

# Auxin transport as a key regulator of root developmental responses to nitrogen in *Arabidopsis thaliana* and *Casuarina glauca*

## PERSPECTIVES

In *Arabidopsis*, additional work is scheduled to determine whether NRT1.1 governs initial stages of lateral root development, in addition to modulating the growth rate of these roots as a function of nitrate availability (time-lapse studies of NRT1.1 expression in lateral root primordia, coupled with determination of abortion rate). The effect of nitrate on the expression of the other auxin carriers will be carried out in a NRT1.1 mutant genetic background, to determine whether this effect is dependent on NRT1.1. In *Casuarina*, further work is planned to analyse the role of auxin during the infection process. We will use a 15K *Casuarina* microarray to study changes in gene expression in nodules treated with an inhibitor of auxin influx (NOA) versus non treated nodules. This will help us identify symbiotic genes regulated by auxin. Moreover, we recently generated a dominant negative version of an auxin response regulator (CgIAA7-DN). We will express this gene in *Frankia* infected cells to inhibit auxin responses specifically in those cells and study the effects on the symbiotic interaction.

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