

## Reuse of Wastewater from the Treated Water Pre-treatment Plant for Agricultural Purposes

**Authors :** Aicha Assal, El Mostapha Lotfi

**Abstract :** According to data from the Directorate General of Meteorology (DGM), the average amount of precipitation recorded nationwide between September 1, 2021, and January 31, 2022, is 38.8 millimeters. This is well below the climatological normal of 106.8 millimeters for the same period between 1981 and 2010. This situation is becoming increasingly worrying, particularly for farmers who are finding it difficult to irrigate their land and feed their livestock. Drought is greatly influenced by the effects of climate change, mainly caused by pollution and greenhouse gases (GHGs). The aim of this work is to contribute to the purification of wastewater (considered as polluting) in order to reuse it for irrigation in agricultural areas or for livestock watering. This will be achieved once physico-chemical treatment tests on these waters have been carried out and validated. The main parameters analyzed in this study, after carrying out discoloration tests on domestic wastewater, include COD (chemical oxygen demand), BOD5 (biochemical oxygen demand), pH, conductivity, dissolved oxygen, suspended solids (SS), phosphate, nitrate, nitrite and ammonium ions, faecal and total coliforms, as well as monitoring heavy metal concentrations. This work is also aimed at reclaiming the sludge produced by the decantation process, which will enable the waste to be transformed and reused as compost in agriculture and gardening.

**Keywords :** wastewater, irrigation, COD, COB, SS

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