

***Interactive comment on “Speculations on the application of foliar  $^{13}\text{C}$  discrimination to reveal groundwater dependency of vegetation, provide estimates of root depth and rates of groundwater use” by Rizwana Rumman et al.***

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This is a fascinating study looking at the relationship between leaf traits and depth to groundwater. It is a valuable contribution to the literature because the authors have shown that leaf isotopes and venation patterns can be used as indicators of groundwater use. With ongoing extraction of groundwater across the world, simple methods for monitoring vegetation water use patterns in groundwater dependant ecosystems are very useful. The insights are also ecologically informative and the paper is well-written. I have one question for the authors. The relationships between DTGW and delta 13 C

C1

(Fig. 3c,d) and LVD (Fig. 6b) are shown as broken stick relationships but the relationship between delta 13 C and LVD (Fig. 7b) is shown as a linear regression. How do the authors account for the difference in curve shapes and is a linear regression the best model for Fig. 7b? Minor comments A description of components of equations 1 and 2 would be helpful. I would prefer to see arrows instead of red lines on Fig. 1 as the red bars cover some of the data. In Fig. 2, different points are shown as Sept or April but in the text, they are described as wet and dry. I suggest explaining wet and dry seasons in the caption of Fig. 2. The same applies for Fig. 3.

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C2