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Comment on hess-2022-120

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Community comment on "Comparing water uptake patterns of two plantations using stable isotopes in Chinese Loess Plateau" by Yongsheng Cui et al., Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2022-120-CC1>, 2022

The manuscript entitled "Comparing water uptake patterns of two plantations using stable isotopes in Chinese Loess Plateau" focused on root water uptake depth of two planted tree species in a typical semi-arid area with deep soils. The main results were that in the relatively dry year, one of the two species absorbed higher proportion of deep soil water than the other species, while there was no clear difference between the two species in the relatively humid year. Moreover, based on water balance method (neglected surface runoff), the latter species was estimated consumed more soil water than the former one, especially during the humid year.

According to my knowledge, as well as the references used in the current manuscript (especially in the discussion section), there are already plenty of this similar studies (even focused on the same species) published during the last several years. And I cannot agree with the authors' statement (in the Introduction section) that "studies concentrated in trees are relatively rare". More importantly, the main result revealed by the current study, proportionally different reliance on shallow and deep soil water by different species in dry conditions, has long been revealed by previous similar studies.

In my opinion, the most important contribution of the current study was that water consumption by the selected two species was further estimated based on water balance method. On the other hand, this estimation was quite rough since all rainfall was assumed to recharge soil water, without any surface runoff. In fact, as both of the two sampling plots had slope gradient around 22 degree, surface runoff was probably happened especially during the relatively humid year.

Thus, I suggest rejection of this manuscript.