



Climate Changing Agriculture



Climate Changing Agriculture

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Editor: Dr. Georgios Koubouris



With the contribution of the LIFE + financial instrument of the European Union to the project “OLIVECLIMA-Introduction of new olive crop management practices focused on climate change mitigation and adaptation”



Dear Colleagues,

During the past year, a group of devoted people worked hard and with great enthusiasm to prepare this event and welcome you in Chania, Greece for the International Conference “Climate Changing Agriculture”. On behalf of all involved team mates I would like to express my pleasure for meeting you, having the chance to be informed of your research achievements and exchange views for climate change mitigation and adaptation.

This international conference is one of the final deliverables of oLIVE-CLIMA project. The oLIVE-CLIMA project (LIFE 11 ENV/GR/942), "Introduction of new oLIVE crop management practices focused on CLIMAtE change mitigation and adaptation" (oLIVE-CLIMA) is funded by 50% by the financial instrument Life + of the European Union and has a total budget of 3.649.373 € (EU contribution 1.822.436 €). It was launched in October 2012 and will be completed in September 2017. The project partners are the following: Development Agency of Eastern Thessaloniki's Local Authorities-ANATOLIKI S.A., Institute for Olive Tree, Subtropical Crops and Viticulture HAO DEMETER, Department of Soil Science of Athens HAO DEMETER, Soil and Water Resources Institute Former Land Reclamation Institute HAO DEMETER, University of Basilicata, Rodax Agro E.P.E., AGROTYPOS S.A., NILEAS Farmers Group, Agricultural Cooperatives of Peza, Agricultural Cooperatives of Mirabello.

This edition contains abstracts of papers presented in the conference following peer review and selection between a larger pool of submitted research works. Colleagues who are interested in publishing their work in the conference proceedings are invited to submit a four-page manuscript according to the instructions available in the website due 30th September 2017. Also, authors of selected papers will be invited to submit their full paper to be considered for publication in peer reviewed journals to be announced soon.

Many thanks to the LIFE programme for funding as well as all the involved institutions for co-funding and hard work. We wish you all a fruitful participation in the conference and a pleasant stay in Chania.

Kind regards,

Dr. Georgios Koubouris



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With the contribution of the LIFE + financial instrument of the European Union to the project “OLIVECLIMA-Introduction of new olive crop management practices focused on climate change mitigation and adaptation”

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ORAL PRESENTATIONS



Effect of different sustainable orchard management strategies on soil properties, nutrient uptake and soil microbiological aspects in an olive orchard

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Summary

The short-term (three years) effects of four sustainable orchard management schemes were evaluated in an experimental olive orchard in Crete, Greece, in terms of mineral content of soil and trees, soil microbial populations and mycorrhizal colonization. The study was performed between 2013 and 2015 in a forty-year-old olive plantation (*Olea europaea* L., cv. Kalamata). The orchard management schemes included: a) compost application (COMP), b) recycling of pruning material (PRUN), c) a mixed (legumes and *Avena sativa*) cover crop (COVER), d) combination of a, b and c (ALL), and e) control (CON), with no application of organic material and maintenance of weed-free orchard. Although alteration of basic soil properties including increase of organic matter and water and nutrient holding capacity are slow processes that require several years to be achieved, some positive effects were recorded during the first 3 years of application. Soil organic matter, was significantly increased in ALL treatment as compared to single-factor treatments, where differentiation from control was still not clear. Nitrate-N availability was higher in COMP and ALL treatments, while sole application of PRUN treatment seemed to act negatively in N availability as compared to control. Phosphorus availability was also increased in COMP and ALL treatments, while ALL treatment resulted in higher N and P content in olive tree leaves. A positive effect on mycorrhizal colonization was recorded in ALL treatment, while all sustainable schemes seemed to favor the populations of azotobacters and actinomycetes, as compared to the control. The adoption of the sustainable management schemes applied during this study, is in complete agreement with the European policy on the transition from a linear to a circular economy and could provide significant benefits for rural stakeholders and ecosystems in the long term.

Crop coefficients and water use efficiency in an apple orchard assessed by eddy covariance measurements