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Reply on CC1

Yongsheng Cui et al.

Author 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-AC1, 2022

Thanks for your comments. As you mentioned, the isotope techniques has been widely used in the exploration of plant water uptake modes in recent years. *Robinia pseudoacacia* has been widely studied with the comparisons of shrubs and grass. However, *Pinus tabuliformis*, is also one the most planted evergreen species in Chinese Loess Plateau, there are not many studies on the responses of *Pinus tabuliformis* to different water conditions. And many researchers have found that the water consumption of *Pinus tabuliformis* was less than that of *Robinia pseudoacacia. Pinus tabuliformis* may be the main tree species for water conservation in the future, as the deep dry soil layers was observed in Chinese Loess Plateau. Thus, the exploration and comparisons of water uptake modes and water consumption between *Robinia pseudoacacia* and *Pinus tabuliformis* are still of scientific significance. We apologize for the inaccurate description in the introduction "studies concentrated in trees are relatively rare", and we will further rewrite this paragraph for clarify.

On the other hand, the throughfall and surface runoff was observed during our study. however, the proportion of surface runoff to precipitation was less than 5% according to our observation since 2016. Thus, with the neglect of surface runoff (Page 7 Line 145), we calculated the forest evapotranspiration based on the water balance equation. If the amount of surface runoff was needed for a more accurate estimation of plant water consumption, we would rewrite this section.

Thanks again for your comments. In case any question arises, please do not hesitate to contact us.