



AgroClimatology, water soil and Environmental sustainability

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Abstract

Scientific studies prove the increase in global temperatures recorded over the last century has clearly shown that the planet is warming, leading to widespread and rapid changes in the climate of planet Earth. As a result, extreme weather and climate events are becoming more frequent in all regions of the world. This trend will unfortunately continue, and at an accelerated pace. To this end, measures and policies at local, national and international levels are currently being developed and debated, aimed at reducing greenhouse gas (GHG) emissions. It is clear that Agriculture can be affected by climate change and at the same time contribute to climate change. However, the potential effects of climate change are inevitable and have serious consequences for agricultural production conditions. This impacts on the use and production of land, water and energy, and perhaps more importantly, the key role it could play in mitigation and adaptation. In order to achieve these climate-friendly agricultural systems, a shift away from industrialized, high-input, fossil fuel-intensive agricultural practices are needed in favor of resilient, low-input agricultural systems that increase carbon sequestration in the soil and reduce greenhouse gas emissions. For these systems to succeed, we need new thinking about agriculture production and energy policies. Therefore, sustainable agricultural systems, such as agroecology and/or regenerative agriculture, can effectively reduce greenhouse gas emissions from agriculture and be an essential means of stabilizing and even reversing climate change while continuing to provide food, feed, fiber and energy. This presentation will be focused on four axes: A- The link between agriculture and climate change, study of the impact of Microclimate on agriculture, B- Effects of Climate Change on Soil and Water Resources and sustainable solutions, C- Sustainable adaptation of agricultural systems on climate change, D- Agroecology as a tool for resilience to climate change.

All these elements will be studied by focusing on the impacts of climate change on agricultural production and on the general sustainability of adaptation techniques for a sustainable environment.

Keywords: Sustainable agriculture, soil, water resources, climate change, adaptation, environment

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