

**Table S1** Parentage, pedigree, and source of derivatives of bread wheat used in current experiment.

Genotypes	Parentage	Pedigree	Derivatives
L <sub>1</sub>	H-1442/KACHU//BAJ #1	SDSS12B00859T-0Y-0B-0B-17Y-0B-0MXI	Landraces
L <sub>2</sub>	QRO94.1.4/3/KACHU #1/KIRITATI//KACHU/4/PBW343*2/KUKUNA*2//FRTL/PIFED	SDSS12B01152T-0Y-0B-0B-4Y-0B-0MXI	Landraces
L <sub>3</sub>	D67.2/PARANA 66.270//AE.SQUARROSA (185) /3/KACHU/4/BAJ #1	SDSS12B00840T-0Y-0B-0B-6Y-0B-0MXI	Synthetic bread wheat
L <sub>4</sub>	BCN//SORA/AE.SQUARROSA (323)/4/WBLL1/KUKUNA//TACUPETO F2001/3/BAJ #1/5/SERI.1B//KAUZ/HEVO/3/AMAD*2/4/KIRITATI	SDSS12B00908T-0Y-0B-0B-2Y-0B-0MXI	Synthetic bread wheat
L <sub>5</sub>	Vorobey	CMSS96Y02555S	Advance line
L <sub>6</sub>	AMSEL/ATTILA//INQ.91/PEW'S' (Punjab-11)	Pb.30196-1A-0A-2A-0A	Approved variety

**Table S2** Threshold value of FTSW ( $C_{FTSW}$ ) for 6 wheat genotypes under ambient and elevated CO<sub>2</sub>.

Genotype	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	L <sub>5</sub>	L <sub>6</sub>
$C_{FTSW}$ 400 ppm	0.61±0.13	0.46±0.03	0.39±0.02	0.61±0.08	0.55±0.04	0.43±0.05
$C_{FTSW}$ 800 ppm	0.55±0.08	0.53±0.09	0.72±0.05	0.53±0.05	0.72±0.04	0.64±0.11