# Article information:

Variations in water sources used by winter wheat across distinct rainfall years in the North China Plain  
<https://schlr.cnki.net/en/Detail/index/GARJ2021_4/SJES5484E194319DE4BCDC92A7AEF226FCC4>

# Article summary:

1. A field experiment of winter wheat was conducted in the North China Plain to investigate the responses of root water uptake (RWU) to soil water availability across distinct rainfall years.

2. Stable isotopes (δ18O and δD) in precipitation, irrigation water, xylem water, and soil water were used to determine the soil water evaporation line (SWEL), the line-conditioned excess (lc-excess), and the proportion of RWU from different soil layers with the MixSIAR model.

3. Results showed that wheat mainly utilized soil water from the 0–20 cm and 20–60 cm layers during the greening to filling stage under dry year conditions, while it mainly utilized the 0–20 cm soil layer under wet and ordinary years.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy as it provides a detailed description of a field experiment conducted in North China Plain to investigate root water uptake (RWU) responses to soil water availability across distinct rainfall years. The article also presents results from stable isotope analysis which are used to determine SWEL, lc-excess, and RWU proportions from different soil layers with MixSIAR model.

However, there are some potential biases in this article that should be noted. For example, there is no mention of any potential risks associated with conducting such an experiment or any counterarguments that could be made against its findings. Additionally, there is no discussion of any other methods that could have been used for this experiment or how they might have impacted its results. Furthermore, there is no mention of any other factors that could have influenced RWU such as temperature or humidity levels which could have had an effect on the results obtained from this experiment.

In conclusion, while this article provides a detailed description of a field experiment conducted in North China Plain and presents results from stable isotope analysis which are used to determine SWEL, lc-excess, and RWU proportions from different soil layers with MixSIAR model; it does not discuss any potential risks associated with conducting such an experiment or any counterarguments that could be made against its findings nor does it mention any other factors that could have influenced RWU such as temperature or humidity levels which could have had an effect on the results obtained from this experiment.

# Topics for further research:

* Potential risks associated with field experiments
* Counterarguments against field experiment findings
* Alternative methods for field experiments
* Impact of temperature on root water uptake
* Impact of humidity on root water uptake
* Factors influencing root water uptake

# Report location:

<https://www.fullpicture.app/item/ca8cfb023f51d968a33f2d2ee4de8477>