Identification of a novel QTL for Chlorate Resistance in Rice (*Oryza sativa* L.)

Agriculture - MDPI

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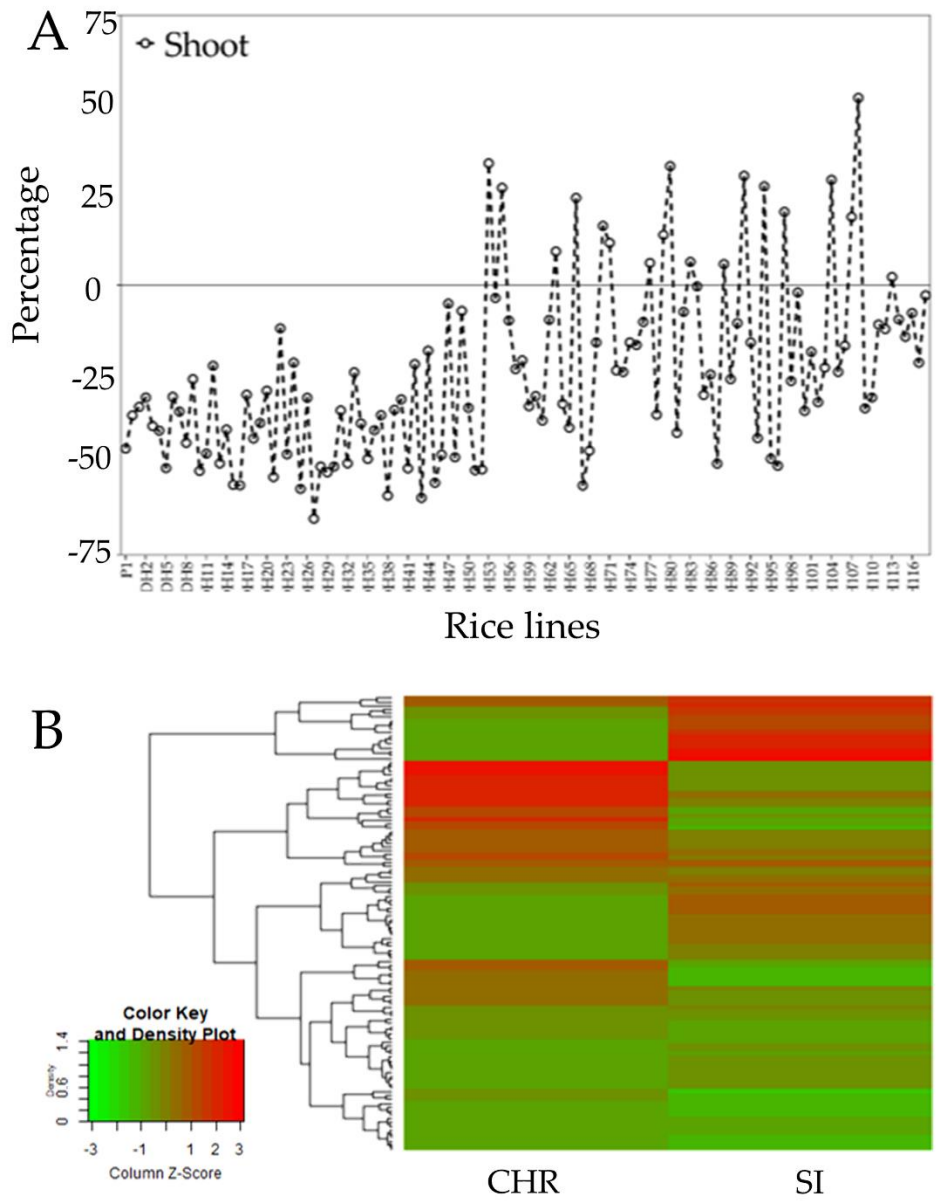

Figure S1. Shoot growth pattern relative to chlorate resistance. **A** The change in shoot growth of DH lines under $KClO_3$ treatment expressed in percentage. **B** Heat map showing the shoot inhibition density relative to the chlorate sensitivity level. Heat map was plotted using *ggplot2* function in RStudio v1.2.5042. CHR: chlorate resistance; SI: shoot inhibition percentage.

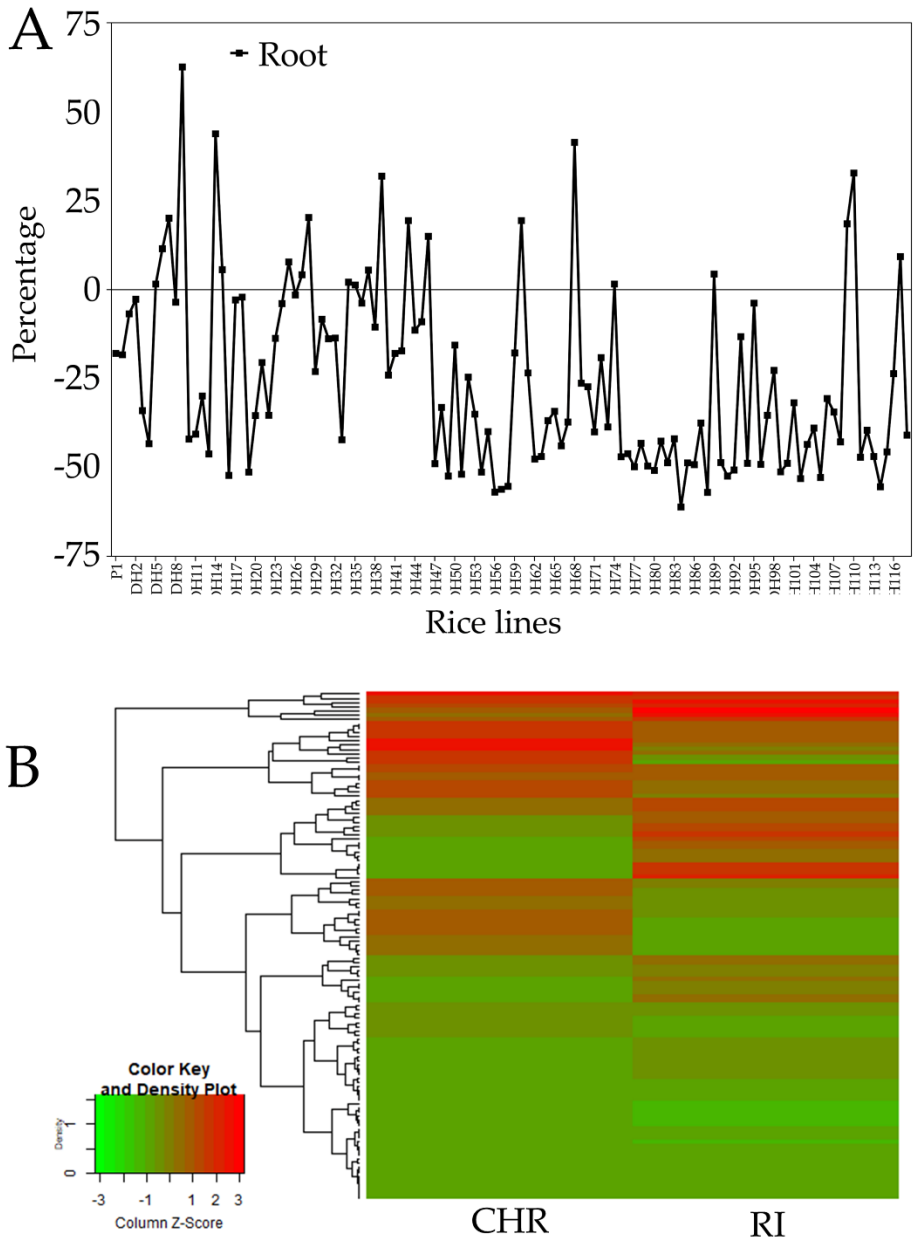

Figure S2. Root growth pattern relative to the level of chlorate resistance. **A** Optimal clustering of DH population into three clusters based on their root inhibition percentage relative to sensitivity level towards $KClO_3$. **B** Change of root growth expressed in percentage. **C** Heat map showing the pattern of root growth of 117 DH and their parental lines under $KClO_3$ treatment and normal conditions. Heat map was generated using *ggplot2* package in RStudio v1.2.5024.

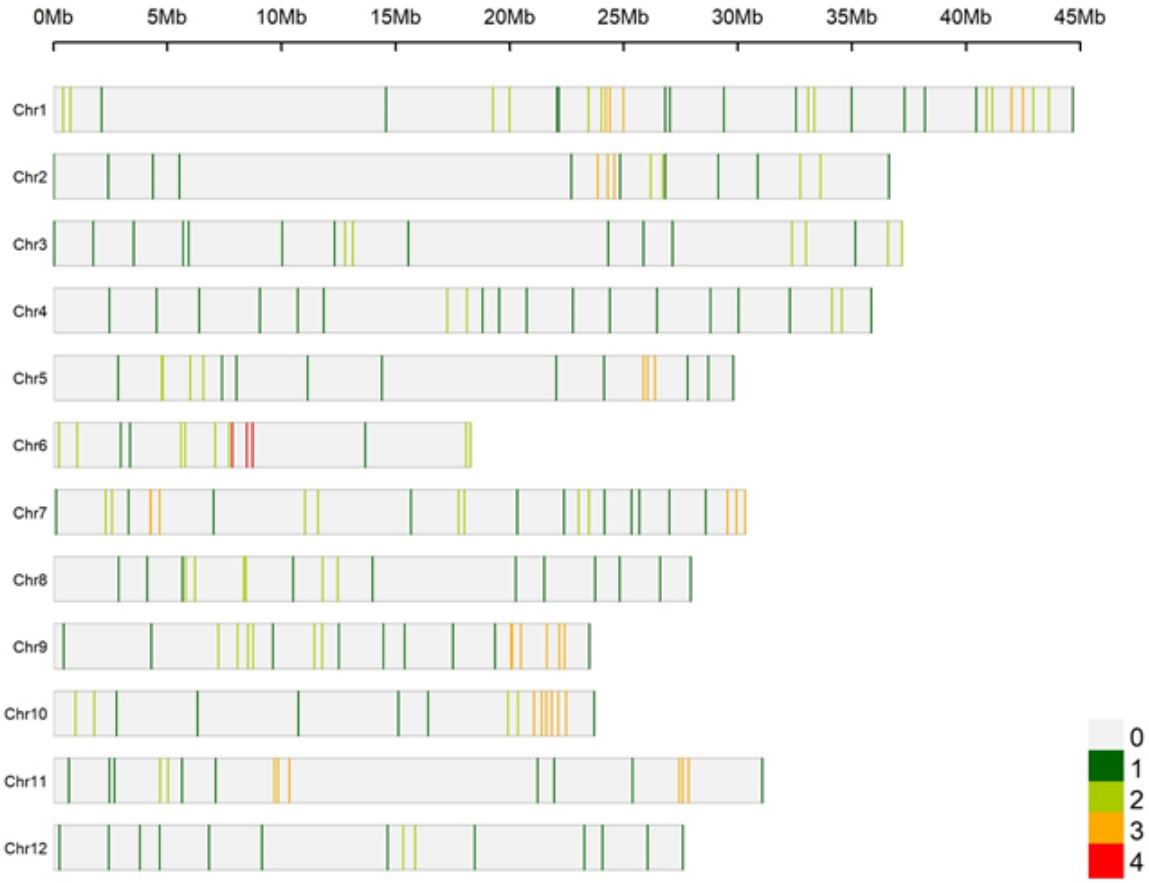

Figure S3. Density of KASP markers across the rice genome.

Table S1. Sequences of InDel makers

No	Marker ID	Forward (5′-3′)	Reverse (5′-3′)
1.	OsNR-IND2194	GTGCTGACCTCACGTCCATC	GTAGCCCGAGCTTCTGGTC
2.	OsNRT-M10-22	TCGCGTGACAAATATGACAT	CCACTGCAAGATCCAAGTCT

Table S2. Statistical output of analyzed traits in DH population.

Traits	Sample Size	Mean	Variance	StdError	Skewness	Kurtosis	Minimum	Maximum	Range	P-value
SLC	117	9.0786	8.3943	2.8973	0.3139	-0.7269	3.9	16.8	12.9	0.008395
SL_KClO3	117	6.3744	2.0933	1.4468	-0.2229	0.5975	2.4	10.5	8.1	0.3653
RLC	117	9.1863	8.3084	2.8824	0.1105	-0.9	3.9	16.1	12.2	0.00512
RL_KClO3	117	6.3402	1.8433	1.3577	-0.2143	0.2798	2.2	9.5	7.3	0.3793
SI	117	-24.488	604.6066	24.5887	0.8359	0.1876	-64.9	52.1	117	1.37E-06
RI	117	-24.96	687.21	26.2147	0.9023	0.2146	-61.1	62.6	123.7	0
CHR	117	25.4991	926.7655	30.4428	0.9613	-0.281	0	100	100	0.0000

SLC: shoot length under water treatment, SL_KClO3: shoot length under potassium chlorate treatment, RLC: root length under water treatment, RL_KClO3: root length under potassium chlorate treatment, SI: shoot inhibition, RI: root inhibition, and CHR: chlorate resistance.

Table S3. Correlation analysis between traits

	SLC	SL_$KClO_3$	RLC	RL_$KClO_3$	SI	RI	CHR
SLC	1						
SL_$KClO_3$	0.331935481	1					
RLC	-0.506949108	-0.097694391	1				
RL_$KClO_3$	0.307038856	0.229308525	0.258426441	1			
SI	0.65849787	-0.186272323	-0.446573486	0.104926939	1		
RI	-0.608698467	-0.190025132	0.641449752	-0.290840216	-0.446029772	1	
CHR	0.251227624	0.245883921	-0.478644404	-0.081612185	0.012596314	-0.359243633	1

SLC: shoot length under water treatment, SL_$KClO_3$: shoot length under potassium chlorate treatment, RLC: root length under water treatment, RL_$KClO_3$: root length under potassium chlorate treatment, SI: shoot inhibition, RI: root inhibition, and CHR: chlorate resistance.