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Stable isotope and chamber method to separate evapotranspiration components of Nile Delta farmlands

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Nile delta is faced with future water shortage. To make use of available water, it is necessary to reduce consumptive use of evaporation of farmlands. To investigate into possible strategies for this aim, we estimated evapotranspiration (ET) by eddy correlation method, and separated (ET) into soil evaporation (E) and transpiration (T) by chamber and stable isotope ratios measurements. From summer intensive measurements, preliminary results on T/ET ratio relation with LAI, irrigation methods, farmland management, and soil moisture were obtained.

Keywords: Chamber method, Stable isotope ratio, Mulching, Drip irrigation