Effect of Salinity on Agriculture in Iraq

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Abstract:

Iraq is doing its utmost to utilize its land and water resources properly. With the progress of irrigation the problem of salinity has arisen. The need for drainage has been realized only as an outcome of the deterioration and the dangerously decreasing fertility and productivity of agricultural lands. Drainage projects already executed have introduced the problems of deterioration of the water quality of the larger rivers. To reclaim the saline land and to prevent deterioration of water and cultivated land, research projects concerning water quality control measures, soil profile characteristics, ground-water conditions, farm management, irrigation, economic analysis and financial programs must be taken up. The irrigation practice in the river basins is to be improved.

Subject Headings: Land use | Irrigation | Deterioration | Water reclamation | Salt water | Salinity | Agriculture | Developing countries | Iraq | Middle East | Asia

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I. Introduction. Saline agriculture is defined as the cultivation of tolerant crops using saline soil and/or saline water for irrigation. This kind of agriculture had been considered in many countries in arid and semiarid region. There are indications both historical and recent that saline agriculture is a viable alternative to conventional agriculture. Effect of Soil Salinity on Growth of Millet in Lysimeter Experiment. tolerance offers a scope to integrate this tolerant crop into appropriate management programs to improve the productivity of the saline soils. It is found that millet crop accumulate 224 kg ha-1 of salt by 8 t ha-1 yield (Gritsenko and Gritsenko, 1999). The Iraq Salinity Assessment synthesizes the results of the Iraq Salinity Project, a research partnership between five Iraqi ministries and national agencies and an international team of researchers, led by ICARDA, specialized in land and water management, crop improvement and plant breeding, and socio-economics. This research builds on previous work and technical studies done in Iraq and on the expertise of Iraqi agencies working to promote agricultural development over the past decades. It provides solutions based on the analysis of historical data and new data compiled in the Iraq Salinity Assessment. The genesis of soil salinity in Iraq is attributed to the salt content of the irrigation water and salt contents of groundwater. The salinity of Tigres River increases from 0.44 dS m-1 at the Turkish – Iraqi border to more than 3.0 dS m-1 at Ammarah province (south of Iraq), and from 1.0-1.3 dS m-1 for Euphrates River at Syrian – Iraqi border to 2.5–4.6 dS m-1 by the time it reaches to Shaat. Al-Arab (Wu et al., 2014). Extent of Salt-affected Soils in Iraq. Information on the extent and characterization of salt-affected soils in Iraq is limited and widely scattered. Effect of soil management practice on chemical and physical properties of soil from Great Musaib projects. Thesis- College of Agriculture- University of Baghdad (In Arabic). [8] Al-Zubaidi A. (1992).