## **Evaluation of Water Uptake Terms in a Water and Solute Transport Model. (S01-hao161224-Oral)**

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## Abstract:

Accurate estimation of root water uptake is essential to evaluate and compare irrigation management practices. Several exiting empirical water uptake models were included in a water and chemical transport model to assess the effect of root width and depth on water uptake. Three irrigation methods, flood, sprinkler and drip irrigation, were simulated. It was shown that these water uptake models resulted in similar water uptake with different root width for the three irrigation methods. Longer root depth could increase water uptake with the similar potential transpiration rate for these models. Different root configurations, hemisphere, cylinder, and inverted cone also were simulated to test root distribution effect on water uptake. There was no significant difference between hemisphere and cylinder distribution. Inverted cone root distribution could reduce water uptake for all simulated water uptake models.

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