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GROUNDWATER MOUNDING ANALYSIS BY FINITE ELEMENT MODEL

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Abstract:

This paper presents the results of application of the Syke's Finite Element Model for predicting the extent of groundwater mounding under a large leaching bed. Reasonable comparison of the experimental field data and the computed results was obtained for the input parameters using both the Sky's Finite Element Model and the Hanlush 's Mathematical Model. A critical evaluation of the Syke 's Model and the Hantush Model with regard to their usefulness in predicting the groundwater mound under varying field conditions revealed that whereas the Hantush's Model is a more practical tool for routine calculations, the Syke's Model can be used as a refined design tool, if the soil properties at a potential site can be measured with reasonable accuracy. The Syke's Finite Element Model has more flexibility of varying the input data and is specially useful for analysis of sites in which natural infiltration or soil heterogenetics are important.

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