

CONSERVATION AND SUSTAINABLE USE OF SOIL BIODIVERSITY: LEARNING WITH MASTER NATURE!

Odo Primavesi

Embrapa Agropecuária Sudeste, C.P. 339, 13560-970, São Carlos-SP, Brazil. odo@cnpq.br

While working on environmental education, the main principles of Nature are to change and develop a primary natural rocky and practically inert environment to a climax natural environment were observed, in a multidisciplinary and global approach. This climax environment has a great biomass productivity and biodiversity of flora and fauna, in macro and microscale, with a very high photosynthetic efficiency per surface unit.

Considering the availability of sufficient energy, the key to the success for environmental restoration rests on the increase of available resident water in soil and the atmosphere, obtained by diversified vegetation, partially deep rooted perennial plants, its shade, its root activity and the energetic litter for the soil biota. Thus, any attempt to improve soil biodiversity for a sustainable agriculture needs to consider all technologies that improve resident water through diversified plant management on a soil protected by litter and a rooting network. Legume trees, inoculated with *Bradyrhizobium* and Mycorrhizae are very important tools. They are the same technologies suggested for clean water and soil conservation, for carbon sequestration, to reverse degraded landscapes, to stabilize microclimatic parameters and others. The main causes are the same. The remedies generally also.