for natural resources and ecological services and compare this demand with nature ability to regenerate these resource and services. This regenerative capacity is called biocapacity. Both demand (Footprint) and supply (biocapacity) are expressed in global hectares.

Farming different from most other human activities, not only uses natural resources, but also enhances or erodes ecological supply. It therefore affects all factors that determine both Footprint and biocapacity. Climate, farmers' skills and choices (fertilizers, pesticides, machines) determine crop productivity, and to what extent crops preserve or compromise soils.

The aim of this work is to evaluate how farmer's choices affect resources overexploitation. The study analysed how the use of inputs influences natural cycles within farm boundaries. This result from a pilot case study will show how particular farming practices affect both the farm's biocapacity and Ecological Footprint.

Such analysis is relevant for informing involved stakeholders, namely the farmers on more sustainable agricultural practices and the policy makers on more suitable agricultural policies.