

ABSTRACT

BIOMASS PRODUCTION AND NUTRITIONAL VALUE OF SALT-TOLERANT FORAGES IRRIGATED WITH SALINE- SODIC DRAINAGE WATER: FIELD AND GREENHOUSE STUDIES

On the Westside San Joaquin Valley, subsurface drainage systems are needed to prevent water-logging and salt accumulation in soils in order to maintain their agricultural productivity over the long term. Disposal of agricultural drainage water (DW) is subject to strict environmental regulations due to its high selenium content. Reuse of saline drainage water for irrigation is attractive because it can reduce the volume of DW requiring disposal and, at the same time, produce saleable crops. Salt-tolerant forages are top candidates for DW re-use systems therefore research on suitable forage species is critical to their success. Potential forages were evaluated under DW irrigation on a commercial farm near Five Points, CA and in a greenhouse experiment. Results demonstrated that most of the candidate forages had acceptable forage quality, but productivity and salt-tolerance differed among species. Monitoring sulfur, selenium and molybdenum accumulation in the forage is necessary for feeding to ruminants.

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