

Table S2. Pearson's correlation coefficient of grain size and shape-related traits in the durum panel in two environments and the BLUP data

Traits			E1	E2	BLUP
AS	vs	PL	0.890***	0.940***	0.927***
AS	vs	L	0.783***	0.875***	0.856***
AS	vs	W	0.701***	0.710***	0.614***
AS	vs	LWR	0.046	0.311***	0.323***
AS	vs	CS	-0.041	-0.256**	-0.304***
AS	vs	TGW	0.656***	0.836***	0.108
PL	vs	L	0.975***	0.982***	0.983***
PL	vs	W	0.314***	0.451***	0.288***
PL	vs	LWR	0.486***	0.604***	0.647***
PL	vs	CS	-0.487***	-0.564***	-0.634***
PL	vs	TGW	0.507***	0.726***	0.059
L	vs	W	0.128	0.312***	0.141
L	vs	LWR	0.645***	0.721***	0.757***
L	vs	CS	-0.636***	-0.665***	-0.736***
L	vs	TGW	0.405***	0.644***	0.041
W	vs	LWR	-0.670***	-0.430***	-0.537***
W	vs	CS	0.649***	0.436***	0.520***
W	vs	TGW	0.592***	0.734***	0.123
LWR	vs	CS	-0.976***	-0.949***	-0.970***
LWR	vs	TGW	-0.154	0.067	-0.047
CS	vs	TGW	0.150	-0.064	0.059

* $p < .05$, ** $p < .01$, *** $p < .001$ AS: Area size, PL: Perimeter length, L: Grain length, W: Grain width, LWR: Length-width ratio, CS: Circularity, TGW: Thousand grain weight