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Local Indicators of Quality of Soils in the Tropic (River Cabuyal Watershed, Cauca Colombia)

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Abstract

The present paper is a contribution to validate the local knowledge as basic source for the local community to make decisions, because it is peasants who have a permanent contact with their natural resources.

The field study was put into effect in the river Cabuyal watershed Cauca Colombia, using a toposequence of 1,500 physical and chemical analyses of soils and the systematization of the local knowledge of the 50 peasants was managed with the help of direct interviews, workshops and a survey. It compared and verified the improvement of the quality of the soil from both the scientists and the local peasants' view.

The need for basic soil quality and health indicators is reflected in the question commonly asked by practitioners, researchers, and conservationists: “What measures should I take to evaluate the effects of management on soil function now and in the future?” Too often scientists confine their interests and efforts to the discipline with which they are most familiar. Our approach in defining soil quality and health indicators must be holistic, not reductionistic

Within the study's results, is observed the improvement of some chemical parameters of the soils (Carbon, Phosphorus, aluminium saturation, cation exchange capacity, CECE) appear. The agriculturists affirm that their soils have improved in the last twenty-five years due to the introduction of practices of soil conservation, but first of all to protect the soil with permanent cultures as is in this case the associated culture of coffee with trees (Agroforestry system).

Also the seven most important criteria of the agriculturist of the zone are exposed to evaluate the quality and health of the soil and are in their order of importance: Texture, color, plants as indicator, yield, organic matter, humidity, earthworm.

Keywords: Agroforestry, biology, soil, indicators of quality soil, local knowledge