

Table S1 Predictive ability ($r_{\hat{y}y}$) and standard error (SE) of RR-BLUP model under two different cross validation schemes: 10-fold cross validation and leave one-out (L1-Out)

Trait Category	Trait	Methods			
		$r_{\hat{y}y}$ - 10-Fold	SE - 10-Fold	$r_{\hat{y}y}$ - L1-Out	SE - L1-Out
Growth	HT	0.39	0.029	0.38	0.029
	HTLC	0.45	0.027	0.46	0.027
	BHLC	0.49	0.026	0.49	0.026
	DBH	0.46	0.027	0.46	0.027
Development	CWAL	0.48	0.029	0.48	0.030
	CWAC	0.38	0.026	0.40	0.027
	BD	0.27	0.032	0.27	0.032
	BA	0.51	0.025	0.52	0.025
	Rootnum_bin	0.28	0.030	0.28	0.030
	Rootnum	0.24	0.031	0.24	0.031
Disease resistance	Rust_bin	0.29	0.032	0.29	0.033
	Rust_gall_vol	0.23	0.033	0.24	0.033
Wood	StiffnessTree	0.43	0.027	0.43	0.028
	Lignin	0.17	0.032	0.17	0.032
	Latewood%4	0.24	0.031	0.25	0.031
	Density	0.20	0.032	0.21	0.032
	C5C6	0.26	0.031	0.27	0.031