# Modeling Soil Water Dynamics during Vertical Drainage: A Comparative Study. (A03-suleiman124934-Poster)

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## **Abstract:**

CERES, Suleiman and Ritchie (2002), and Suleiman (2002) vertical drainage models have been compared to numerical simulations of more than 300 different soils initially saturated for two days of drainage. CERES vertical drainage model assumes that the daily change of soil water content (SWC) due to drainage equals to 0.55 of the drainable soil water (initial SWC minus drainage limit, DL). Drainage limit is the SWC at the end of a drainage cycle (close to field capacity). Suleiman and Ritchie (2002) calculate the daily change of SWC by multiplying the drainable soil water by a coefficient that is function of DL. Suleiman (2002) developed a new model that simulates the daily change of SWC using a ratio between initial SWC minus DL and DL. The three models require initial SWC and DL as inputs. CERES generally overestimated SWC for sandy soils and underestimated SWC for clay soils for the first and second day of vertical drainage. Suleiman and Ritchie (2002) underestimated the SWC for all soils for first day however, its second day SWC estimates were comparable to the numerical results. Suleiman (2002) model produced comparable first and second day SWC to the numerical SWC estimates.

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