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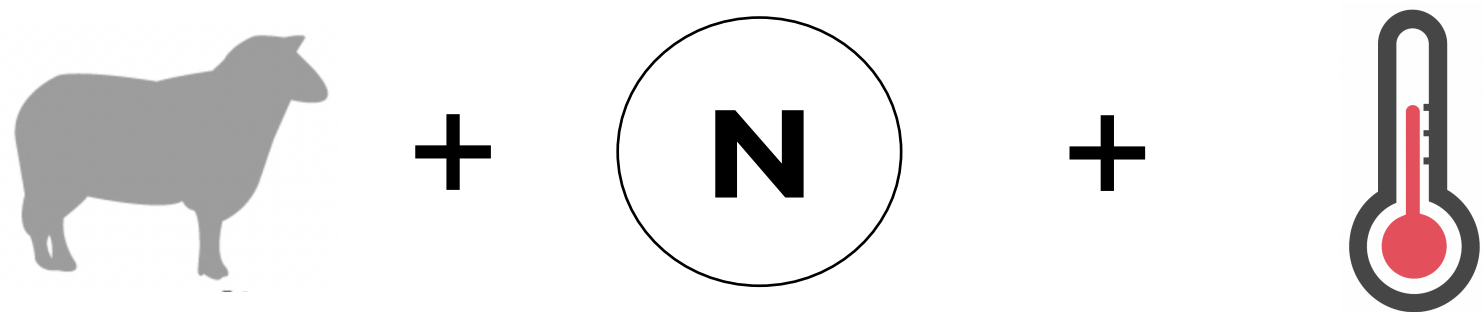
# Warming, nitrogen and grazing affect root traits!



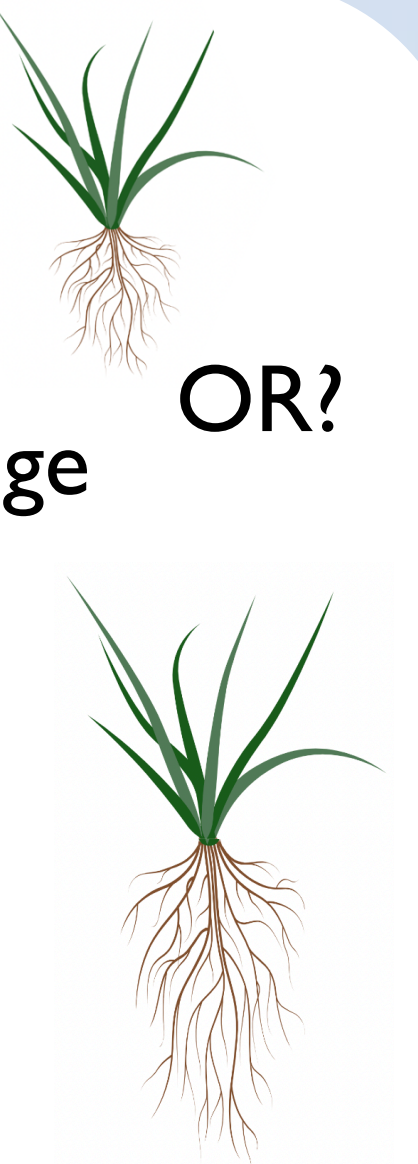
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## I. Why are roots important?

- **Global change drivers** such as grazing, increased nitrogen and warming can turn grasslands that are carbon sinks into carbon sources.

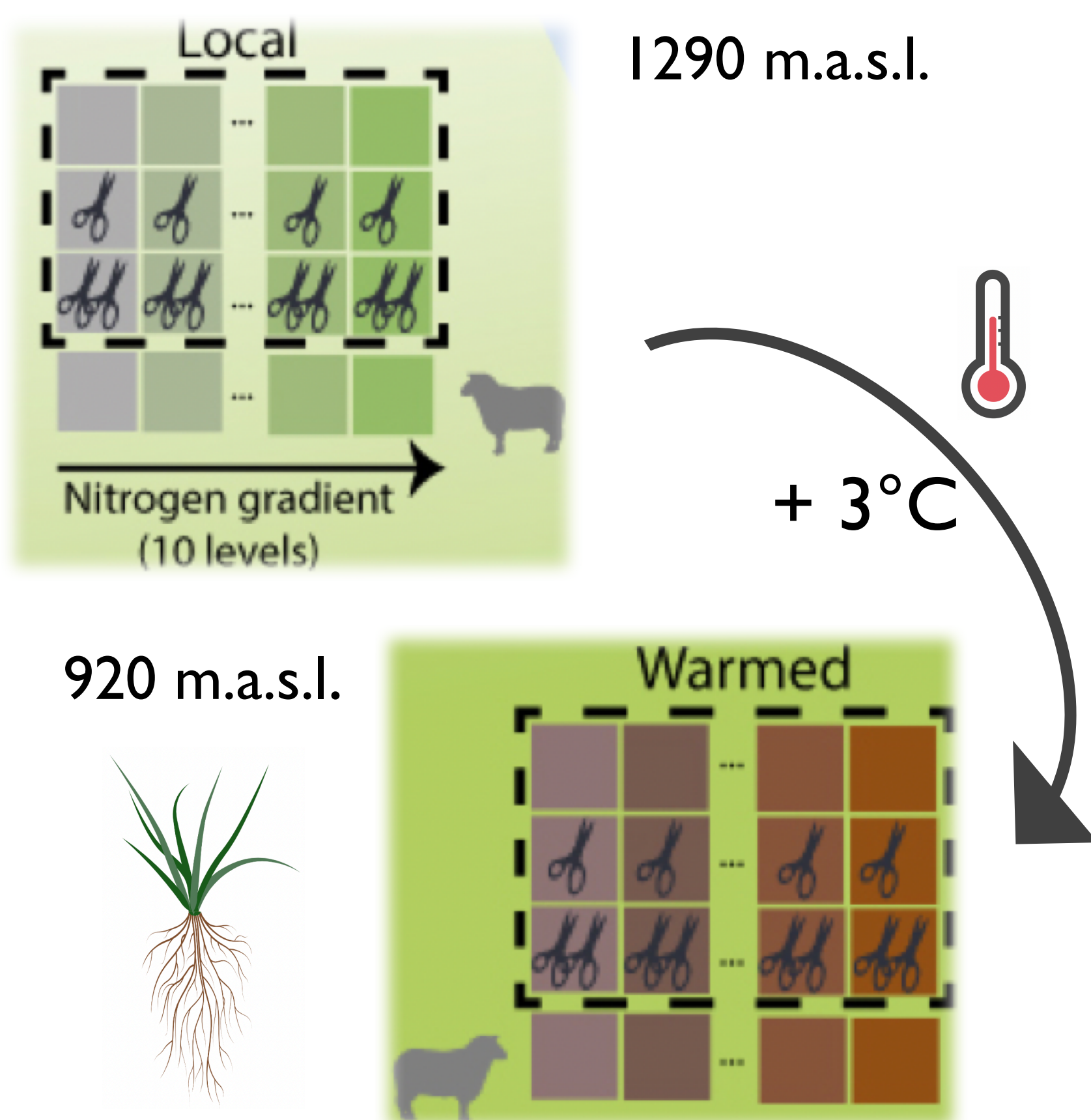


- **Root traits** are a powerful tool to understand change in plant communities due to global change on ecosystem functioning (e.g. carbon source).
- **Is specific root length (SRL) and root dry matter content (RDMC) effected by warming, grazing and nitrogen?**



## 2. How to test this?

- **Root traits** were estimated using root ingrowth cores.
- Samples were **warmed** by moving to a lower location, added **nitrogen** and illustrated **grazing** by cutting grass.



- Washed roots were weighted, scanned, dried and weighted again.

## 3. Effect on SRL and RDMC

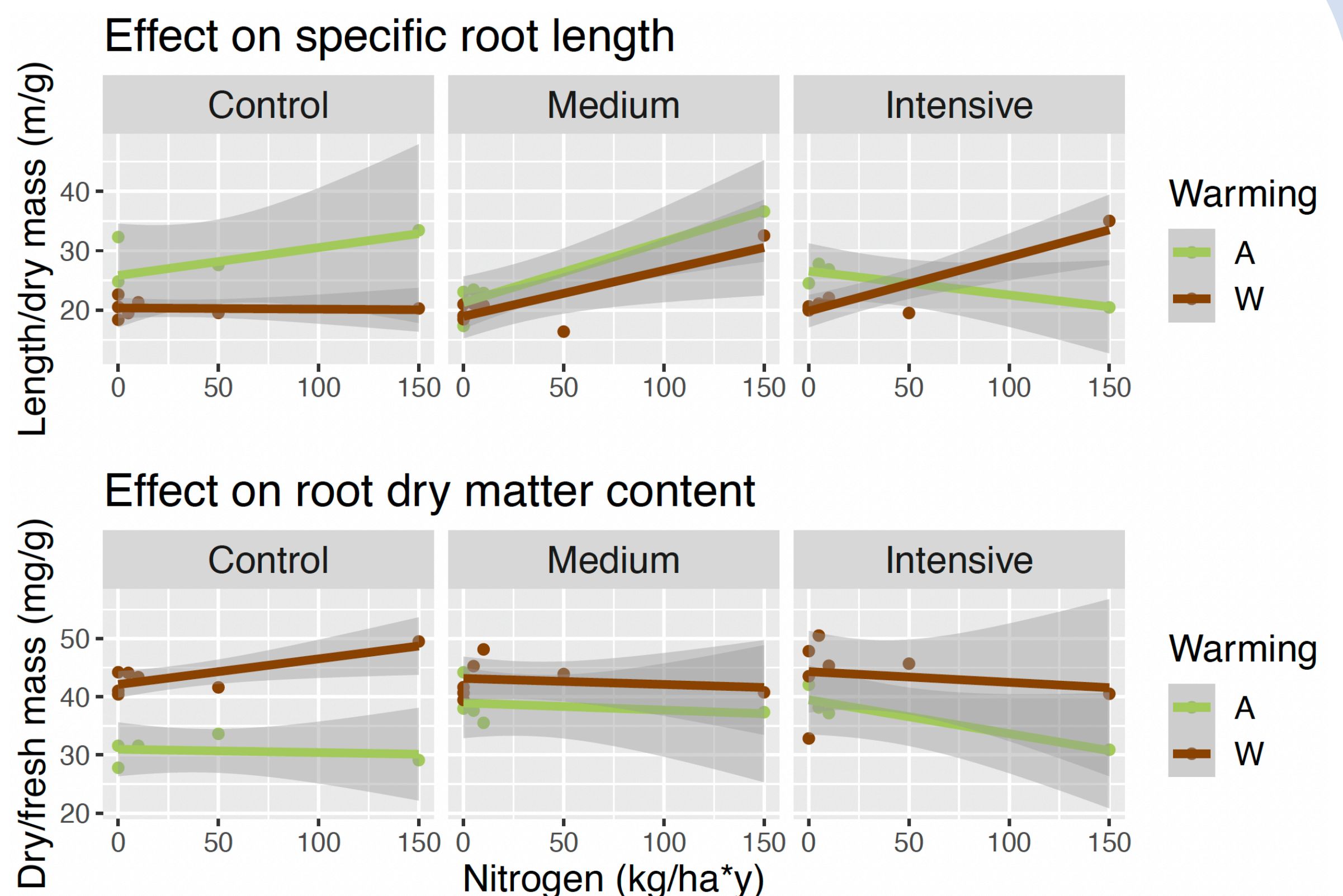


Figure 1. Illustrates how SRL and RDMC are affected by different N levels, divided by grazing (control, medium and intensive) and the warming treatment (W) or no warming treatment (ambient, A).

**N** Increase of N significantly increased **SRL** by 49 %.

Warmer climate and increased N, significantly increased **SRL** by 39 % **N** +

Intensive grazing, significantly increased **RDMC** by 7.5 %

Warming significantly increased **RDMC** by 17 %

## 4. What does this mean?

This study suggests that warming and grazing pressure can lead to more conservative plant growth strategies, with slower growth and higher investment in robust tissue.

