

Effect of Land Management Practices on Soil Characteristics and Sustainable Productivity (East of the Nile Delta)

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THE STUDIED area extends from Ismailia Canal to Cairo- Suez desert road. This study was undertaken to clarify the effect of the different land management practices (*i.e.*, drainage system, irrigation water, irrigation systems, and different long-term soil management practices) on soil characteristics, soil classification and sustainable productivity in these areas.

Results show that due to the different land management practices the main affected soil characteristics are effective root zone depth, soil texture, salinity and alkalinity, organic matter content, nutrient availability and formation of cemented and indurated layers.

In terms of soil classification according to Soil Survey Staff (1999) changes due to the applied land management practices are sometimes strong enough to make changes at different levels of soil classification.

Regarding land productivity, many agricultural constraints were related to the mismanagement practices. These constraints are water logging, salinization and alkalization, formation of salic, gypsic and petrogypsic horizons within root zone depths. These constraints decrease the C_i values and yield % for the cultivated soils.