

**Supplementary Table S7** | Promising accessions identified for different traits for both non-stressed (NS) and heat-stressed (HS) environments.

<b>Traits</b>	<b>Environ-ments</b>	<b>Top 10 promising accessions for different morpho-physiological and yield-related traits</b>
Chlorophyll Content (CCI)	NS	IC573461, EC414149, IC111800, IC252444, IC539531, IC252653, IC265318, EC574731, IC252414, EC576066 ( <b>&gt;32.5</b> )
	HS	IC252444, HD2967, IC529207, IC252431, EC414149, IC128454, IC529242, IC401976, IC252739, IC252414 ( <b>&gt;27.0</b> )
CTD (°C)	NS	EC190962, CUO/79/Pru11A, HD2967, IC393878, EC576175, HD2932, IC445365, EC576066, EC277134, IC566223 ( <b>&gt;8.5 °C</b> )
	HS	IC542509, EC534487, IC443661, IC539221, IC539287, IC252348, IC539531, IC543293, IC446713, IC535176 ( <b>&gt;9.0 °C</b> )
NDVI	NS	IC542509, IC566223, IC549437, IC445449, IC252444, IC443661, IC543293, IC252431, IC529207, IC536483 ( <b>&gt;0.6720</b> )
	HS	IC542509, IC566223, IC549437, IC445449, IC542547, IC252444, IC075240, IC277741, IC528965, HD2967 ( <b>&gt;0.560</b> )
MSI (%)	NS	IC252816, EC573527, IC535176, IC539531, IC416055, IC372643, EC576707, IC528965, IC549437, IC542509 ( <b>&gt;76.0%</b> )
	HS	IC542544, IC536483, IC524299, IC566223, EC574735, EC573527, IC342668, EC574849, IC393878, CUO/79/ Pru 11A ( <b>&gt;67.0%</b> )
Plant Waxiness (0-10 scale)	NS	IC528965, IC529207, IC303071, EC277134, CUO/79/Pru11A, IC335792, IC543425, IC144911, IC252867, EC576066 ( <b>&gt;8.5</b> )
	HS	IC528965, IC529207, CUO/79/Pru 11A, EC277134, IC416055, IC543425, IC144911, IC303071, EC576066, HD2932 ( <b>&gt;8.5</b> )
Leaf Rolling (0-10 scale)	NS	IC416019, IC416018, IC416055, IC543425, IC335792, IC252620, EC277134, IC416078, IC549437, IC443694 ( <b>&gt;7.5</b> )
	HS	IC416055, IC416019, IC416018, IC543425, IC445449, IC265318, IC528965, IC443694, EC277134, CUO/79/ Pru 11A ( <b>&gt;8.0</b> )
Days to 50% Anthesis	NS	WR544, IC252867, IC536050, IC252999, EC576585, IC536162, IC401940, IC535717, EC576317, IC252414 ( <b>&lt; 86.0 days</b> )
	HS	WR544, EC576585, IC536162, IC252999, EC190899, IC252867, IC536050, IC416075, IC572925, IC443653 ( <b>&lt;70.0 days</b> )
Grain Filling Period (days)	NS	IC393878, WR544, IC401940, EC576317, IC252867, IC536162, IC252999, IC372643, IC539531, IC524299 ( <b>&gt;37.0 days</b> )
	HS	IC252725, IC539531, IC401940, IC393878, IC416075, IC443653, IC535717, WR544, IC401976, IC265318 ( <b>&gt;30.5 days</b> )
Plant Height (cm)	NS	EC577013, IC252816, EC576707, IC277741, EC576585, IC627711, EC576175, IC446713, IC402055, IC539287 ( <b>&gt;126.0 cm</b> )
	HS	EC576585, IC627711, IC075240, EC577013, IC252816, IC446713, EC576175, IC539221, EC576707, IC402055 ( <b>&gt;116.0</b> )
Peduncle Length (cm)	NS	EC577013, IC535176, IC075240, EC576585, IC446713, EC576317, EC576707, IC627711, IC252816, EC576175 ( <b>&gt;47.0 cm</b> )
	HS	IC535176, EC576317, EC576585, IC627711, IC075240, EC577013, IC446713, EC576707, IC539221, IC290191 ( <b>&gt;44.0 cm</b> )
Flag Leaf Area (cm <sup>2</sup> )	NS	IC401976, IC539221, IC542509, IC539531, IC277741, IC443661, IC535176, IC279617, IC536081, IC252348 ( <b>&gt;45.0</b> )
	HS	IC542509, IC401976, WR544, IC539221, EC574731, IC529207, IC443640,

		EC576585, EC414149, IC128454 (> <b>30.0 cm<sup>2</sup></b> )
Spike Length (cm)	NS	IC542509, IC401976, IC539221, IC443661, IC252414, IC529207, IC566223, IC277741, EC178071, EC576066 (> <b>13.0 cm</b> )
	HS	IC539221, IC443661, IC401976, IC252348, IC252414, IC252619, CUO/79/ Pru 11A, IC277741, IC529207, IC401940 (> <b>12.0 cm</b> )
NSS	NS	IC401976, IC539531, IC543425, IC535176, IC277741, IC529207, IC566223, EC534487, IC128454, IC252414 (> <b>22.0</b> )
	HS	IC401976, IC416078, IC240818, IC252619, IC566223, IC252414, IC529207, IC539531, IC443661, IC539221 (> <b>20.0</b> )
Grain Length (mm)	NS	IC539287, IC401940, IC393878, EC574731, IC401976, IC416018, IC416019, IC573461, IC627711, CUO/79/ Pru 11A (> <b>7.0 mm</b> )
	HS	IC539287, IC401976, IC627711, IC416018, IC393878, Raj3765, CUO/79/Pru11A, IC401940, IC252816, IC416075 (> <b>7.0 mm</b> )
Grain Width (mm)	NS	EC414149, IC333095, IC573461, IC401976, IC393878, EC574849, HD2932, IC443694, EC576585, CUO/79/ Pru 11A (> <b>3.7 mm</b> )
	HS	EC414149, IC401976, IC333095, IC535176, IC393878, EC576585, IC443661, IC539531, IC536468, IC443653 (> <b>3.5 mm</b> )
1000-Grain Weight (g)	NS	IC573461, CUO/79/ Pru 11A, IC539221, IC342668, IC524299, EC414149, IC401976, IC393878, IC416019, EC178071 (> <b>49.0 g</b> )
	HS	IC539221, EC178071, IC401976, IC535176, EC576585, IC393878, IC401940, IC539531, EC414149, IC416075 (> <b>42.0 g</b> )
Harvest Index (%)	NS	IC416018, EC277134, IC372643, IC335792, IC393878, IC252619, HD2967, IC252620, IC401940, IC572925 (> <b>45.0 %</b> )
	HS	IC443653, IC333095, IC536468, WR544, IC279617, IC416019, IC252867, IC539531, IC572925, IC401940 (> <b>39.0 %</b> )
Grain Yield (g/m <sup>2</sup> )	NS	IC277741, CUO/79/Pru11A, IC252431, EC190899, IC524299, IC553599, EC277134, HD2967, EC576175, IC573461 (> <b>655 g</b> )
	HS	IC566223, IC128454, IC335792, EC576707, IC535176, IC529207, IC543425, HD2967, IC393878, IC416018 (> <b>508 g</b> )