

Original Research Article

Long-Term Fertilization Effect On Agronomic Yield And Soil Organic Carbon Under

Semi-Arid Mediterranean Region

[Abstract should have less than 250 words and the title should be less than 12 words.](#)

[This abstract is very superficial on the content that the author is presenting, very poor science in it.](#)

ABSTRACT

Background, aim and methods. Management practices, including use of organic and inorganic fertilizers, significantly effects soil organic carbon (SOC) pool and agronomic yield. Crop yields in semi-arid regions of Turkey are declining because of depletion of SOC pool and the attendant decline in soil quality. Thus, this study was conducted to assess the effects of inorganic and organic fertilizer treatments (control, chemical fertilizer, animal manure, compost and compost + mycorrhizal inoculation) on SOC pool and agronomic yield in a long-term field experiment initiated in 1996 on the Mediterranean coast of Turkey. [Which design was used?](#)

Results. The SOC pool under different soil fertilizer management treatments was related to agronomic yield of pepper, wheat and maize. Because of an increase in biomass production, the SOC concentration increased with the application of organic and mineral (inorganic) fertilizers compared with the control [was the increase significant? at which level of significance?](#). Between 1996 and 2010, the SOC concentration in 0-15 cm depth of the unfertilized control decreased from 0.96 % to 0.87 % [p-value?](#). In comparison, SOC concentration increased in treatments amended with organic fertilizers such as manure, compost and compost+mycorrhizae. Agronomic yield was also significantly [p-value](#) affected by organic and inorganic fertilizer treatments, which declined over time in the control but increased in treatments receiving compost, manure and

25 compost + mycorrhizae. The negative regression was obtained in control treatments between SOC
26 and the wheat yield ($Y = -1.18x + 3.84$, $R^2=0.205$) and maize yield ($Y = -1.28x + 7.56$,
27 $R^2=0.016$). [the \$R^2\$ is very low](#)

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28 Additional research is needed to assess the role of fertilizers on SOC concentration and its
29 effects on agronomic yields under long-term soil and crop management systems especially with
30 mycorrhizal inoculation. [No clear conclusions](#)

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