

## عنوان مقاله:

Effect of Incorporation of some Wastes on a Wheat-Guar Rotation System of a Desert Soil: 1. Soil Physical and Chemical Properties

## محل انتشار:

اولین کنفرانس بین المللی و چهارمین کنفرانس ملی بازیافت مواد آلی در کشاورزی (سال: 1390)

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## خلاصه مقاله:

Improving levels of organic matter in desert soils is necessary for their cultivation. Two-year study (2008-2010) was conducted on a sandy clay loam soil at experimental research farm of the Omdhman Islamic University, Sudan to determine the effect of application of crop residues, sewage sludge and humic substances on selected soil properties in wheat-guar crop rotation system. Treatments were: recommended inorganic fertilizer (125 kg N ha<sup>-1</sup> and 92kg P ha<sup>-1</sup>), recommended inorganic fertilizer with crop residues, crop residue, sewage sludge (10 t ha<sup>-1</sup>), humic substances soil conditioner (200 L ha<sup>-1</sup>) and control. Results showed that soil physical properties were not significantly changed except soil water holding capacity. Application of crop residues with recommended fertilizer and sewage sludge for three seasons significantly increased cation exchangeable capacity and organic carbon by 57.15 to 60.95 % and 61.0 to 65.2 %, respectively. Moreover, combined application of crop residues with recommended inorganic fertilizer and sewage sludge had significantly decreased topsoil pH. It could be concluded that judicious combined application of organic wastes with inorganic fertilizers could be a useful practice in sustaining fertility of poor sandy soils.

## کلمات کلیدی:

crop residues, sewage sludge, wheat, guar, soil properties

## لینک ثابت مقاله در پایگاه سیویلیکا:

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