

## PROJECT INFORMATION

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**Project title:** Multi-dimensional plant stoichiometry

**Project ID:** 132

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## PROJECT DESCRIPTION

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Conventional plant stoichiometry is usually restricted to the element C, N, and P and their relations can easily be expressed in three ratios, N:C, P:C; and P:N. However, plants use and need a much larger number of elements and trying to understand them by using their ratios leads to a vast number of values making it difficult to see patterns. This project aims at testing alternative, more aggregated variables to understand the importance of elements beyond C, N, and P for plant performance. Exactly how to define such variables and testing them is still part of the project development.

I have already high-quality data from well-controlled laboratory studies done in the late Torsten Ingestad group with plant growth responses to nutrient availability (see Ågren and Weih 2012). I have also data from agricultural fertilization experiments Hamnér et al. 2017). The IPC data would be an extremely useful addition by providing data from a natural gradient with tree species under different levels of N deposition.

### References

Ågren, G. I., M. Weih. 2012. 'Plant stoichiometry at different scales: element concentration patterns reflect environment more than genotype', *New Phytologist.*, 194: 944-52.

Hamnér, K. W., M. Eriksson, J. Kirchmann, H. (2017). Influence of nitrogen supply on macro- and micronutrient accumulation during growth of winter wheat. *Field Crops Research* 213: 118–129