

Potato Production under Brackish Water and Compost Use

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Abstract : Potato yield reduction and soil salt accumulation are the main obstacles of using brackish water in irrigation. This study was carried out at Al- Balqa` Applied University research station, to investigate the impact of compost use on potato production and salt accumulation in the soil under brackish water, during 2014 growing season. Whole tubers of three imported potato cultivars (Spunta, Faluka and Ammbetion) were planted in pots with different soil and compost percentages (0, 20, 40, 60, 80, and 100%) and were irrigated with three water salinity levels (1.25, 5 and 10 ds/cm). A split-split plot design was used, where potato cultivars were arranged in the main plots, the brackish water treatments were in the sub-main and the soil amended treatments were in the sub-sub plots. Potato yield was generally decreased only when pots were irrigated by water of 10 ds/cm salinity compared with 1.25 and 5 ds/cm. Drainage water salinity, however, was increased as compost percentage increased. Nevertheless, salt accumulation in the growing media was decreased as the compost percentage level increased. Therefore, it can be concluded that brackish water, up to 5 ds/cm can be used to irrigate potato especially, when organic amendments were added to the soil to promote plant growth, yield and reduce salt accumulation.

Keywords : brackish water, compost, potato, salt accumulation

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