***Supplementary Information for***

**Smart root foraging strategy guides high adaptability of tea (*Camellia sinensis* L.) plants to potassium heterogeneity**

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**Figure S1.** A device for collecting root exudates from tea plant roots. An aerial view of the device for collecting root exudates **(A)**; Stereogram of the whole root exudate collection device **(B)**.



**Table S1.** Primers used in qRT-PCR experiments.

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| Gene ID | Forward 5'–3' | Reverse 5'–3' |
| TEA007938 |  GCTTTGGGGAGATGCTGA  |  GAGTTTTCCGACGAACGAC  |
| TEA028696 |  ATCGTGAATCAGGTGGTATCT  |  GCATCCCTCAACAAAACAG  |
| TEA006847 |  AGGTGTTGCTTCCAAAATG  |  TGGCGAATGAGTTCTGCTA  |
| TEA010322 |  TAAACTATTACCCAAAATGCCC  |  AGAAAACCGCCCACGAAA  |
| TEA034003 |  ATTACGGACATTGAGATACACTT  |  CACTCCATACTGAGAACCTTTG  |
| TEA026325 |  GGATGGGATGTCAAGTATGC  |  TCTTCTGAGTGTTGCGAGTG  |
| TEA021599 |  TTCCACGATTGCTTTGTTC  |  TGGCAGCCTCTACCACTTC  |
| TEA019040 |  CGCACTATGACCCACTCTTC  |  TGTCCCTCAGTAAGTTCCATC  |
| TEA008079 |  TTTGAACCCATCAGCGACT  |  CGAAACTCCTTGTCCACGT  |
| TEA008459 |  CCCTACAGCCATAGTTACCG ' |  TGTTGTTTTCCACCTTAGCC  |
| TEA030958 |  TCATCAACGCCAAGAACAC  |  GGTCGAGAACAGGGAGGG  |
| TEA014414 |  TCTTGGTCGTCTTGCTTCC  |  CAGCCTTTATGTCTTCTCCAC  |
| TEA012890 |  TTTCGTCAATGGGAGTGC  |  CAGGTTCCACCAACGCTAT  |
| TEA025206 |  GGTTGGTCTTGGTTCAGGG  |  TCTAATGCGGGTTGCTCT  |
| TEA023936 |  AATGGCTGTGACGGTTCTG  |  CATCTTGCCGCCCTACTG  |
| TEA012804 |  TGGCATCTCGCCCGTAAA  |  CGCCCTTTCTCCCGCTCT  |
| TEA012891 |  ATCTTCCCAGACCCACAAT  |  AGCACCACTCAAAGCCAC  |
| TEA029495 |  TCCTCGTCCGACCACTCT  |  GGATTTTCACGGGTTCTTG  |
| TEA023084 |  TGGAGGAGCAGGGACTAAA  |  TTGCTTATGCCACTGTTGAT  |
| TEA005755 |  CTGTGAACAAAGCCATCTCC  |  CACGGCATAGTTTATCCCTC  |

**Figure S2.** Verification of the transcript levels obtained from RNA-seq using the qRT-PCR approach. Correlation analysis of the gene expression levels obtained from RNA-seq and qRT-PCR. Values are the log2 ratio (treatment / control) of gene expression. The ratios (treatment / control) were as follows: Sp.SK / U.SK, Sp.NK / U.NK, and U.SK / U.NK. All qRT-PCR assays were performed with three biological replicates.

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**Figure S3.** Temporal variations of organic acid contents of root exudates. Data are means ± SE (n=3).

