Supplementary Material

Mild preflowering drought priming improves stress defences, assimilation and sink strength in rice under severe terminal drought

R. N. Bahuguna[A,B], *A. Tamilselvan*[A,C], *R. Muthurajan*[C], *C. A. Solis*[A] *and S. V. K. Jagadish*[A,D,E]

[A]International Rice Research Institute, DAPO BOX 7777, Metro Manila 4030, Philippines.

[B]Indian Agricultural Research Institute, New Delhi 110012, India.

[C]Centre for Plant Molecular Biology, Tamil Nadu Agricultural University, Coimbatore 641003, India.

[D]Department of Agronomy, Kansas State University, Throckmorton Center, Manhattan, KS 66506, USA.
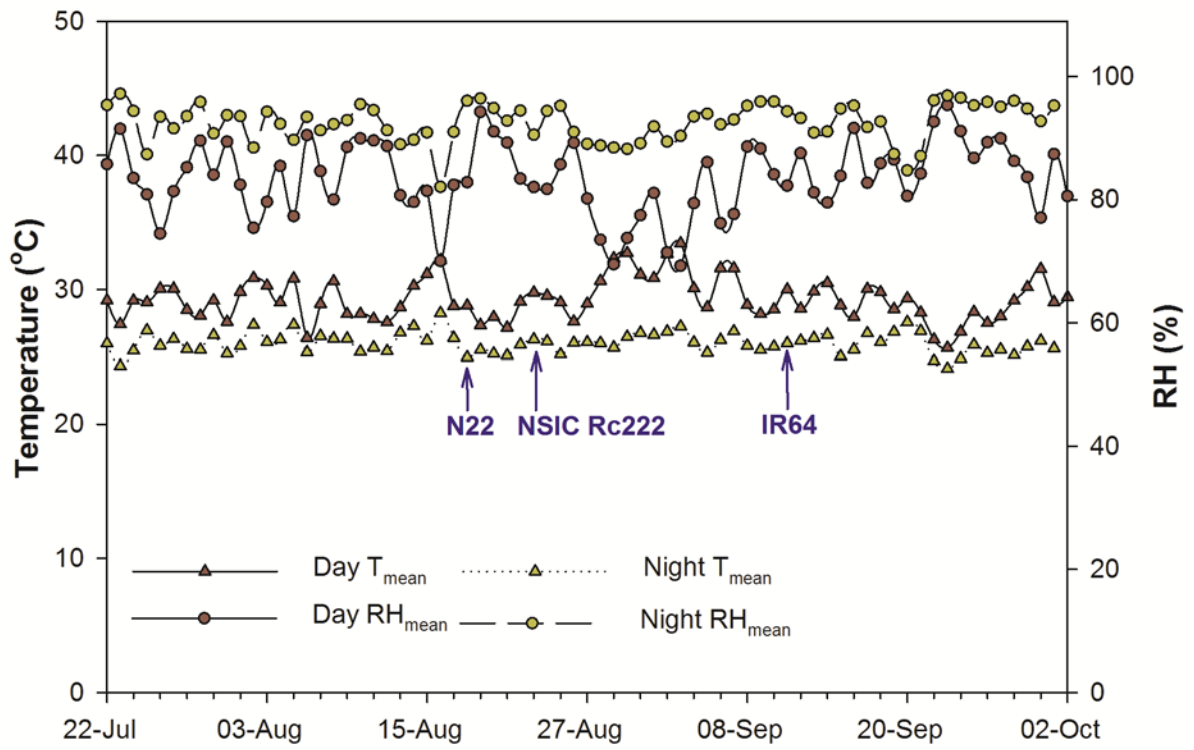
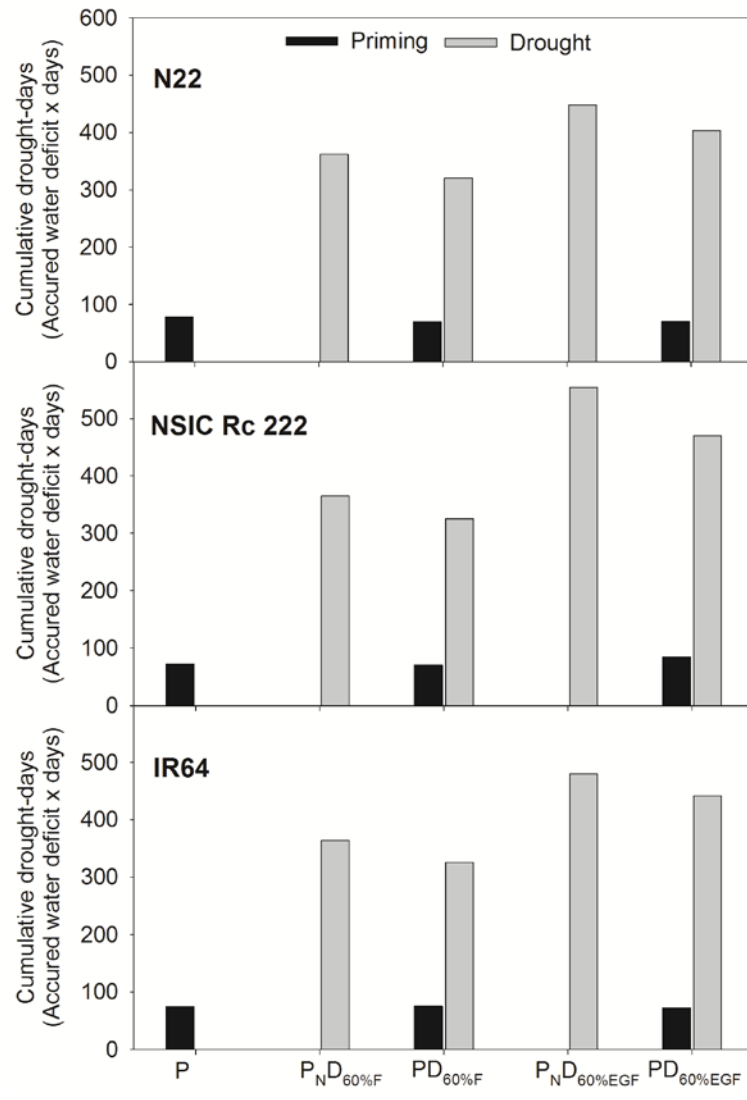[E]Corresponding author. Email: kjagadish@ksu.edu

Fig S1

Fig S2

Table S1. *ANOVA* table for seed set and grain yield of rice cultivars N22, NSICRC222 and IR64

Values represent least significant difference for each trait. Significance level: *P<0.05, ***P<0.001

Interaction	Seed set (%)	Grain yield (g plant^{-1})
Cultivar (C)	3.95***	2.65***
Treatment (T)	5.59***	3.75***
C x T	9.78*	6.50***

Table S2. *ANOVA* table for TBARs content analyzed in the flag leaf of rice cultivars N22, NSIC Rc222 and IR64 at flowering and early grain filling stage

Values represent least significant difference for each trait. Significance level: *P<0.05, ***P<0.001

Interaction	TBARs (μg g^{-1} FW)	
	Flowering	Early grain filling
Cultivar (C)	1.73***	1.88***
Treatment (T)	1.73***	1.88***
C x T	2.99*	3.25***

Table S3. *ANOVA* table for gas exchange traits observed in flag leaf of rice cultivars N22, NSIC Rc222 and IR64 at flowering and early grain filling stage

Values represent least significant difference for each trait. A, CO_2 assimilation rate; g_s, stomatal conductance; E, transpiration rate. Significance level: *P<0.05*; ****P<0.001*; ns, non significant

Interaction	A $(\mu mol\ m^{-2}\ s^{-1})$	g_s $(mol\ m^{-2}\ s^{-1})$	C_i $(\mu mol\ mol^{-1})$	E $(mmol\ m^{-2}\ s^{-1})$
Cultivar (C)	0.90*	ns	9.53***	ns
Treatment (T)	1.27***	0.10***	13.48***	0.80***
C x T	ns	ns	23.35*	ns

Table S4. *ANOVA* table for enzymes activity in spikelets of rice cultivars N22, NSIC Rc222 and IR64 at early grain filling stage

Values represent least significant difference for each trait. CI, Cytosolic invertase; VI, Vacuolar invertase; CWI, Cell wall invertase; SuSy, Sucrose synthase; SSS, Soluble starch synthase. Significance level: *P<0.05*; ***P<0.01*; ****P<0.001*; ns, non significant

Interaction	CI $(nmol\ min^{-1}$ $mg^{-1}\ protein)$	VI $(nmol\ min^{-1}$ $mg^{-1}\ protein)$	CWI $(nmol\ min^{-1}$ $mg^{-1}\ protein)$	SuSy $(\mu mol\ h^{-1}\ mg^{-1}$ $protein)$	SSS $(nmol\ min^{-1}$ $mg^{-1}\ protein)$
Cultivar (C)	5.19***	4.38***	2.53***	0.22***	ns
Treatment (T)	5.19*	4.38*	2.53***	0.22***	2.04***
C x T	ns	7.59**	4.38***	0.39***	ns