

S2 Table. Selected Models for the \mathbf{G}_M Matrix and Number of Estimated Parameters (n_{par}) Considering Each Trait Separately. The Akaike (AIC) and Bayesian (BIC) information criteria were used to compare the structures of the variance–covariance matrix. The models for the \mathbf{G}_M matrix were selected according to the lowest value of the BIC criterion for BRIX as °Brix, stalk height (SH) in m, stalk number (SN) by direct counting, stalk weight (SW) in kg and cane yield (TCH) in t ha⁻¹ for BPSG over two harvest years (plant cane and first ratoon). Bold numbers represent the smallest AIC and BIC values.

Trait	\mathbf{G}_M matrix	Models	n_{par}	AIC	BIC
BRIX (°Brix)	$\mathbf{G}_M = \mathbf{G}_{M \times M}$	(1) ID	1	3191.28	3215.75
		(2) DIAG	2	3189.78	3219.13
		(3) AR1	2	*	*
		(4) AR1(het)	2	3103.14	3137.38
SH (m)	$\mathbf{G}_M = \mathbf{G}_{M \times M}$	(1) ID	1	500.28	524.77
		(2) DIAG	2	502.51	531.51
		(3) AR1	2	*	*
		(4) AR1(het)	2	359.93	394.22
SN	$\mathbf{G}_M = \mathbf{G}_{M \times M}$	(1) ID	1	9268.75	9293.21
		(2) DIAG	2	9252.54	9281.89
		(3) AR1	2	*	*
		(4) AR1(het)	2	9089.19	9123.44
SW (Kg)	$\mathbf{G}_M = \mathbf{G}_{M \times M}$	(1) ID	1	10515.65	10540.15
		(2) DIAG	2	10514.88	10544.28
		(3) AR1	2	*	*
		(4) AR1(het)	2	10378.72	10413.01
TCH (t ha ⁻¹)	$\mathbf{G}_M = \mathbf{G}_{M \times M}$	(1) ID	1	*	*
		(2) DIAG	2	*	*
		(3) AR1	2	*	*
		(4) AR1(het)	2	11071.67	11106.08