

Root carbon-nutrient balance determines downy oak survival and recovery from drought

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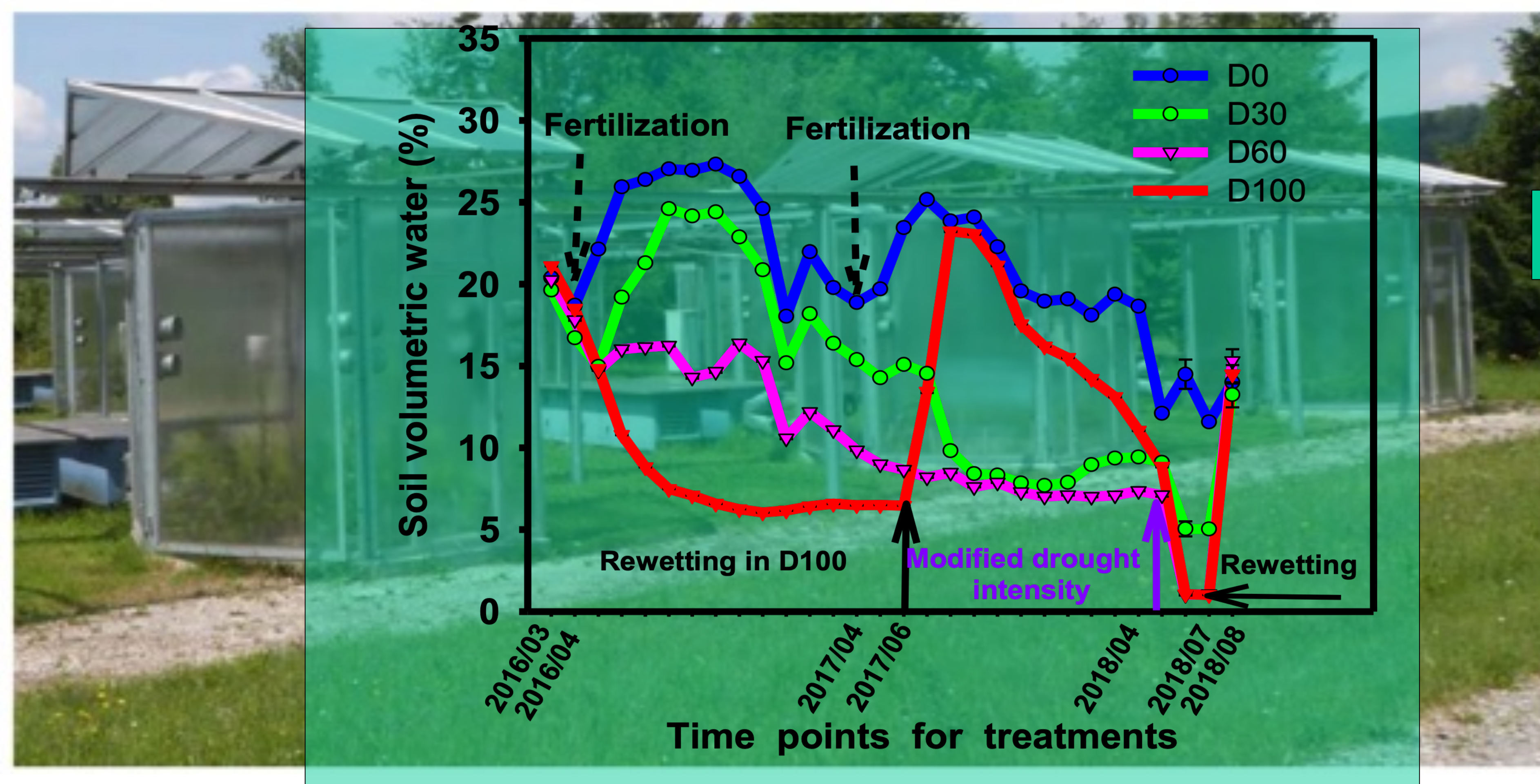
Target: Will nutrients addition mitigate the negative effect of drought on downy oak growth and promote recovery after drought release?

Experiment design

Four water regimes and two fertilization levels

Rewetting for 28 days

Open top chamber in Swiss Federal Institute for Forest, Snow and Landscape Research

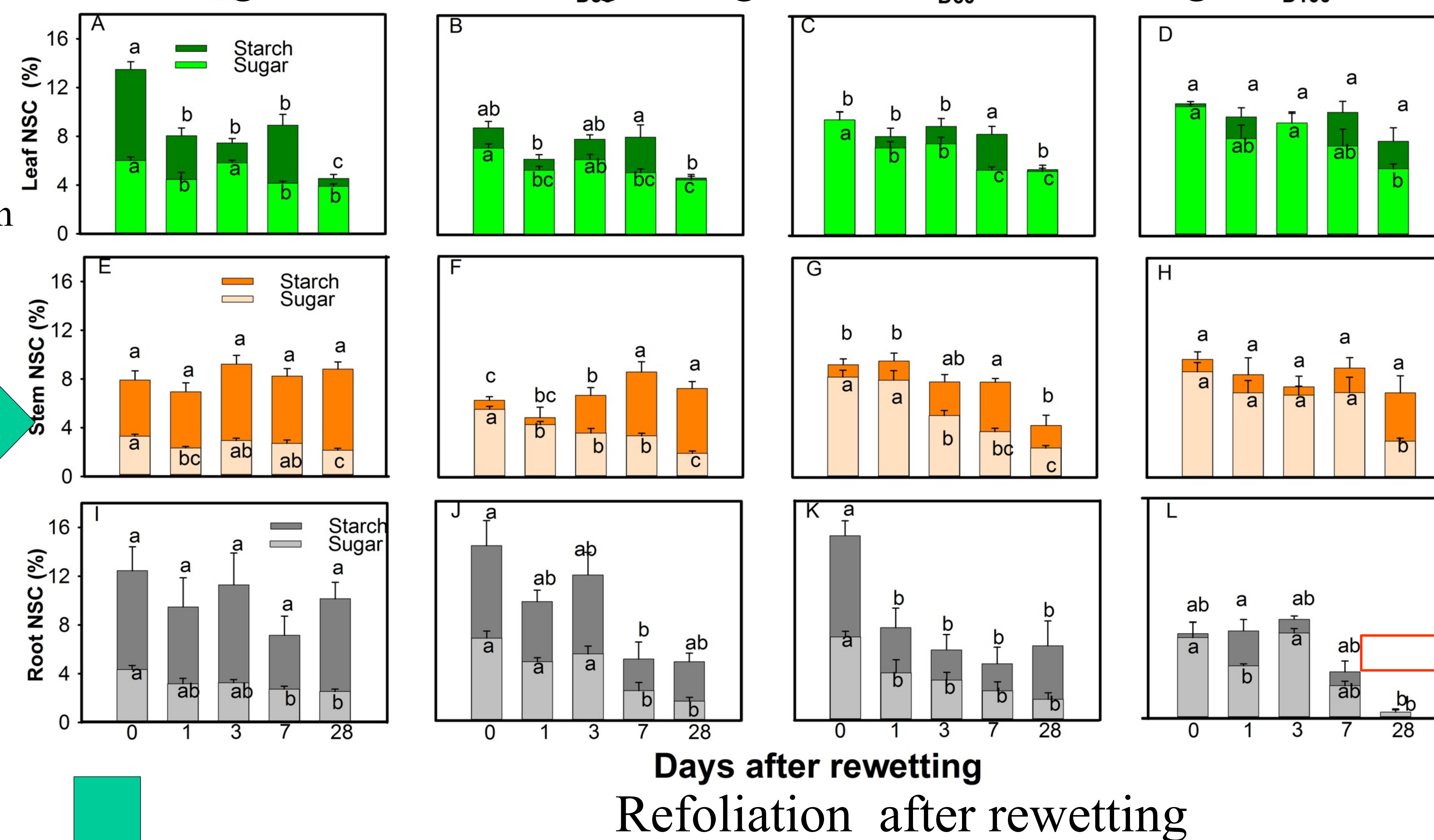


Conclusions

1. Downy oak saplings were not nutrient limited that drought stressed trees could not benefit from the additional soil nutrients.
2. *Q. pubescens* survive from drought through starch conversion to soluble sugar.
3. Repeated drought events will lead to root carbon starvation and further mortality.

Main results

Changes in NSC during drought and after rewetting



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