

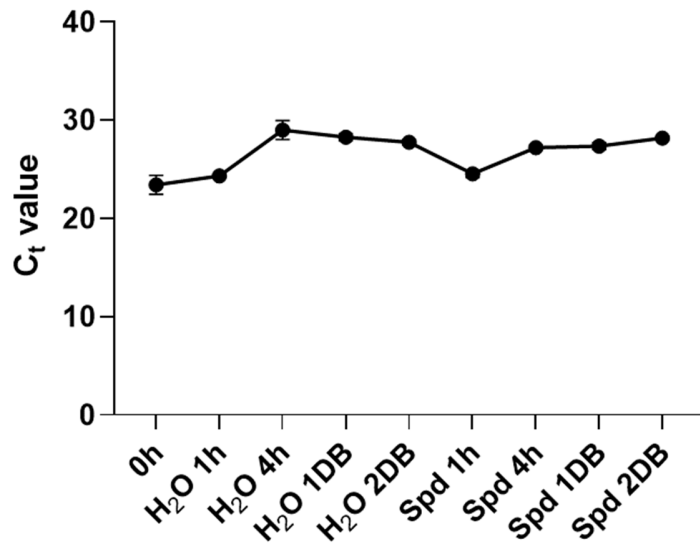


Figure S1. C_t values of *Tub* gene utilized as reference in the experimental system, including the selected rehydration (1 and 4 h) and dehydration (1 and 2 h) time points.

Table S1. Relative expression of DDR, cyclin, and polyamines biosynthesis genes evaluated by qRT-PCR in *P. alba* Clone Villafranca seeds. Data were subsequently normalized through Z score to generate the heatmap presented in the main text. UP, unprimed; HP, hydroprimed; SP, spermidine (10 mM)-treated seeds; UA, unaged dry seed; AA, artificially aged dry seed; Rh, aged imbibed seed; *ABI3*, B3 Domain-Containing Transcription Factor ABI3; *FUS3*, B3 Domain-Containing Transcription Factor FUS3-like; *SPDS1*, Spermidine synthase 1; *SPMS*, Spermine synthase; *APX*, Ascorbate peroxidase, cytosolic like; *CYCB1*, Cyclin B1-2; *CDKA1*, Cyclin dependent kinase A; *CYCD2*, Cyclin D2-1 like.

	0 h	H ₂ O 1h	H ₂ O 4h	H ₂ O 1DB	H ₂ O 2DB	Spd 1h	Spd 4h	Spd 1DB	Spd 2DB
<i>ABI3</i>	1.86 ± 2.37e-01	2.32e-01 ± 2.33e-02	2.33e-02 ± 8.91e-03	2.12e-02 ± 4.93e-03	1.05e-02 ± 8.82e-04	2.91e-01 ± 2.02e-02	3.16e-02 ± 4.67e-03	1.22e-02 ± 2.50e-03	4.22e-02 ± 2.05e-03
<i>FUS3</i>	1.81e-02 ± 4.61e-03	1.74e-03 ± 3.51e-04	1.82e-03 ± 3.57e-04	3.97e-04 ± 8.03e-05	2.83e-03 ± 7.95e-04	3.26e-03 ± 2.22e-04	8.10e-04 ± 1.40e-04	9.26e-04 ± 6.57e-05	2.42e-02 ± 5.27e-03
<i>SPDS1</i>	1.02e+00 ± 9.07e-02	3.63e+00 ± 7.73e-01	5.72e-03 ± 9.93e-04	2.55e-02 ± 1.31e-02	2.50e+00 ± 2.33e-01	1.29e-02 ± 1.67e-03	4.01e-03 ± 5.36e-04	9.72e-04 ± 7.46e-05	7.96e-02 ± 1.03e-02
<i>SPMS</i>	2.50e+00 ±2.33e-01	2.38e- 01±3.23e-02	3.26e- 02±1.09e-02	1.09e- 01±9.77e-02	7.63e- 03±7.47e-04	9.90e- 02±4.40e-02	7.22e- 03±6.64e-03	5.69e- 03±3.16e-03	3.01e- 02±2.40e-03
<i>APX</i>	6.22e+00 ± 3.06e-01	1.61e-01 ± 2.24e-02	4.88e-03 ± 3.40e-03	1.39e-02 ± 4.81e-03	5.38e-03 ± 1.85e-03	9.48e-02 ± 1.67e-02	4.51e-03 ± 2.56e-03	4.75e-03 ± 2.75e-03	8.62e-01 ± 1.91e-01
<i>CycB1</i>	7.42e-01 ± 1.40e-01	2.31e-02 ± 1.09e-02	3.28e-03 ± 1.73e-03	2.26e-03 ± 4.28e-05	2.40e-03 ± 8.85e-05	1.98e-02 ± 6.09e-03	2.14e-03 ± 5.49e-04	1.18e-03 ± 2.15e-04	1.66e+00 ± 2.24e-01
<i>CDKA1</i>	4.09e+00 ± 2.83e-01	3.37e-01 ± 4.22e-02	2.61e-02 ± 4.27e-03	1.10e-02 ± 2.85e-03	5.53e-02 ± 1.06e-02	1.66e-01 ± 2.90e-02	1.49e-02 ± 4.18e-03	1.46e-02 ± 1.77e-03	8.19e-02 ± 1.79e-02
<i>CycD2</i>	1.14e +00 ± 1.05e-01	7.14e-02 ± 1.16e-02	4.85e-03 ± 8.03e-04	2.28e-03 ± 4.32e-04	3.02e+00 ± 3.40e-01	2.12e-02 ± 9.76e-03	4.33e-03 ± 1.63e-03	1.41e-03 ± 4.15e-04	9.71e-02 ± 6.55e-03