

Supplementary Material

Table S1. Genotypic correlation (r_g) was estimated across the RIL population for key desirable agronomic, productivity and milling yield traits.

	GY	SB	PB	HI	100-SW Paddy	100- GWBR	100-SW Husk	100- GWHR	Δ 100- GWHR	WGB weight	%Bran- P	%Husk -P	%BBR- P	%BWR- P	%TM Y-P	%HRY- P	%Bran- RT	%BBR- RT	%Husk loss-RT	%BW R-RT	%TMY- RT
SB	ns																				
PB	0.63**	0.80**																			
HI	0.85**	-0.38**	0.22**																		
100-SW Paddy	ns	0.25**	0.22**	-0.19*																	
100-GWBR	ns	0.22**	0.22**	ns	0.52***																
100-SW Husk	ns	ns	ns	ns	0.35***	-0.62***															
100-GWHR	ns	0.18*	0.18*	ns	0.22**	0.38***	-0.21**														
Δ 100-GWHR	0.18*	ns	0.18*	ns	0.30***	0.80***	-0.60***	ns													
WGB weight	ns	ns	ns	ns	ns	0.65***	-0.62***	0.27***	0.67***												
%Bran-P	0.21*	ns	ns	ns	ns	0.40***	-0.39***	ns	0.85***	-0.52***											
%Husk-P	ns	-0.18*	ns	ns	-0.28***	-0.79***	0.61***	-0.36***	-0.74***	-0.89***	-0.52***										
%BBR-P	ns	ns	ns	ns	0.39***	0.31***	ns	0.23**	ns	-0.22*	ns	-0.24**									
%BWR-P	0.19*	ns	ns	0.22**	0.26***	0.21*	ns	ns	ns	-0.25**	ns	ns	0.50***								
%TMY-P	ns	ns	ns	ns	ns	ns	ns	0.31*	ns	ns	ns	0.31***	ns	ns							
%HRY-P	ns	ns	ns	ns	ns	ns	ns	0.24*	0.39*	ns	ns	ns	ns	ns	ns						
%Bran-RT	0.21*	ns	ns	0.23**	ns	ns	ns	-0.40**	0.84***	-0.30***	0.64***	ns	0.18*	0.24**	ns	ns					
%BBR-RT	ns	ns	ns	ns	0.28***	ns	0.22**	ns	ns	-0.50***	ns	ns	0.92***	0.47***	ns	ns	0.27***				
%Husk loss-RT	ns	-0.23*	ns	ns	-0.30***	-0.81***	0.65***	-0.41***	-0.78***	-0.90***	ns	ns	ns	ns	ns	ns	ns	ns			
%BWR-RT	ns	ns	ns	0.24**	ns	ns	0.24**	-0.17*	ns	-0.56***	ns	0.32***	0.51***	0.90***	ns	ns	0.42***	0.63***	ns		
%TMY-RT	ns	ns	ns	ns	ns	ns	ns	0.30*	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
HRY-RT	ns	ns	ns	-0.23*	ns	0.41**	-0.47**	0.25**	0.37*	0.88**	0.25*	-0.69**	-0.39**	-0.63**	ns	ns	-0.48**	-0.61**	-0.85**	ns	0.91**

GY (grain yield per pot g), SB (straw biomass per pot g), PB (plant biomass was calculated as straw biomass plus grain yield per pot g), HI (harvest index was calculated as grain yield divided by plant biomass), 100-SW Paddy (100-seed paddy weight was calculated as randomly 100 seed selected from 20 g of initial paddy mass used for milling), 100-GWBR (100-grain weight unbroken/whole grain brown rice was achieved as a product after dehusking from 20 g of initial paddy mass used for milling), 100-SW husk (husk biomass 100 seed weight was achieved after dehusking 100 seed of paddy rice), 100-GWHR (100-grain weight head rice was achieved after polishing the whole grain/unbroken 100 grains of brown rice i.e., 100-GWBR), Δ 100 GW (change in 100-grain weight polishing was calculated as 100-grain weight unbroken (whole grain) brown rice – 100-grain weight unbroken (whole grain) polished white rice), WGB weight (whole grain or unbroken brown rice weight derived from 20 g of initial paddy mass used for milling operations), %Bran -P (percent bran loss expressed as 20 g of initial paddy mass used for milling from which it was derived), %Husk-P (percent husk losses expressed as 20 g of initial paddy mass used for milling operations from which it was derived), %BBR-P (percent broken brown rice losses expressed as 20 g of initial paddy mass used for milling operations from which it was derived), %TMY (percent broken plus unbroken polished white rice grains termed as percent total milling yield achieved from the 20 g of initial paddy mass used for milling operations), %HRY (percent unbroken/whole grain polished white rice termed as percent head rice yield achieved from the 20 g of initial paddy mass used for milling operations), %Husk-RT (proportional percentage of husk loss relative to the step of dehusking operations during which the loss occurred was calculated as husk biomass/(broken brown + un-broken brown rice biomass), BBR-RP (relative percentage of broken brown rice loss relative to dehusking operations and was calculated as broken brown rice biomass/(broken brown + un-broken brown rice biomass), BWR-RT (relative percentage of broken white rice loss relative to polishing operation and was calculated as broken white rice biomass/(broken white + unbroken white rice biomass), %Bran-RT (relative percentage of bran loss relative to the step of polishing operations during which the loss occurred was calculated as bran biomass / (broken white + unbroken white rice biomass), %TMY-RT (relative percentage of percent total milling yield i.e., broken plus unbroken polished white rice to the step of polishing operations during which the loss occurred was calculated as bran biomass/(broken white + unbroken white rice biomass), %HRY-RT (proportional percentage of bran loss relative to the step of polishing operations during which the loss occurred was calculated as bran biomass/(broken white + unbroken white rice biomass), (*, **, ***) Significance of genotypic correlation (r_g) at probabilities $P < 0.05$, $P < 0.01$, $P < 0.001$, respectively. ns (non-significant).