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Title:

**A comparison of lateral root patterning among dicot and monocot plants**

Authors:

Yuqin Chen<sup>1,2</sup>, Yuanming Xie<sup>1,2</sup>, Caihong Song<sup>1</sup>, Lulu Zheng<sup>1</sup>, Xiong Rong<sup>1</sup>, Letian Jia<sup>1</sup>, Long Luo<sup>1</sup>, Chi Zhang<sup>1</sup>, Xiaoxiao Qu<sup>1</sup>, Wei Xuan<sup>1</sup> §

<sup>1</sup> State Key Laboratory of Crop Genetics and Germplasm Enhancement and MOA Key Laboratory of Plant Nutrition and Fertilization in Lower-Middle Reaches of the Yangtze River, Nanjing Agricultural University, Nanjing 210095, PR China

<sup>2</sup> These authors contributed equally to this work.

§ Corresponding author: wexua@njau.edu.cn

**Highlights**

- Agar-gel culture system enables analysis on root growth of different plants
- LRs are regular spaced in various plant species
- Auxin biosynthesis and transport involve in root development
- Plant root responses differently to nitrogen and phosphate starvation

**Abstract:**

Lateral root branching along the primary root involves complex gene regulatory networks in model plant *Arabidopsis*. However, it is largely unclarified whether different plant species share a common mechanism to pattern the lateral root along the primary axis. In this study, we assessed the development pattern of lateral root among several dicot and monocot plants, including *Arabidopsis*, tomato, *Medicago*, *Nicotiana*, rice, and ryegrass by using an agar-gel culture system. Our results reveal a

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