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*Breeding for Bio-ethanol Production in *Lolium perenne* L.*

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SUPPLEMENTARY MATERIAL

Table A. Molecular marker frequencies for *Lolium* test set (LTS) parents derived from single strand conformational polymorphism (SSCP) haplotype analysis. *Cinnamate 4-Hydroxylase* (*LpC4H*); *Cell-wall Invertase 1* (*LpcwINV1*); *Soluble-acid Invertase 1:4*; (*LpsaINV1:4*); *Cell-wall Invertase 2* (*LpcwINV2*); *Soluble-acid Invertase 5* (*LpsaINV5*); *6-glucose-fructose fructosyl transferase* (*Lp6G-FFT*).

Locu s	<i>LpcwINV1</i>			<i>LpsaINV1: 4</i>		<i>LpcwINV2</i>			<i>LpsaINV5</i>			<i>Lp6G- FFT</i>		<i>LpC4H</i>			
Allel e	27 7	30 7	31 0	25 1	25 2	19 2	24 9	25 0	26 4	26 7	27 0	26 5	28 0	32 0	32 1	32 2	32 3
LTS0 1	27 7	30 7		25 1	25 2		24 9	25 0		26 7	27 0	26 5	28 0	32 0	32 1		
LTS0 5		30 7	31 0	25 1		19 2	24 9		26 4			26 5	28 0		32 1	32 2	
LTS0 9		30 7		25 1	25 2	19 2	24 9		26 4	26 7		26 5	28 0	?	?		
LTS1 7		30 7			25 2	19 2	24 9		26 4			26 5			32 1		
LTS1 8		30 7		25 1	25 2		24 9		26 4	26 7		26 5	28 0				32 3

? = haplotype not distinguishable by SSCP analysis

SUPPLEMENTARY MATERIAL

Table B. Allele frequency data observed in the high WSC (C2+), low WSC (C2-) and C2 random control populations

<i>Lpcw/INV1</i> allele frequency						
Allele	307	310	277 & 307	277 & 310	307 & 310	
Observed low	9	1	11	3	6	
Observed high	8	2	6	3	10	
Observed random	13	4	2	4	5	
<i>Lpsa/INV1:4</i> allele frequency						
Allele	251	252	251 & 252			
Observed low	21	0	9			
Observed high	6	14	9			
Observed random	16	1	13			
<i>Lpcw/INV2</i> allele frequency						
Allele	192	249	250	192 & 249	192 & 250	249 & 250
Observed low	4	10	1	7	1	7
Observed high	0	16	0	5	0	9
Observed random	2	6	3	2	8	5
<i>Lpsa/INV5</i> allele frequency						
Allele	264	267	270	264 & 267	264 & 270	267 & 270
Observed low	10	3	1	6	3	7
Observed high	5	6	0	9	6	2
Observed random	9	3	3	8	6	1
<i>Lp6G-FFT</i> allele frequency						
Allele	265	280	265 & 280			
Observed low	17	3	10			
Observed high	15	3	12			
Observed random	10	3	17			
<i>LpC4H</i> allele frequency						
Allele	320	321	322	323	321 & 322	
Observed low	10	11	3	0	1	
Observed high	6	9	0	10	0	
Observed random	10	12	1	5	0	