

Table S1. Means and proportional changes from one cycle to the next (and their average over the cycles) of the top 10% of phenotypic selection index ( $\mathbf{PSI}_E$ ) and genomic selection index ( $\mathbf{GSI}_E$ ) estimated simulated values. The total averages of  $\mathbf{PSI}_E$  and  $\mathbf{GSI}_E$  values are shown in the last line of the table. To convert the proportional changes to percentages, subtract 1 from the proportional change value and multiply the result by 100.

Cycle	Means		Proportional changes <sup>a</sup>	
	$\mathbf{PSI}_E$	$\mathbf{GSI}_E$	$\mathbf{PSI}_E$	$\mathbf{GSI}_E$
1	120.5	38.4	--	--
2	143.3	48.6	1.19	1.27
3	146.2	58.7	1.02	1.21
4	161.3	67.8	1.10	1.16
5	170.6	76.3	1.06	1.13
6	169.8	84.1	1.00	1.10
7	169.1	92.3	1.00	1.10
Average	154.4	66.6	1.06	1.16

<sup>a</sup> Obtained as  $\frac{\mathbf{PSI}_{E_{i+1}}}{\mathbf{PSI}_{E_i}}$  and  $\frac{\mathbf{GSI}_{E_{i+1}}}{\mathbf{GSI}_{E_i}}$   $i = 1, 2, \dots, 7$ .