



## **Efficacy and efficiency of Agri-environmental payments in impacts of crops' management**

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Since the 90s, in Europe the Common Agricultural Policy (CAP) started to activate measures for improving the sustainability of European agriculture, these measures were systematized in 2000 with the tools of rural development, pursuing a synergistic environmental action through the agri-environmental payments. Since their definition, those payments were designed to ensure the protection, maintenance and enhancement of natural resources (water, soil, forests), biodiversity (species and habitat), and landscape.

In particular initiatives as set aside, afforestation, organic agriculture, integrated pest management, low input and precision agriculture have enriched the agricultural management practices.

The aim of this work is to check the trend between agro-environmental subsidies and environmental performance (based on Ecological Indicators and CO<sub>2</sub> evaluation) at country level in EU, in order to study the regulatory framework impact in addressing the European cropping system towards sustainability.

In particular soils and their land use can storage CO<sub>2</sub> as pool and so provide environmental services and, on the other hand the agricultural practices can stimulate the emission and the environmental footprint. Impacts (so called emissions/footprints and storage/environmental services) will be compared with the Agri-environmental Payments for calculating performances due to environmental management practices, supported by political initiatives.

Such analysis sustains the European policy makers towards more suitable agricultural policies and in particular it can address national sustainability through agricultural practices.