

Table S1 Correlationship between ATP, sugars and related enzymes with
lignin in pericarp of BR.

Independent variables	Dependent variable (Lignin)	
	r	P
ATP	-0.987	0.01
Sucrose	-0.976	0.01
Total soluble sugar (0-30d)	0.93	0.05
Glucose	0.878	0.05
Fructose	0.822	0.05
PAL	0.911	0.05
PPO	0.977	0.01
POD	0.942	0.01

Table S2 Correlationship between invertases with sucrose in pericarp of BR.

Independent variables	Dependent variable (Sucrose)	
	r	P
NI	-0.93	0.05
S-AI	-0.925	0.05
B-AI	-0.984	0.01