Accepted Manuscript

Enhancing phosphorus uptake efficiency through QTL-based selection for root system architecture in maize

Riliang Gu, Fanjun Chen, Lizhi Long, Hongguang Cai, Zhigang Liu, Jiabo Yang, Lifeng Wang, Huiyong Li, Junhui Li, Wenxin Liu, Guohua Mi, Fusuo Zhang, Lixing Yuan

PII: \$1673-8527(16)30170-9

DOI: 10.1016/j.jgg.2016.11.002

Reference: JGG 494

To appear in: Journal of Genetics and Genomics

Received Date: 19 May 2016

Revised Date: 9 September 2016 Accepted Date: 6 November 2016

Please cite this article as: Gu, R., Chen, F., Long, L., Cai, H., Liu, Z., Yang, J., Wang, L., Li, H., Li, J., Liu, W., Mi, G., Zhang, F., Yuan, L., Enhancing phosphorus uptake efficiency through QTL-based selection for root system architecture in maize, *Journal of Genetics and Genomics* (2016), doi: 10.1016/j.jgg.2016.11.002.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



ACCEPTED MANUSCRIPT

- Enhancing phosphorus uptake efficiency through QTL-based selection for root system
- 2 architecture in maize

3

- 4 Riliang Gu ^{a,b,1}, Fanjun Chen ^{a,1}, Lizhi Long ^a, Hongguang Cai ^{a,c}, Zhigang Liu ^a, Jiabo Yang ^a,
- 5 Lifeng Wang ^{a,d}, Huiyong Li ^d, Junhui Li ^b, Wenxin Liu ^b, Guohua Mi ^a, Fusuo Zhang ^a, Lixing
- 6 Yuan a,*

7

- 8 ^a Key Lab of Plant-Soil Interaction, MOE, Center for Resources, Environment and Food
- 9 Security, College Resources and Environmental Sciences, China Agricultural University,
- 10 Beijing 100193, China
- b College of Agronomy and Biotechnology, China Agricultural University, Beijing 100193,
- 12 China
- ^c Institute of Agricultural Resource and Environment, Jilin Academy of Agricultural Sciences,
- 14 Changchun 130033, China
- 15 d Cereal Crops Research Institute, Henan Academy of Agricultural Sciences, Zhengzhou
- 16 450002, China

17

- 18 ¹ These authors contributed equally to this work
- ^{*} Corresponding author. Tel: 86-10-62734424, Fax: 86-10-62731016
- 20 Email address: yuanlixing@cau.edu.cn

21

22

Abbreviations

- ABL, advanced backcross line; CRL, crown root length; CRN, crown root number; LP, low
- phosphorus; MAS, marker-assisted selection; NP, normal phosphorus; PRL, primary root
- length; PUE, phosphorus use efficiency; PupE, phosphorus uptake efficiency; PutE,
- 26 phosphorus utilization efficiency; QTL, quantitative trait locus; RDW, root dry weight; RIL,
- 27 recombinant inbred line; RLD, root length density; RSA, root system architecture; SRL,
- seminal root length; SRN, seminal root number.

Download English Version:

https://daneshyari.com/en/article/5585880

Download Persian Version:

https://daneshyari.com/article/5585880

<u>Daneshyari.com</u>