

T H E
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ON THE COVER



Symbiotic nitrogen fixation is a high energy consumption procession, legumes must has a machansim to balance growth and symbiotic nodulation. We show that the Compact Root Architecture 2 (MtCRA2) receptor-like kinase is essential to promote the initiation of early symbiotic nodulation and to inhibit root growth in response to low-N.stress On the one hand, MtCEP1-activated MtCRA2 receptor represses transcriptionally the expression of the *MtYUC2* gene, which is correlated with reduced auxin content in roots, and increased main root growth and decreased lateral root formation. On the other hand, the MtCEP1-activated MtCRA2 receptor transphosphorylates MtEIN2, which inhibits MtEIN2 cleavage depending on N-availability and thus interrupts the ethylene signaling pathway which inhibits rhizobial infections under low-N, making the plant roots more actively susceptible to rhizobium. The image shows the transgenic hairy roots overexpressing *MtYUC2* and marked by GUS staining. The image was photographed by Fugui Zhu.

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