

**TECHNICAL SESSION 3**  
**SOIL QUALITY AND CROP YIELDS AS AFFECTED BY EM**

**MICROBIAL, BIOCHEMICAL AND COMPACTION PARAMETERS OF A SUSTAINBLE SOIL OF BRAZIL AS AFFECTED BY EFFECTIVE MICROORGANISMS (EM)**

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The occurrence of soil diseases in agroecosystems using chemicals intensively is due to the loss of biodiversity. This is reflected in the autoregulation of pests and diseases, compaction and erosion of soil and by

environmental pollution. Therefore, physico-chemical, biological and biochemical parameters were used to analyze production systems indicating changes in soil structural stability and productivity due to intense use of chemicals. Samples were collected from farms having different land use patterns to include forests, pastures, units using EM and conventional chemical systems. These samples were analyzed for microbial populations, biochemical properties and soil compaction. The forest soils indicated sustainable systems although deficient in micro and macro nutrients. The soils of systems using EM for approximately 5 years after changing from a conventional chemical program indicated corrections in mineral deficiencies, with physico-chemical properties and biological parameters close to that of a forest soil. The enhancement of chemical and biological properties had improved the soil fertility and stability in systems using EM. The benefits of using solutions of Effective Microorganisms in developing sustainable farming systems with soils of high quality are presented.