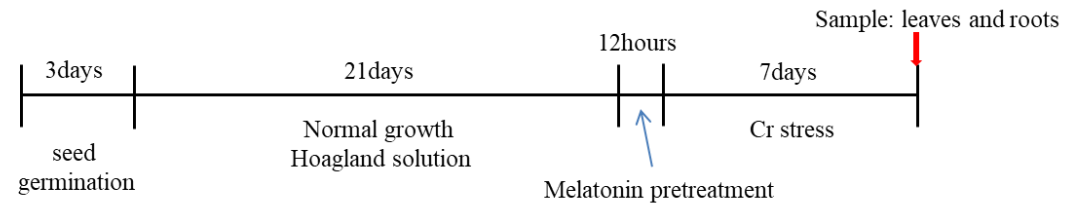**Table S1.** Melatonin and Cr induced changes in genes transcripts involved in heavy metal transport

Transcript_ID	Annotation	R-Cr VS R-C	R-Cr+M VS R-Cr
Zm00001d027884	*heavy metal ATPase2*	1.56	-1.23
GRMZM2G029951	*heavy metal ATPase4*	1.78	-1.09
Zm00001d015829	*heavy metal ATPase4*	2.31	-1.84

Table S3. Gene specific primers used in this study

Primer name	Transcript_ID or GenBank accession no.	Annotation	Forward	Reverse
ZmUbi-2-RT	NM_001329666.1	Polyubiquitin	TGGTTGTGGCTTCGTTGGTT	GCTGCAGAAGAGTTTTGGGTACA
ZmGAUT-RT	*Zm00001d009808*	*Galacturonsyl-transferase*	AGTTACTGCCTCTGGTCT	CACTCTGCCTTGTATGGA
ZmPME-RT	*Zm00001d005465*	*Pectin methylesterase*	GCAAGGACCTGCCCAAGAAC	CGGATGCCTCGGTGATGAG
ZmSAT-RT	*Zm00001d038737*	*Serine acetyltransferase*	AGTCGGAGGACGACGAGACC	GAGGAGGCAGTGGGAGAAGC
ZmGST-RT	*Zm00001d010870*	*Glutathione S-transferase*	GACCTCACGCTCTTTGAATCCC	GCGAAGCACTCCACCACGAT
ZmSOD-RT	*Zm00001d029170*	*Superoxide dismutase*	GGTGAAGGCTGTTGCTGT	CTCTGCCAATGATTGAGTTT
ZmAPX-RT	*Zm00001d023582*	*Ascorbate peroxidase*	CAAGAACATTACCGAGTGG	CTGGCAAGCTGAAACAGA
ZmNR-RT	*Zm00001d031494*	*Ascorbate peroxidase*	TTTTCTGATTCCTCGTGTT	TCTACTCTTCCTAGCCTTACTG
ZmTDC-RT	*Zm00001d024664*	*Tryptophan decarboxylasee*	TTCTTCCCGTCCACCAACAG	GGAGACAAGCGTGACGAGCAT

Maize experiment

Sample: leaves and roots

3days	21days	12hours	7days

seed germination

Normal growth
Hoagland solution

Melatonin pretreatment

Cr stress

Arabidopsis thaliana **experiment**

Sample: leaves and roots

3days	7days	12hours	24hours	3days

seed germination

Normal growth
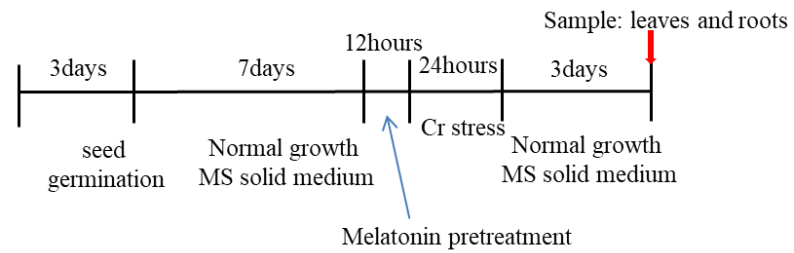MS solid medium

Melatonin pretreatment

Cr stress

Normal growth
MS solid medium

Figure. S1 The scheme of the experiment