

Evaluation of Irrigation Well Water Quality in Riyadh Region, Kingdom of Saudi Arabia

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ABSTRACT. Agricultural activities in Saudi Arabia depend on surface and groundwater as a main source for irrigation. Water quality is considered as a main factor in sustaining agriculture. It affects the physical and chemical properties of the soil and plant grown in the soil. As the demand for water increases as a result of increase in agriculture area in the Kingdom, low water quality has become a noticeable problem in irrigation water. The purpose of this study is to investigate the ground water quality in Riyadh region. To achieve this objective, water samples from 200 wells were collected around Riyadh region. EC, pH and TDS were determined, and based on the values of EC these well waters were divided in four groups. The water of the chosen wells was evaluated taking first sample at the beginning of the year and other three samples during the year every four months. Chemical analysis was carried out to estimate EC, pH, TDS, SAR, SSP, adjSAR, cations and anions. Waters were classified according to their salinity and sodicity. Results showed that the relationship between TDS and EC for 200 samples was as follows: