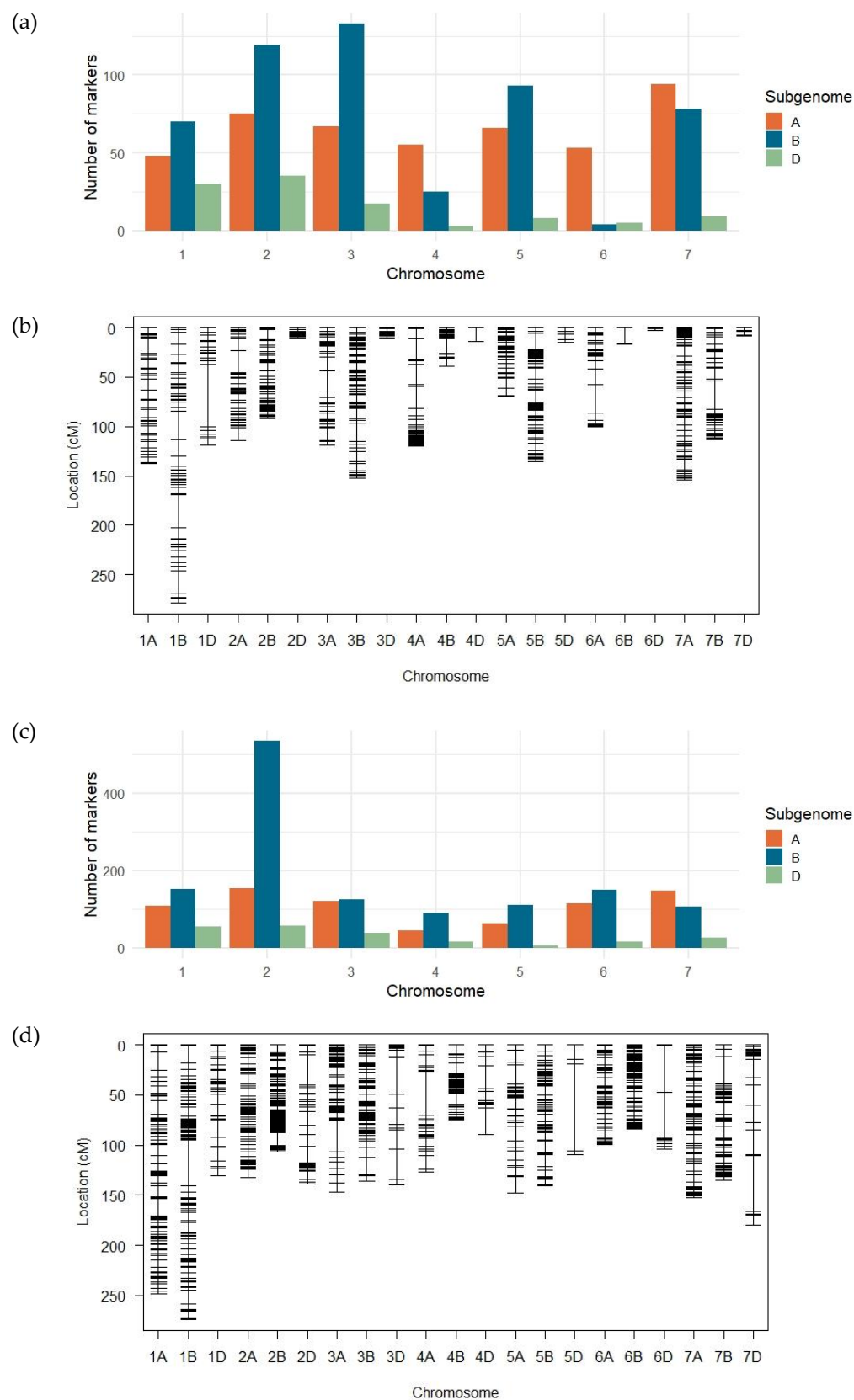
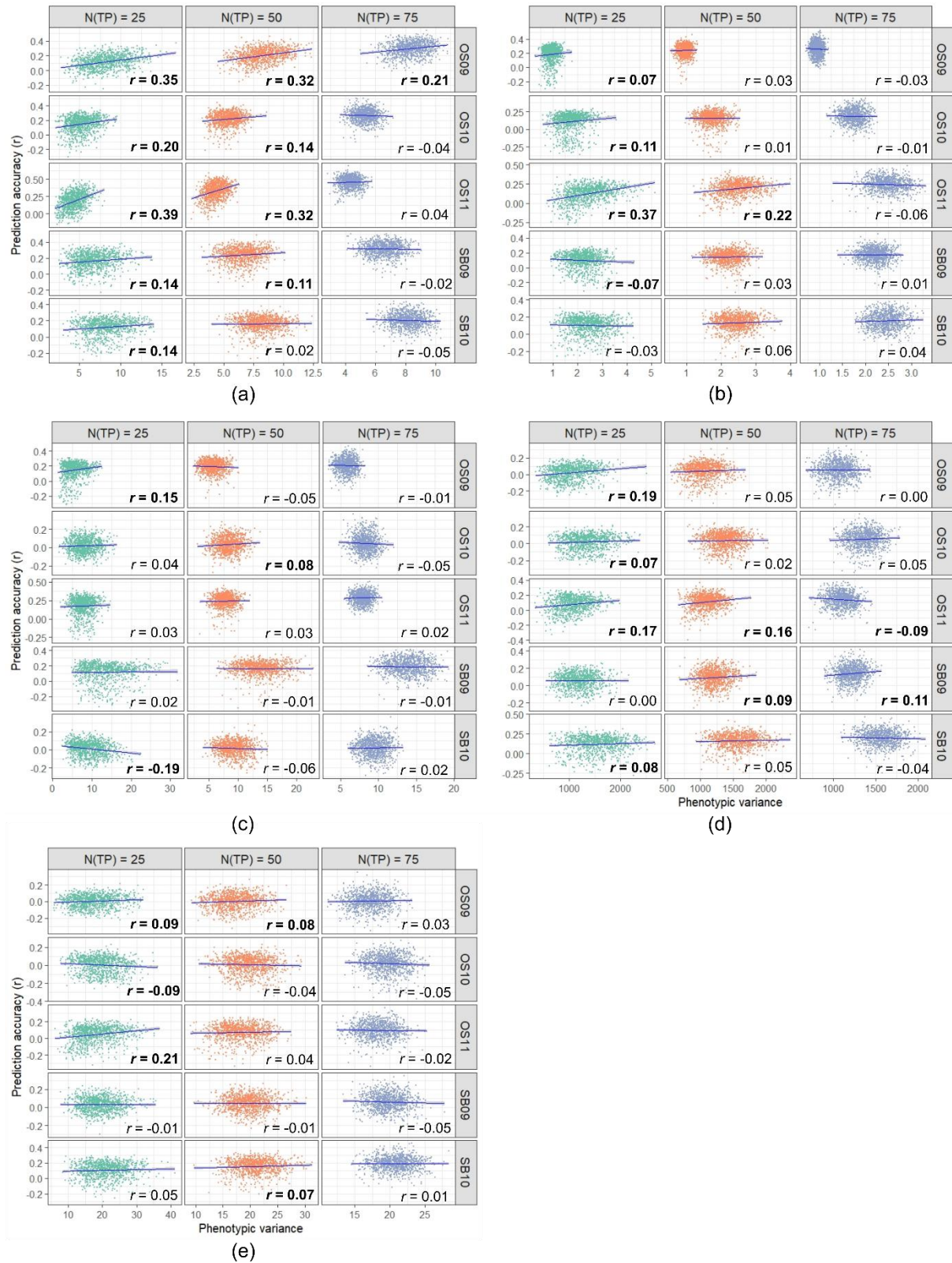


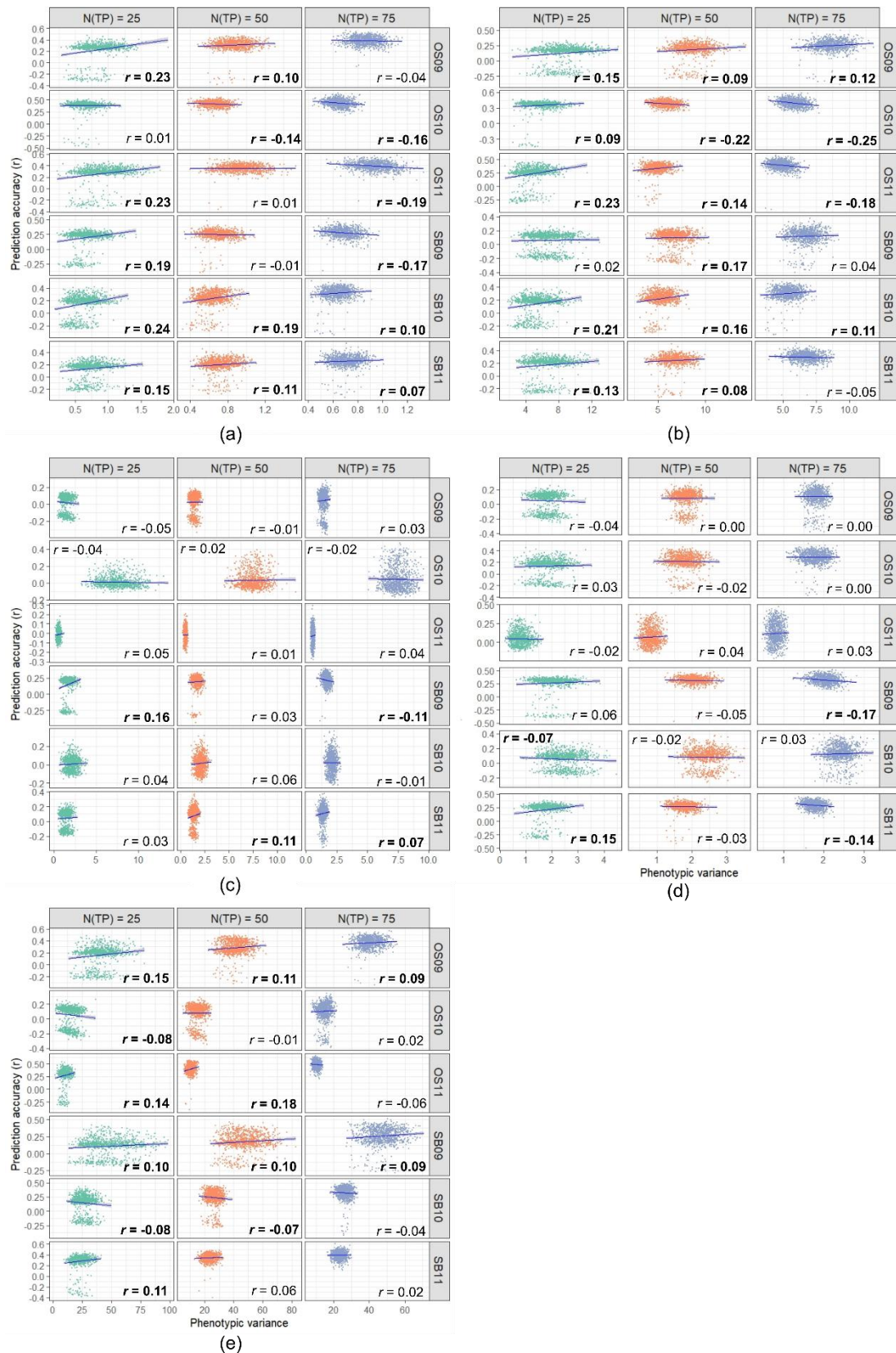
## Supplementary Figures



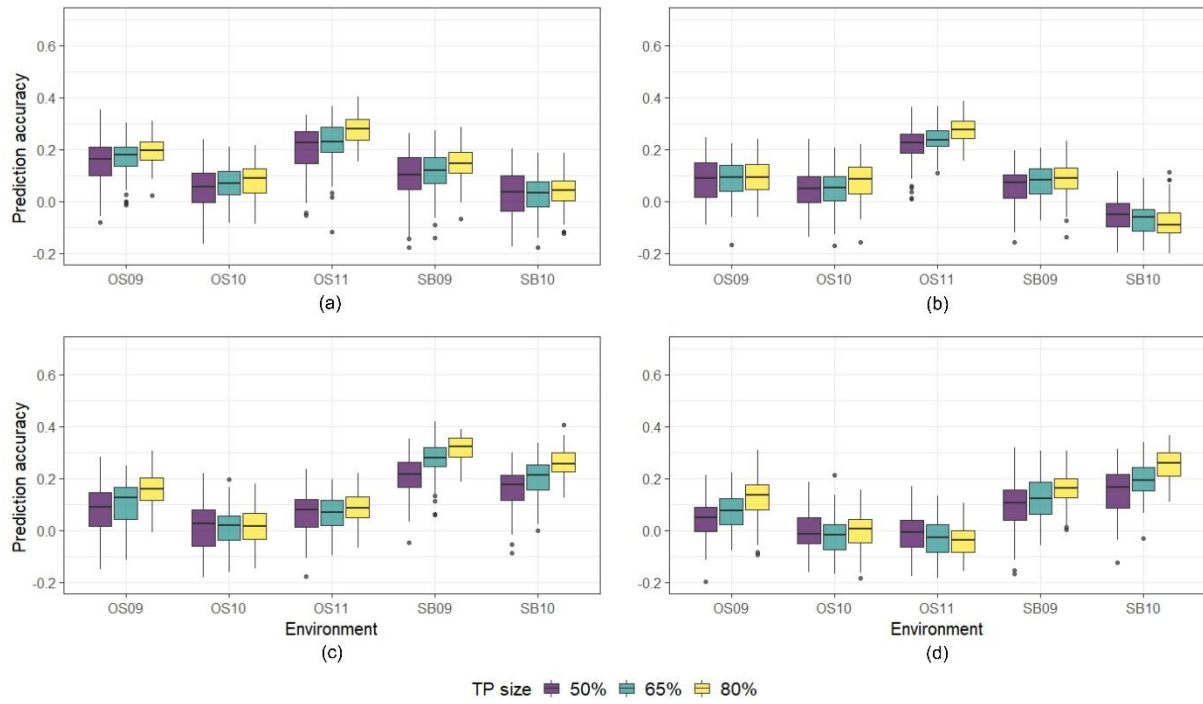
**Figure S1.** The distribution of SNPs on each chromosome for (a) BK population and (c) MG population together with genetic map of all available SNPs for (c) BK population and (d) MG population.



**Figure S2.** Phenotypic variance of randomly selected TP plotted against prediction accuracy values obtained using RR-BLUP model for following traits of BK population: (a) WGC, (b) MPT, (c) MTW, (d) MTI, and (e) MPH. For each population-trait-environment combination, three different sizes of TP were used (25, 50 and 75 lines) with remaining lines serving as VP. The number in the angle of each scatter plot represents the observed correlation coefficient. Correlation coefficients in bold are statistically significant at  $P < 0.05$ .

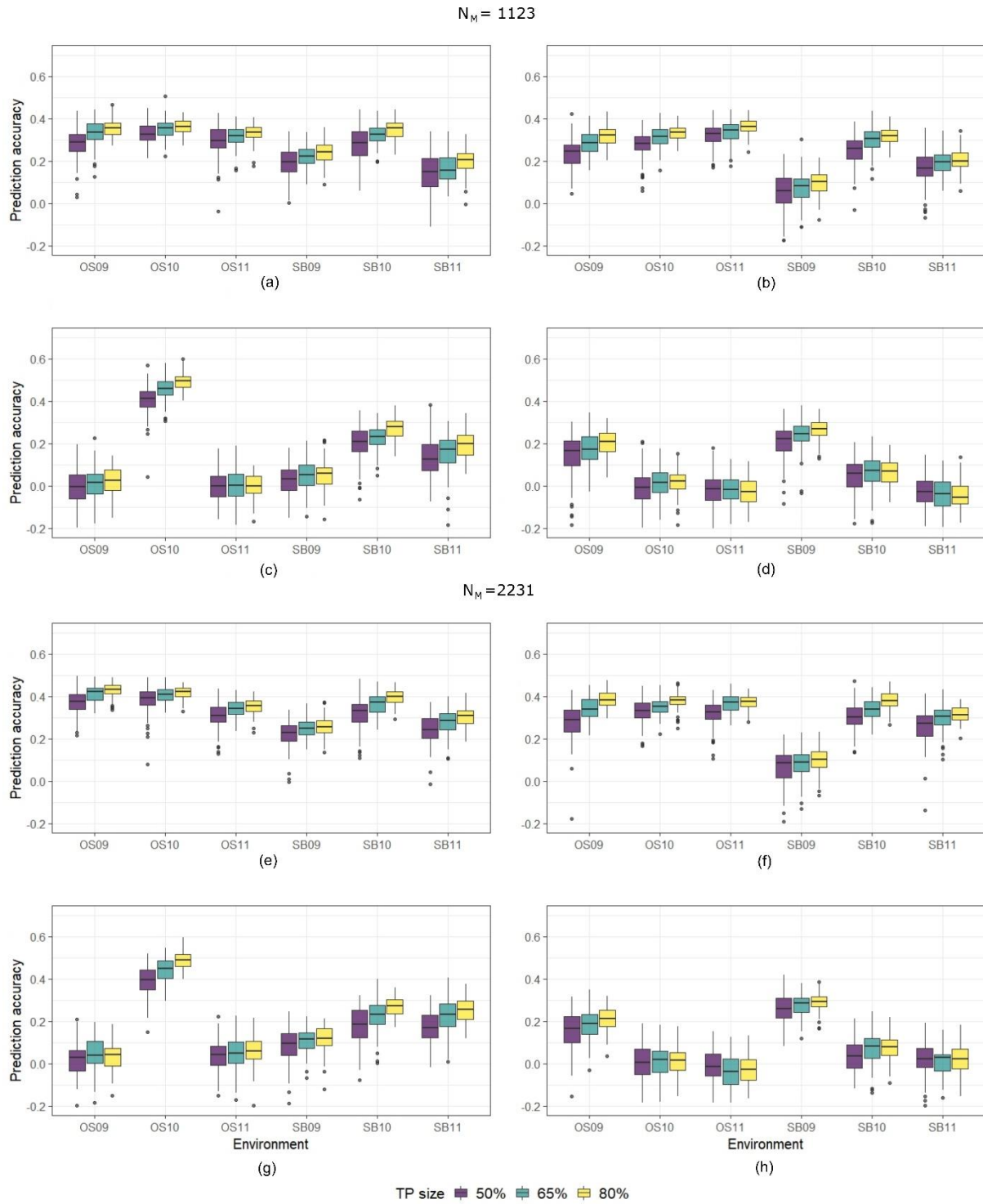


**Figure S3.** Phenotypic variance of randomly selected TP plotted against prediction accuracy values obtained using RR-BLUP model for following traits of MG population: (a) GPC, (b) WGC, (c) TW, (d) MPT, and (e) MTW. For each population-trait-environment combination, three different sizes of TP were used (25, 50 and 75 lines) with remaining lines serving as VP. The number in the angle of each scatter plot represents the observed correlation coefficient. Correlation coefficients in bold are statistically significant at  $P < 0.05$ .

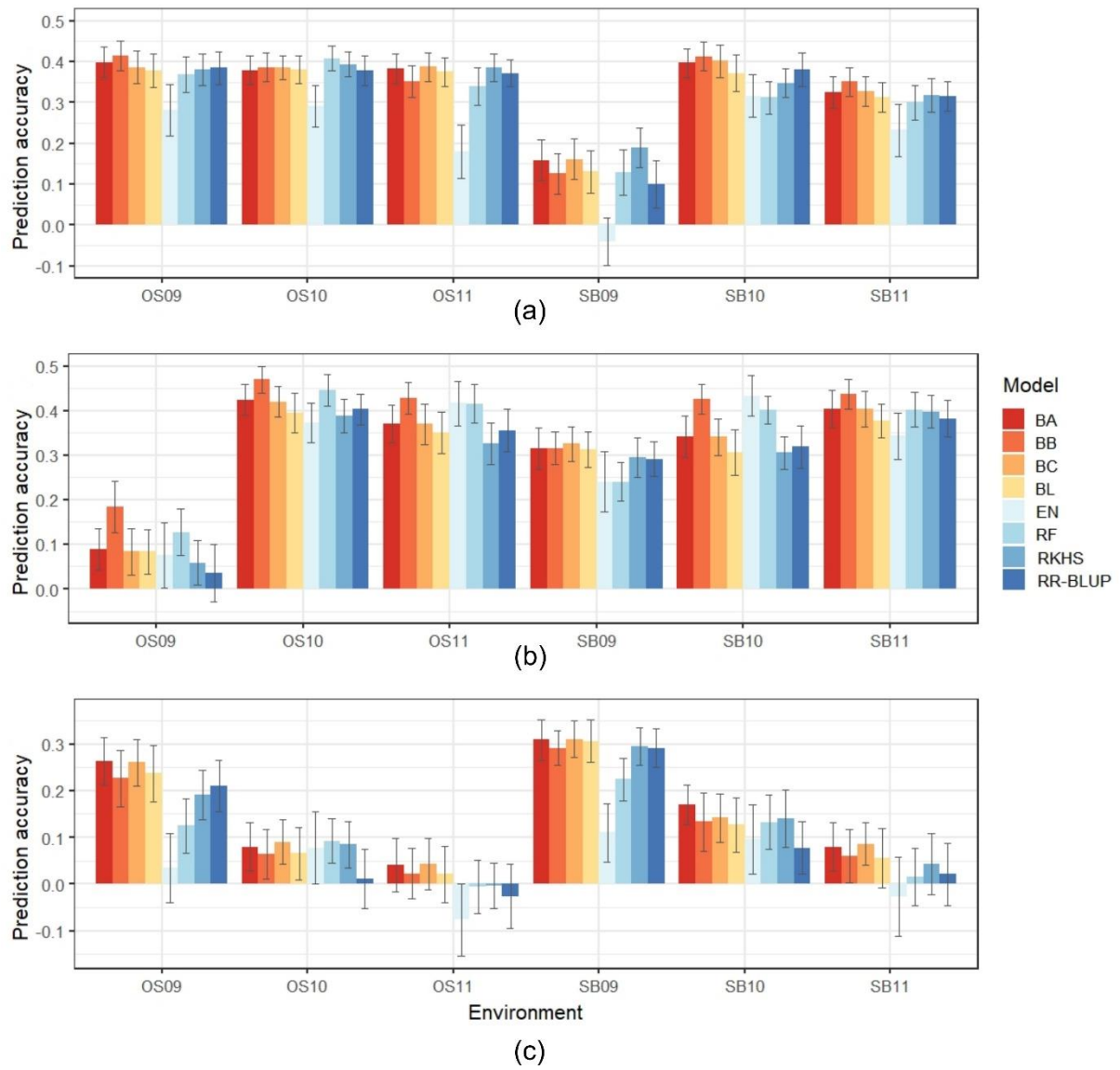


**Figure S4.** Prediction accuracy values obtained using RR-BLUP model and three different sizes of TP (50%, 65% and 80% of the total number of lines in a population) for following traits of BK population: (a) MPT, (b) MTW, (c) MTI, and (d) MPH.





**Figure S5.** Prediction accuracy values obtained using RR-BLUP model and three different sizes of TP (50%, 65% and 80% of the total number of lines in a population) for following traits of MG population: (a) GPC, (b) WGC, (c) TW, and (d) MTI.



**Figure S6.** Prediction accuracies for MG population and traits (a) WGC, (b) MPT, and (c) MTI evaluated with eight different prediction models. Error bars denote standard deviation.

## Supplementary Tables

**Table S1.** Mean MSEP values estimated for both populations using RR-BLUP model. Standard deviation values are indicated in parenthesis.

Environment	TP size	GPC	WGC	TW	MPT	MTW	MTI	MPH
<b>BK population</b>								
OS09	50%	0.04 (0.02)	0.08 (0.05)	0.17 (0.02)	0.07 (0.02)	0.21 (0.06)	0.82 (0.63)	0.09 (0.06)
	65%	0.02 (0.01)	0.06 (0.04)	0.17 (0.02)	0.07 (0.02)	0.19 (0.05)	0.94 (0.81)	0.1 (0.07)
	80%	0.02 (0.01)	0.05 (0.03)	0.17 (0.02)	0.06 (0.01)	0.2 (0.03)	1.19 (0.69)	0.12 (0.08)
OS10	50%	0.05 (0.02)	0.07 (0.05)	0.16 (0.06)	0.16 (0.03)	0.22 (0.05)	1.67 (0.70)	0.16 (0.07)
	65%	0.04 (0.01)	0.06 (0.04)	0.17 (0.05)	0.15 (0.03)	0.23 (0.06)	1.52 (0.74)	0.15 (0.07)
	80%	0.03 (0.01)	0.05 (0.03)	0.18 (0.04)	0.16 (0.02)	0.25 (0.04)	1.29 (0.65)	0.14 (0.06)
OS11	50%	0.03 (0.01)	0.1 (0.05)	0.06 (0.03)	0.17 (0.05)	0.1 (0.05)	0.82 (0.36)	0.13 (0.04)
	65%	0.03 (0.01)	0.1 (0.04)	0.06 (0.02)	0.17 (0.03)	0.09 (0.04)	0.71 (0.38)	0.12 (0.03)
	80%	0.02 (0.01)	0.08 (0.03)	0.06 (0.02)	0.16 (0.02)	0.08 (0.04)	0.59 (0.28)	0.12 (0.02)
SB09	50%	0.10 (0.02)	0.34 (0.05)	0.12 (0.03)	0.07 (0.02)	0.04 (0.02)	4.82 (0.82)	0.32 (0.08)
	65%	0.09 (0.01)	0.32 (0.04)	0.11 (0.02)	0.07 (0.02)	0.05 (0.03)	4.69 (0.75)	0.29 (0.09)
	80%	0.09 (0.01)	0.32 (0.03)	0.12 (0.01)	0.06 (0.02)	0.05 (0.03)	4.14 (0.66)	0.26 (0.07)
SB10	50%	0.02 (0.01)	0.1 (0.07)	0.18 (0.05)	0.14 (0.03)	0.11 (0.04)	1 (0.71)	0.15 (0.11)
	65%	0.02 (0.01)	0.12 (0.06)	0.19 (0.04)	0.13 (0.03)	0.11 (0.03)	1.09 (0.85)	0.22 (0.09)
	80%	0.01 (0.004)	0.13 (0.05)	0.2 (0.03)	0.13 (0.02)	0.11 (0.02)	1.31 (0.78)	0.28 (0.07)
<b>MG population</b>								
OS09	50%	0.06 (0.02)	0.21 (0.07)	0.03 (0.01)	0.1 (0.005)	0.13 (0.08)	1.57 (0.74)	0.19 (0.11)
	65%	0.05 (0.02)	0.2 (0.06)	0.02 (0.01)	0.1 (0.005)	0.1 (0.07)	1.57 (0.55)	0.17 (0.10)
	80%	0.04 (0.02)	0.19 (0.05)	0.03 (0.01)	0.1 (0.005)	0.07 (0.05)	1.43 (0.52)	0.13 (0.09)
OS10	50%	0.01 (0.003)	0.07 (0.03)	0.25 (0.07)	0.21 (0.03)	0.15 (0.07)	2.54 (0.46)	0.28 (0.07)
	65%	0.01 (0.004)	0.06 (0.03)	0.21 (0.08)	0.2 (0.03)	0.13 (0.07)	2.45 (0.41)	0.28 (0.05)
	80%	0.01 (0.004)	0.06 (0.02)	0.19 (0.05)	0.21 (0.02)	0.14 (0.06)	2.46 (0.26)	0.29 (0.04)
OS11	50%	0.01 (0.004)	0.03 (0.02)	0.02 (0.01)	0.01 (0.004)	0.31 (0.07)	0.93 (0.33)	0.05 (0.04)
	65%	0.01 (0.005)	0.02 (0.01)	0.02 (0.01)	0.01 (0.004)	0.36 (0.07)	0.91 (0.26)	0.04 (0.03)
	80%	0.01 (0.005)	0.01 (0.005)	0.02 (0.005)	0.01 (0.004)	0.36 (0.06)	0.9 (0.19)	0.03 (0.02)
SB09	50%	0.01 (0.005)	0.04 (0.03)	0.01 (0.005)	0.02 (0.01)	0.26 (0.18)	1.12 (0.63)	0.12 (0.09)
	65%	0.01 (0.004)	0.03 (0.02)	0.02 (0.01)	0.02 (0.01)	0.24 (0.12)	0.93 (0.56)	0.11 (0.09)
	80%	0.01 (0.004)	0.02 (0.01)	0.01 (0.005)	0.01 (0.005)	0.23 (0.11)	0.84 (0.46)	0.13 (0.08)
SB10	50%	0.02 (0.01)	0.05 (0.04)	0.09 (0.03)	0.09 (0.03)	0.3 (0.11)	1.27 (0.69)	0.2 (0.14)
	65%	0.02 (0.01)	0.05 (0.04)	0.09 (0.02)	0.1 (0.03)	0.27 (0.11)	1.4 (0.61)	0.25 (0.14)
	80%	0.02 (0.01)	0.05 (0.04)	0.09 (0.02)	0.1 (0.02)	0.24 (0.09)	1.52 (0.68)	0.26 (0.12)
SB11	50%	0.06 (0.02)	0.15 (0.06)	0.02 (0.01)	0.15 (0.02)	0.1 (0.08)	2.27 (0.75)	0.09 (0.11)
	65%	0.06 (0.02)	0.14 (0.06)	0.02 (0.01)	0.15 (0.02)	0.1 (0.08)	2.12 (0.54)	0.08 (0.07)
	80%	0.05 (0.02)	0.11 (0.05)	0.02 (0.01)	0.16 (0.02)	0.09 (0.06)	2.18 (0.44)	0.08 (0.07)

**Table S2.** Mean prediction accuracy values estimated for MG population using eight different prediction models. Standard deviation values are indicated in parenthesis.

Trait	Environment	Model							
		RR-BLUP	EN	BA	BB	BC	BL	RF	RKHS
GPC	OS09	0.43 (0.03)	0.34 (0.06)	0.45 (0.04)	<b>0.46</b> (0.03)	0.45 (0.03)	0.44 (0.04)	0.43 (0.04)	0.45 (0.03)
	OS10	0.42 (0.03)	0.33 (0.05)	0.42 (0.03)	0.42 (0.03)	0.43 (0.03)	0.42 (0.03)	<b>0.44</b> (0.03)	0.43 (0.03)
	OS11	0.35 (0.04)	0.15 (0.07)	0.35 (0.04)	0.33 (0.04)	0.35 (0.03)	0.35 (0.04)	0.3 (0.05)	<b>0.36</b> (0.04)
	SB09	0.26 (0.04)	0.1 (0.08)	0.27 (0.04)	0.28 (0.04)	0.28 (0.03)	0.27 (0.04)	0.24 (0.04)	<b>0.29</b> (0.04)
	SB10	0.39 (0.04)	0.33 (0.05)	0.4 (0.04)	<b>0.41</b> (0.04)	<b>0.41</b> (0.03)	0.38 (0.04)	0.35 (0.04)	0.38 (0.03)
	SB11	0.3 (0.05)	0.2 (0.07)	0.31 (0.04)	<b>0.33</b> (0.04)	0.31 (0.03)	0.3 (0.04)	0.28 (0.05)	0.31 (0.05)
WGC	OS09	0.38 (0.04)	0.28 (0.06)	0.4 (0.04)	<b>0.41</b> (0.04)	0.39 (0.04)	0.38 (0.04)	0.37 (0.04)	0.38 (0.04)
	OS10	0.38 (0.04)	0.29 (0.05)	0.38 (0.04)	0.39 (0.04)	0.39 (0.03)	0.38 (0.03)	<b>0.41</b> (0.03)	0.39 (0.03)
	OS11	0.37 (0.03)	0.18 (0.07)	0.38 (0.04)	0.35 (0.04)	<b>0.39</b> (0.03)	0.37 (0.04)	0.34 (0.05)	<b>0.39</b> (0.03)
	SB09	0.1 (0.06)	-0.04 (0.06)	0.16 (0.05)	0.13 (0.05)	0.16 (0.05)	0.13 (0.05)	0.13 (0.05)	<b>0.19</b> (0.05)
	SB10	0.38 (0.04)	0.32 (0.05)	0.4 (0.04)	<b>0.41</b> (0.04)	0.4 (0.04)	0.37 (0.04)	0.31 (0.04)	0.35 (0.04)
	SB11	0.32 (0.04)	0.23 (0.06)	0.32 (0.04)	<b>0.35</b> (0.03)	0.33 (0.04)	0.31 (0.04)	0.3 (0.04)	0.32 (0.04)
TW	OS09	0.04 (0.06)	-0.04 (0.09)	<b>0.14</b> (0.06)	0.12 (0.06)	0.13 (0.04)	0.08 (0.05)	0.04 (0.06)	0.1 (0.05)
	OS10	<b>0.49</b> (0.04)	0.36 (0.06)	<b>0.49</b> (0.04)	0.46 (0.04)	<b>0.49</b> (0.04)	0.48 (0.04)	0.39 (0.04)	0.44 (0.04)
	OS11	0.06 (0.07)	-0.08 (0.07)	<b>0.14</b> (0.05)	0.08 (0.06)	0.13 (0.05)	0.1 (0.05)	0.09 (0.05)	0.11 (0.05)
	SB09	0.12 (0.06)	0.01 (0.07)	0.15 (0.05)	0.14 (0.05)	<b>0.16</b> (0.04)	<b>0.16</b> (0.04)	0.12 (0.06)	<b>0.16</b> (0.05)
	SB10	0.27 (0.05)	0.1 (0.07)	<b>0.3</b> (0.05)	0.26 (0.06)	<b>0.3</b> (0.04)	0.26 (0.05)	0.23 (0.04)	0.25 (0.04)
	SB11	0.25 (0.06)	0.26 (0.06)	0.29 (0.05)	<b>0.31</b> (0.05)	0.28 (0.05)	0.26 (0.06)	0.24 (0.06)	0.2 (0.06)
MPT	OS09	0.04 (0.06)	0.08 (0.07)	0.09 (0.05)	<b>0.18</b> (0.06)	0.08 (0.05)	0.08 (0.05)	0.13 (0.05)	0.06 (0.05)
	OS10	0.4 (0.03)	0.37 (0.04)	0.42 (0.03)	<b>0.47</b> (0.03)	0.42 (0.03)	0.4 (0.04)	0.45 (0.04)	0.39 (0.04)
	OS11	0.36 (0.05)	0.42 (0.05)	0.37 (0.04)	<b>0.43</b> (0.04)	0.37 (0.05)	0.35 (0.05)	0.42 (0.04)	0.33 (0.05)
	SB09	0.29 (0.04)	0.24 (0.07)	0.31 (0.05)	0.32 (0.04)	<b>0.33</b> (0.04)	0.31 (0.04)	0.24 (0.04)	0.29 (0.04)
	SB10	0.32 (0.05)	<b>0.43</b> (0.05)	0.34 (0.05)	<b>0.43</b> (0.03)	0.34 (0.04)	0.31 (0.05)	0.4 (0.03)	0.31 (0.04)
	SB11	0.38 (0.04)	0.34 (0.05)	0.4 (0.04)	<b>0.44</b> (0.03)	0.4 (0.04)	0.38 (0.04)	0.4 (0.04)	0.4 (0.04)
MTW	OS09	0.42 (0.03)	0.37 (0.05)	0.43 (0.03)	<b>0.46</b> (0.04)	0.42 (0.04)	0.42 (0.04)	0.45 (0.03)	0.41 (0.04)
	OS10	0.12 (0.07)	0.15 (0.07)	0.17 (0.05)	0.15 (0.06)	0.17 (0.05)	0.13 (0.05)	<b>0.2</b> (0.05)	0.15 (0.05)
	OS11	0.53 (0.03)	0.55 (0.04)	0.53 (0.03)	<b>0.57</b> (0.03)	0.53 (0.03)	0.53 (0.03)	0.55 (0.03)	0.55 (0.03)
	SB09	0.38 (0.04)	0.38 (0.05)	0.37 (0.03)	<b>0.42</b> (0.03)	0.36 (0.04)	0.36 (0.05)	<b>0.42</b> (0.03)	0.36 (0.04)
	SB10	0.43 (0.04)	0.4 (0.06)	0.43 (0.03)	<b>0.45</b> (0.03)	0.42 (0.04)	0.41 (0.04)	0.41 (0.03)	0.4 (0.03)
	SB11	0.47 (0.03)	0.39 (0.06)	<b>0.48</b> (0.04)	<b>0.48</b> (0.03)	<b>0.48</b> (0.04)	0.46 (0.04)	0.39 (0.05)	0.45 (0.03)
MTI	OS09	0.21 (0.06)	0.03 (0.07)	<b>0.26</b> (0.05)	0.23 (0.06)	<b>0.26</b> (0.05)	0.24 (0.06)	0.12 (0.06)	0.19 (0.05)
	OS10	0.01 (0.06)	0.08 (0.08)	0.08 (0.05)	0.06 (0.05)	<b>0.09</b> (0.05)	0.07 (0.06)	<b>0.09</b> (0.05)	<b>0.09</b> (0.05)
	OS11	-0.03 (0.07)	-0.08 (0.08)	<b>0.04</b> (0.06)	0.02 (0.05)	<b>0.04</b> (0.06)	0.02 (0.06)	-0.01 (0.06)	0 (0.05)
	SB09	0.29 (0.04)	0.11 (0.06)	<b>0.31</b> (0.04)	0.29 (0.04)	<b>0.31</b> (0.04)	<b>0.31</b> (0.05)	0.22 (0.04)	0.3 (0.04)
	SB10	0.08 (0.06)	0.1 (0.07)	<b>0.17</b> (0.04)	0.13 (0.06)	0.14 (0.05)	0.13 (0.06)	0.13 (0.06)	0.14 (0.06)
	SB11	0.02 (0.07)	-0.03 (0.08)	0.08 (0.05)	0.06 (0.06)	<b>0.09</b> (0.05)	0.06 (0.06)	0.02 (0.06)	0.04 (0.06)
MPH	OS09	0.29 (0.05)	0.24 (0.08)	<b>0.34</b> (0.04)	0.33 (0.04)	<b>0.34</b> (0.04)	0.32 (0.05)	0.23 (0.05)	0.28 (0.04)
	OS10	0.04 (0.06)	0.04 (0.08)	0.1 (0.05)	0.09 (0.05)	0.1 (0.05)	0.09 (0.05)	0.07 (0.05)	<b>0.11</b> (0.05)
	OS11	0.05 (0.06)	0 (0.07)	0.09 (0.05)	0.1 (0.06)	<b>0.11</b> (0.05)	0.09 (0.05)	0.07 (0.05)	0.07 (0.05)
	SB09	0.26 (0.05)	0.11 (0.07)	<b>0.29</b> (0.05)	0.28 (0.04)	<b>0.29</b> (0.04)	0.28 (0.05)	0.24 (0.05)	0.28 (0.04)
	SB10	0.22 (0.05)	0.18 (0.07)	<b>0.27</b> (0.05)	0.25 (0.05)	<b>0.27</b> (0.04)	0.24 (0.05)	0.23 (0.05)	0.26 (0.05)
	SB11	0.1 (0.05)	-0.06 (0.07)	<b>0.16</b> (0.05)	0.11 (0.05)	<b>0.16</b> (0.04)	0.14 (0.05)	0.04 (0.05)	0.12 (0.05)



**Table S3.** Mean MSEP values estimated for MG population using eight different prediction models. Standard deviation values are indicated in parenthesis.

Trait	Environment	Model							
		RR-BLUP	EN	BA	BB	BC	BL	RF	RKHS
GPC	OS09	0.04 (0.02)	0.04 (0.02)	0.04 (0.01)	0.04 (0.01)	0.04 (0.01)	0.05 (0.01)	0.06 (0.01)	0.06 (0.005)
	OS10	0.01 (0.004)	0.01 (0.005)	0.01 (0.005)	0.01 (0.005)	0.01 (0.005)	0.01 (0.004)	0.01 (0.005)	0.01 (0.004)
	OS11	0.01 (0.005)	0.01 (0.005)	0.02 (0.01)	0.01 (0.005)	0.02 (0.01)	0.01 (0.005)	0.01 (0.005)	0.01 (0.004)
	SB09	0.01 (0.004)	0.02 (0.01)	0.01 (0.005)	0.01 (0.005)	0.01 (0.01)	0.01 (0.005)	0.01 (0.005)	0.01 (0.004)
	SB10	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.01 (0.005)	0.02 (0.01)	0.01 (0.003)
	SB11	0.05 (0.02)	0.06 (0.02)	0.04 (0.02)	0.05 (0.01)	0.05 (0.01)	0.06 (0.01)	0.05 (0.02)	0.06 (0.01)
WGC	OS09	0.19 (0.05)	0.18 (0.06)	0.18 (0.04)	0.18 (0.04)	0.19 (0.04)	0.20 (0.04)	0.20 (0.04)	0.23 (0.03)
	OS10	0.06 (0.02)	0.05 (0.02)	0.05 (0.02)	0.05 (0.02)	0.05 (0.02)	0.06 (0.02)	0.05 (0.03)	0.06 (0.02)
	OS11	0.01 (0.005)	0.04 (0.03)	0.03 (0.02)	0.02 (0.02)	0.03 (0.02)	0.02 (0.01)	0.04 (0.02)	0.01 (0.005)
	SB09	0.02 (0.01)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.03 (0.02)	0.02 (0.01)	0.05 (0.03)	0.02 (0.01)
	SB10	0.05 (0.04)	0.07 (0.05)	0.05 (0.03)	0.06 (0.03)	0.05 (0.03)	0.03 (0.02)	0.06 (0.03)	0.02 (0.01)
	SB11	0.11 (0.05)	0.14 (0.05)	0.08 (0.05)	0.10 (0.04)	0.10 (0.04)	0.13 (0.04)	0.11 (0.04)	0.14 (0.03)
TW	OS09	0.03 (0.01)	0.02 (0.01)	0.03 (0.01)	0.02 (0.01)	0.03 (0.01)	0.03 (0.01)	0.02 (0.01)	0.03 (0.01)
	OS10	0.19 (0.05)	0.19 (0.07)	0.18 (0.05)	0.17 (0.04)	0.20 (0.05)	0.21 (0.05)	0.28 (0.03)	0.27 (0.03)
	OS11	0.02 (0.005)	0.02 (0.01)	0.03 (0.01)	0.02 (0.01)	0.03 (0.01)	0.02 (0.01)	0.04 (0.01)	0.03 (0.01)
	SB09	0.01 (0.005)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.01 (0.005)	0.02 (0.01)	0.02 (0.01)
	SB10	0.09 (0.02)	0.09 (0.02)	0.08 (0.02)	0.08 (0.02)	0.08 (0.02)	0.09 (0.01)	0.09 (0.01)	0.09 (0.01)
	SB11	0.02 (0.01)	0.03 (0.02)	0.02 (0.01)	0.03 (0.02)	0.02 (0.01)	0.01 (0.005)	0.01 (0.005)	0.01 (0.005)
MPT	OS09	0.10 (0.005)	0.11 (0.01)	0.10 (0.02)	0.09 (0.02)	0.10 (0.02)	0.10 (0.01)	0.09 (0.02)	0.10 (0.02)
	OS10	0.21 (0.02)	0.20 (0.03)	0.19 (0.02)	0.20 (0.02)	0.20 (0.02)	0.20 (0.02)	0.17 (0.03)	0.18 (0.02)
	OS11	0.01 (0.004)	0.02 (0.01)	0.01 (0.005)	0.01 (0.01)	0.01 (0.01)	0.01 (0.005)	0.02 (0.01)	0.01 (0.004)
	SB09	0.01 (0.005)	0.03 (0.02)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)	0.01 (0.005)	0.02 (0.01)	0.01 (0.005)
	SB10	0.10 (0.02)	0.10 (0.03)	0.09 (0.02)	0.10 (0.03)	0.09 (0.02)	0.08 (0.02)	0.05 (0.02)	0.08 (0.01)
	SB11	0.16 (0.02)	0.16 (0.03)	0.15 (0.02)	0.15 (0.02)	0.15 (0.01)	0.15 (0.01)	0.15 (0.02)	0.14 (0.01)
MTW	OS09	0.07 (0.05)	0.12 (0.07)	0.07 (0.05)	0.09 (0.06)	0.08 (0.07)	0.08 (0.05)	0.13 (0.08)	0.14 (0.07)
	OS10	0.14 (0.06)	0.13 (0.08)	0.12 (0.06)	0.14 (0.07)	0.13 (0.06)	0.13 (0.05)	0.08 (0.06)	0.10 (0.06)
	OS11	0.36 (0.06)	0.40 (0.09)	0.36 (0.05)	0.39 (0.07)	0.36 (0.05)	0.34 (0.05)	0.42 (0.05)	0.27 (0.04)
	SB09	0.23 (0.11)	0.43 (0.11)	0.23 (0.12)	0.38 (0.11)	0.24 (0.11)	0.20 (0.09)	0.44 (0.10)	0.14 (0.09)
	SB10	0.24 (0.09)	0.20 (0.10)	0.29 (0.09)	0.22 (0.08)	0.30 (0.07)	0.31 (0.08)	0.18 (0.07)	0.35 (0.06)
	SB11	0.09 (0.06)	0.11 (0.09)	0.10 (0.06)	0.07 (0.05)	0.09 (0.05)	0.07 (0.05)	0.09 (0.06)	0.09 (0.06)
MTI	OS09	1.43 (0.52)	1.61 (0.60)	1.43 (0.49)	1.46 (0.55)	1.35 (0.52)	1.45 (0.45)	1.56 (0.63)	1.57 (0.36)
	OS10	2.46 (0.26)	2.36 (0.50)	2.68 (0.36)	2.48 (0.35)	2.61 (0.31)	2.57 (0.28)	2.31 (0.47)	2.35 (0.26)
	OS11	0.9 (0.19)	0.94 (0.22)	0.75 (0.33)	0.76 (0.26)	0.66 (0.32)	0.74 (0.25)	0.77 (0.32)	0.85 (0.25)
	SB09	0.84 (0.46)	1.25 (0.58)	0.49 (0.35)	0.57 (0.42)	0.52 (0.39)	0.70 (0.44)	0.60 (0.39)	0.84 (0.36)
	SB10	1.52 (0.68)	1.29 (0.73)	2.1 (0.68)	1.71 (0.51)	2.03 (0.46)	1.68 (0.54)	1.63 (0.39)	1.45 (0.30)
	SB11	2.18 (0.44)	2.01 (0.77)	2.85 (0.52)	2.57 (0.45)	2.85 (0.47)	2.50 (0.56)	3.42 (0.71)	2.38 (0.38)
MPH	OS09	0.13 (0.09)	0.26 (0.12)	0.08 (0.06)	0.12 (0.09)	0.09 (0.06)	0.12 (0.08)	0.14 (0.11)	0.15 (0.08)
	OS10	0.29 (0.04)	0.32 (0.04)	0.33 (0.07)	0.31 (0.04)	0.33 (0.05)	0.29 (0.04)	0.33 (0.05)	0.27 (0.03)
	OS11	0.03 (0.02)	0.05 (0.04)	0.06 (0.04)	0.05 (0.03)	0.06 (0.04)	0.05 (0.04)	0.03 (0.02)	0.03 (0.02)
	SB09	0.13 (0.08)	0.13 (0.11)	0.18 (0.01)	0.16 (0.08)	0.15 (0.08)	0.09 (0.07)	0.17 (0.06)	0.07 (0.04)
	SB10	0.26 (0.12)	0.17 (0.12)	0.32 (0.01)	0.26 (0.09)	0.28 (0.09)	0.22 (0.10)	0.22 (0.06)	0.20 (0.05)
	SB11	0.08 (0.07)	0.06 (0.05)	0.16 (0.07)	0.09 (0.06)	0.14 (0.06)	0.08 (0.05)	0.16 (0.08)	0.07 (0.05)

**Table S4.** Pedigree of winter wheat genotypes used in the study.

<b>Name</b>	<b>Type</b>	<b>Pedigree</b>
Monika	Commercial variety	F21078-82 / Srpanjka
Golubica	Commercial variety	Slavonija / Gemini
Bezostaya-1	Commercial variety	Skorospelka 2 / Lutescens 17
Klara	Commercial variety	Slavonija / Zg 5328-75
MG	RIL	Monika / Golubica
BK	RIL	Bezostaya-1 / Klara