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Performance of sub-surface drainage system installed at Appikatla region of Andhra Pradesh

M. SRINUIVASULU, A. RAMA RAO, M. RAGHU BABU, G. RAVI BABU AND **H.V. HEMA KUMAR**

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See end of the Paper for authors' affiliation

Correspondence to :

M. SRINUIVASULU
College of Agricultural Engineering, BAPATLA (A.P.) INDIA

ABSTRACT : The increase in salinity caused by the rise in water table and lack of drainage is considered as a major environmental problem that is threatening the irrigated agriculture and its sustainability. Estimates of areas under soil salinity and water logging varied from one source to another. The National Commission on Irrigation estimated that 4.84M ha area has been affected by soil salinity and alkalinity in the country. Out of the total geographical area of 274.4 lakh ha in the Andhra Pradesh state, 3.4 and 8.1 lakh ha, are waterlogged and salt-affected, respectively. To test and demonstrate the drainage need for control of soil salinity and water logging in heavy soils, as well as to compare the performance of different drain materials, a study has been initiated by AICRP on management of salt affected soils and use of saline water in agriculture, Bapatla centre at Appikatla, of Krishna Western Delta, where most of the delta area suffers from high water table and soil salinity leading to very low crop productivity. Under the project, an area of 7.5 ha area was selected for the project activities based on pre-drainage investigations and subsurface drainage (SSD) systems were designed and executed during 2002. This research article describes the design parameters for the design and execution of the system and as well the performance under various spacing and drain material used.

KEY WORDS : Sub-surface drainage system, Drainage

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