Table S1   The results of QTLMAS2009 data analysis, including the selected markers, their locations (in brackets), the corresponding Wald scores, and the closest true simulated QTLs. Regarding to the Wald tests, the critical value corresponding to the significance level 0:05 is 18.31 for the estimates of VBfun (chi-square distribution with 10 degrees of freedom), and 11.07 for the estimates of VBnonfun (with 5 df), respectively (assuming the AR(1) residual covariance structure in the model). The symbols *, † and ‡ indicate the simulated QTLs effects on ϕ_1, ϕ_2, ϕ_3 of the simulated logistic growth curves (traits), respectively.

VBfun		VBnonfun		
Marker	Wald score	Marker	Wald score	Closest simulated QTL
35 (0.4029)	163.63	35 (0.4029)	335.64	(0.4525) 36-37*
37 (0.4447)	5844.14	37 (0.4447)	5019.23	(0.4525) 36-37*
88 (0.9952)	82.39	88 (0.9952)	112.35	(0.8765) 77-78‡
98 (1.0359)	1150.48	none	none	(1.0455) 98-99*
99(1.0516)	1914.20	107(1.1536)	130.01	(1.0455) 98-99*
115(1.2566)	63.13	115(1.2566)	177.15	(1.3302) 118-119†
178 (1.9011)	178.99	178 (1.9011)	168.59	(1.8864) 174-175*
216 (1.9011)	102.91	none	none	(2.2622) 216-217*
222 (2.3108)	68.81	none	none	(2.2622) 216-217‡
none	none	270 (2.8203)	73.85	(2.8984) 276-277*
338(3.7168)	154.04	338(3.7168)	202.16	(3.6979) 336-337*
415(4.6311)	95.59	none	none	(4.5971) 411-412†
452 (4.9494)	57.88	452(4.9494)	74.86	(4.7719) 432-433*