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Title of Thesis: Distribution of Nutrients and Salinity in Soils of (Egypt and Tunise) Under Recently Environment Change

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Abstract:

The current work is undertaken to study distribution salinity and comparison with year 2011 under recently environment changes, to knowing the changes in distribution salinity and nutrients through evaluated some chemical and physical properties in year 2011 comparison with year 1986 in studied soils. Whereas FAO (2003) showed that about 900000 ha suffer from salinization problems in cultivated irrigated areas, 6% of Northern Delta region are salt- affected and classification the environment changes to (climate factors- soil factors- human factors). Fourteen profiles (thirty nine samples) were taken to represent soils on different layers. This work was carried out on some environmental changes soils adjacent to Idku lake, of Egypt to study their profile homage by using some statistical measure, i.e., weight means and specific range. The disturbed soil samples were taken from each soil profile at the different depths. The soil samples were analyzed for determining particle size distribution, saturation percent, electric conductivity EC, soluble ions, soil pH, calcium carbonate content CaCO3, cation exchange capacity CEC, organic matter OM and available macro-micronutrients. Too, the plant samples were analyzed for determining macro and micronutrients. Data showed that of the studied soils EC dSm-1 in year 2011 was decrease, in compared with year 1986. The reversal that soluble cations in most profiles were predominated by Na+ followed Ca2+ or Mg2+ in year 2011 decrease, in compared with year 1986. Potassium was in minor amounts in all samples in year 2011 and 1986. Data show that in surface layers of the studied soil macronutrients, available nitrogen was increase in year 2011, in compared with 1986, whereas available nitrogen was improved in year 2011, the range in year 2011 was between 52.88 to 74.32 mgkg-1, however year 1986 was between 1.2 to 10.3mgkg-1. Available phosphor in year 2011 was decrease, in compared with 1986, whereas the range in year 2011 was between 1.9 to 7.0 mgkg-1, however year 1986 was 4.9 to 44.8 mgkg-1. Too, the results show that available potassium in year 2011 was general trend in the majority of the studied profiles to highest,whereas range was between 128 to 801 mgkg-1.
Available iron extracted with DTPA in surface layers of the studied soil in year 2011 was increase in mostly profiles, in compared with 1986, whereas in year 2011 range was between 2.0 to 32.6 mgkg-1 and in year 1986 range was 2.0 to 14.2 mgkg-1. Available manganese in surface layers of the studied soil in year 2011 was decrease, in compared with 1986. Whereas in year 2011 range available manganese was between 2.1 to 5.5 mgkg-1 and in year 1986 range was 8 to 30mgkg-1. Available zinc in surface layers of the studied soil in year 2011 was decrease, in compared with 1986, whereas in year 2011 range was between 0.45 to 2.32 mgkg-1 and in year 1986 range was between 1.0 to 10.6mgkg-1. Available copper in surface layers of the studied soils in year 2011 was increase, in compared with 1986, whereas in year 2011 range was between 1.0 to 19.6 mgkg-1 and in year 1986 range was between 3.2 to 11.8 mgkg-1. Calcium carbonate content were increase in profiles year 1986, whereas range between 1.33 to 10.17 %, in compared with year 2011, whereas range between 0.9 to 2.0 %. However cation exchange capacity were simple decrease in profiles year 1986, whereas range between 26.2 to 51.7 cmolckg-1, in compared with year 2011 range between 40.7 to 55.7 cmolckg-1. Also, organic matter content were in profiles year 1986 increase in compared with year 2011, whereas range was in year 1986 between 0.85 to 2.43 %, however in year 2011 was between 0.3 to 0.5 %. Too, data show that soil pH were increase in year 2011 in mostly profiles, in compared with year 1986. Data in year 2011 showed that pH values which was moderate pH level. Data showed that particle size distribution and saturation percent in surface layers (0-30cm) of the studied soils were between year 1986 and 2011, whereas ratio coarse sand in year 1986 was range of between 0.15 to 7.9%, in compared with year 2011 was range of between 0.9 to 5% and fine sand in year 1986 was range of between 11.96 to 43.95%, in compared with year 2011 was range of between 3.05 to 22.01%. Also, data showed that rate of silt in year 2011 was the range of between 19.05 to 39.11%, in compared with year 1986 was the range of between 5.9 to 39.75%, also showed that the rate of clay in year 2011 was range between 39.97 to 74.05%, in compared with year 1986 was range between 35.85 to 59.98%.

**Keywords:** Salinity; Nutrients (Macro and Micronutrient); Environment changes (Soil Factors; Climate factors and human activity). In this work; Ag NPs with particle size about 37 nm was prepared by chemical reduction method in aqueous phase; CdTe QDs.