Supplementary Table S2 Statistical analysis of *PWMRKY* gene expression profiles

Natural leaf senescence (days from full leaf expansion)

PWMRKY063

One-way analysis of variance P value = 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-1.643	3.493	No	ns	-3.377 to 0.09019
0 w 11	-3.434	7.209	Yes	***	-5.168 to -1.701
0 w 18	-4.672	9.810	Yes	***	-6.405 to -2.938
0 w 25	-5.356	11.27	Yes	***	-7.089 to -3.622
0 w 33	-5.017	10.55	Yes	***	-6.750 to -3.283

PWMRKY030

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-1.118	2.66	No	ns	-3.166 to 0.9722
0 w 11	-0.825	1.913	No	ns	-2.815 to 1.165
0 w 18	-2.868	6.16	Yes	***	-4.868 to -0.8684
0 w 25	-4.986	9.166	Yes	***	-6.989 to -2.009
0 w 33	-4.548	8.359	Yes	***	-6.538 to -2.558

PWMRKY028

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-2.33	4.967	Yes	***	-4.069 to 0.5667
0 w 11	-2.382	6.968	Yes	***	-5.145 to -1.619
0 w 18	-4.068	11.89	Yes	***	-6.832 to -2.305
0 w 25	-5.491	13.25	Yes	***	-7.254 to -3.728
0 w 33	-6.22	12.87	Yes	***	-7.983 to -4.457

PWMRKY002

One-way analysis of variance P value = 0.0081

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.7669	2.98	No	ns	-2.175 to 0.6372
0 w 11	-1.466	3.601	Yes	**	-2.882 to -0.0797
0 w 18	-1.282	3.274	No	ns	-2.668 to 0.1465
0 w 25	-1.703	4.073	Yes	**	-3.165 to -0.3173
0 w 33	-1.427	3.703	Yes	*	-2.833 to -0.02049

PWMRKY033

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-2.773	2.459	No	ns	-6.426 to 0.8705
0 w 11	-3.774	4.75	Yes	***	-6.427 to -1.121
0 w 18	-3.98	5.474	Yes	**	-6.633 to -1.327
0 w 25	-5.662	8.502	Yes	***	-8.465 to -2.179
0 w 33	-7.302	10.04	Yes	***	-9.955 to -4.649

PWMRKY004

One-way analysis of variance P value = 0.0265

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.8289	2.966	No	ns	-1.639 to 0.1808
0 w 11	-0.8122	2.905	No	ns	-1.622 to 0.1975
0 w 18	-0.4517	1.602	No	ns	-1.261 to 0.3581
0 w 25	-0.9867	3.561	No	ns	-1.966 to 0.03333
0 w 33	-0.9689	3.501	No	ns	-1.979 to 0.04843

PWMRKY053

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.6533	2.01	No	ns	-1.639 to 0.5326
0 w 11	-0.48	1.477	No	ns	-1.656 to 0.7561
0 w 18	-1.128	3.471	No	ns	-2.314 to 0.05749
0 w 25	-2.972	9.143	Yes	***	-4.158 to -1.786
0 w 33	-1.753	5.271	Yes	***	-2.899 to -0.5772

PWMRKY006

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.8889	2.516	No	ns	-2.178 to 0.4001
0 w 11	-1.91	5.407	Yes	***	-3.199 to -0.6215
0 w 18	-2.605	7.421	Yes	***	-3.914 to -1.296
0 w 25	-3.561	10.08	Yes	***	-4.850 to -2.272
0 w 33	-4.518	12.79	Yes	***	-5.807 to -3.229

PWMRKY055

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-1.916	4.603	Yes	***	-2.711 to -0.2008
0 w 11	-1.535	4.688	Yes	**	-2.731 to -0.3394
0 w 18	-1.165	3.277	No	ns	-2.361 to 0.06058
0 w 25	-3.172	9.68	Yes	***	-4.367 to -1.976
0 w 33	-2.777	8.474	Yes	***	-3.972 to -1.581

PWMRKY007

One-way analysis of variance P value = 0.7757

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	0.3	0.7303	No	ns	-1.570 to 2.170
0 w 11	0.2444	0.677	No	ns	-1.626 to 2.115
0 w 18	0.6717	1.859	No	ns	-1.199 to 2.542
0 w 25	0.06333	0.1604	No	ns	-1.767 to 1.953
0 w 33	0.5133	1.593	No	ns	-1.357 to 2.383

PWMRKY072

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-1.754	4.271	Yes	***	-3.645 to -0.3683
0 w 11	-3.503	9.291	Yes	***	-5.879 to -2.127
0 w 18	-4.495	11.92	Yes	***	-5.871 to -3.119
0 w 25	-4.859	13.89	Yes	***	-6.235 to -3.483
0 w 33	-7.232	19.18	Yes	***	-8.608 to -5.856

PWMRKY069

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-1.671	4.168	Yes	*	-3.134 to -0.2081
0 w 11	-2.006	5.077	Yes	**	-3.469 to -0.5725
0 w 18	-1.918	4.516	Yes	*	-3.261 to -0.3553
0 w 25	-3.024	7.569	Yes	***	-4.497 to -1.571
0 w 33	-3.62	9.029	Yes	***	-5.083 to -2.157

PWMRKY024

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.4189	0.9568	No	ns	-2.013 to 1.175
0 w 11	-2.548	6.07	Yes	***	-4.143 to -0.9538
0 w 18	-2.895	6.825	Yes	***	-4.489 to -1.301
0 w 25	-2.951	6.701	Yes	***	-4.545 to -1.357
0 w 33	-4.741	10.85	Yes	***	-6.335 to -3.147

PWMRKY075

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.8767	1.328	No	ns	-4.014 to 2.261
0 w 11	0.6232	0.9487	No	ns	-2.514 to 3.761
0 w 18	-1.863	2.813	No	ns	-4.999 to 1.276
0 w 25	-3.263	4.962	Yes	*	-6.401 to -0.1265
0 w 33	-6.526	9.9	Yes	***	-9.675 to -3.400

PWMRKY015

One-way analysis of variance P value = 0.0076

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.3878	3.001	No	ns	-1.601 to 1.025
0 w 11	-0.2399	0.6168	No	ns	-1.652 to 1.174
0 w 18	-0.47	1.214	No	ns	-1.883 to 0.9431
0 w 25	-0.4433	1.165	No	ns	-1.856 to 0.9696
0 w 33	-1.816	4.689	Yes	**	-3.229 to -0.4014

PWMRKY054

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-1.53	3.649	No	ns	-3.644 to 0.5609
0 w 11	-2.15	7.06	Yes	**	-4.264 to -0.036
0 w 18	-4.142	13.69	Yes	***	-6.256 to -2.028
0 w 25	-5.064	16.28	Yes	***	-7.178 to -2.951
0 w 33	-4.968	15.17	Yes	***	-7.082 to -2.854

PWMRKY070

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 4	-0.6511	1.862	No	ns	-2.812 to 1.510
0 w 11	-2.063	3.801	Yes	*	-3.724 to -0.4022
0 w 18	-2.395	7.021	Yes	**	-4.256 to -0.5328
0 w 25	-3.751	10.82	Yes	***	-5.412 to -2.090
0 w 33	-3.142	9.587	Yes	***	-4.803 to -1.481

Natural corolla senescence (days from anthesis)

PWMRKY063

One-way analysis of variance P value = 0.0032

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-2.077	2.852	No	ns	-4.685 to 0.5319
0 w 8	-4.51	2.074	No	ns	-4.119 to 1.098
0 w 9	-2.361	3.242	No	ns	-4.969 to 0.2408
0 w 11	-4.113	5.649	Yes	**	-6.721 to -1.505

PWMRKY030

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-4.929	8.601	Yes	***	-7.603 to -2.255
0 w 8	-6.54	8.759	Yes	***	-9.214 to -3.866
0 w 9	-6.382	9.548	Yes	***	-9.056 to -3.708
0 w 11	-7.536	10.1	Yes	***	-10.21 to -4.864

PWMRKY028

One-way analysis of variance P value = 0.0017

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-2.93	2.57	No	ns	-7.013 to 1.152
0 w 8	-2.93	2.57	No	ns	-7.013 to 1.152
0 w 9	-3.02	2.65	No	ns	-7.102 to 1.062
0 w 11	-7.07	6.201	Yes	**	-11.15 to -2.987

PWMRKY002

One-way analysis of variance P value = 0.0007

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	0.2778	0.9229	No	ns	-0.7875 to 1.343
0 w 8	0.5233	1.759	No	ns	-0.5419 to 1.589
0 w 9	1.145	2.834	Yes	*	0.07529 to 2.206
0 w 11	-0.8753	2.538	No	ns	-1.939 to 0.1813

PWMRKY033

One-way analysis of variance P value = 0.0014

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 2	-1.684	1.843	No	ns	-4.840 to 1.552
0 w 6	-2.875	4.222	No	ns	-6.031 to 0.2812
0 w 9	-2.796	3.133	No	ns	-5.992 to 0.4005
0 w 11	-5.538	6.208	Yes	**	-8.734 to -2.343

PWMRKY004

One-way analysis of variance P value = 0.0005

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	-0.6078	1.316	No	ns	-1.517 to 0.7016
0 w 6	-0.2063	0.5705	No	ns	-1.118 to 0.8046
0 w 9	-1.458	4.709	Yes	**	-2.569 to -0.3490
0 w 11	-1.808	5.963	Yes	***	-2.938 to -0.7188

PWMRKY053

One-way analysis of variance P value= 0.0005

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	-2.938	3.182	No	ns	-5.884 to 0.1845
0 w 6	-2.737	3.239	No	ns	-5.683 to 0.2095
0 w 9	-3.54	4.195	Yes	*	-6.571 to -0.5101
0 w 11	-4.171	4.936	Yes	**	-7.197 to -1.145

PWMRKY006

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-1.44	3.196	No	ns	-2.959 to 0.07954
0 w 8	-1.65	3.691	Yes	*	-3.169 to -0.1315
0 w 9	-3.135	7.37	Yes	***	-4.654 to -1.616
0 w 11	-3.53	8.325	Yes	***	-5.049 to -2.011

PWMRKY055

One-way analysis of variance P value = 0.001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	-2.886	3.124	No	ns	-5.826 to 0.1496
0 w 6	-2.665	2.473	No	ns	-5.413 to 0.08392
0 w 9	-3.677	4.792	Yes	*	-6.624 to -0.7308
0 w 11	-4.942	6.441	Yes	***	-7.689 to -2.194

PWMRKY007

One-way analysis of variance P value = 0.0002

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	0.9789	3.291	No	ns	-0.5664 to 2.444
0 w 6	1.372	4.611	Yes	**	0.3164 to 2.427
0 w 9	-0.39	1.311	No	ns	-1.445 to 0.6752
0 w 11	-0.4567	1.535	No	ns	-1.522 to 0.6089

PWMRKY072

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	-1.081	1.759	No	ns	-3.392 to 1.230
0 w 6	-0.9767	1.589	No	ns	-3.178 to 1.224
0 w 9	-5.725	9.316	Yes	***	-7.926 to -3.524
0 w 11	-7.037	11.45	Yes	***	-9.238 to -4.836

PWMRKY069

One-way analysis of variance ND

PWMRKY024

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	0.6244	1.068	No	ns	-1.470 to 2.719
0 w 6	2.548	4.357	Yes	***	0.4538 to 4.642
0 w 9	-3.293	5.802	Yes	**	-5.488 to -1.299
0 w 11	-4.33	7.464	Yes	***	-6.425 to -2.235

PWMRKY075

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	-0.9867	0.9303	No	ns	-4.899 to 2.895
0 w 6	-6.079	4.665	Yes	***	-9.992 to -1.167
0 w 9	-7.228	6.659	Yes	***	-11.11 to -3.341
0 w 11	-7.768	7.167	Yes	***	-11.65 to -3.887

PWMRKY015

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	-1.068	2.199	No	ns	-3.674 to 0.5877
0 w 6	-1.506	3.033	No	ns	-3.199 to 0.2727
0 w 9	-4.147	8.338	Yes	***	-6.508 to -1.786
0 w 11	-4.835	9.723	Yes	***	-6.616 to -3.054

PWMRKY054

One-way analysis of variance ND

PWMRKY070

One-way analysis of variance P value = 0.0069

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 3	-0.8461	1.287	No	ns	-3.218 to 1.526
0 w 6	-1.272	1.915	No	ns	-3.650 to 1.106
0 w 9	-1.39	2.545	No	ns	-3.768 to 0.9863
0 w 11	-3.265	4.642	Yes	**	-5.603 to -0.9536

Pollination-induced corolla senescence (hours after pollination)

PWMRKY063

One-way analysis of variance P value = 0.0014

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	0.69	2.489	No	ns	-0.3042 to 1.684
0 w 24	-0.3064	0.7436	No	ns	-1.293 to 0.7878
0 w 48	-1.079	3.881	Yes	**	-2.073 to -0.08617
0 w 72	-0.2617	1.016	No	ns	-1.276 to 0.7125

PWMRKY030

One-way analysis of variance ND

PWMRKY028

One-way analysis of variance P value = 0.0002

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	1.246	3.155	No	ns	-0.8246 to 3.316
0 w 24	-2.013	3.483	No	ns	-4.083 to 0.05668
0 w 48	-2.236	3.618	Yes	*	-4.306 to -0.1655
0 w 72	-3.714	4.696	Yes	**	-6.784 to -0.6444

PWMRKY002

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-0.02	5.491	Yes	**	-1.041 to -0.2191
0 w 24	-0.5211	4.629	Yes	**	-0.9428 to -0.1202
0 w 48	-0.5258	4.581	Yes	*	-0.9266 to -0.1247
0 w 72	-1.258	10.97	Yes	***	-1.678 to -0.8475

PWMRKY033

One-way analysis of variance P value = 0.0006

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-1.049	2.264	No	ns	-2.699 to 0.6581
0 w 24	-2.757	5.952	Yes	***	-4.426 to -1.113
0 w 48	-2.664	5.771	Yes	***	-4.318 to -1.011
0 w 72	-1.422	3.076	No	ns	-3.075 to 0.2102

PWMRKY004

One-way analysis of variance P value = 0.0004

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-0.1663	1.872	No	ns	-0.5487 to 0.1720
0 w 24	-0.3033	3.501	No	ns	-0.6827 to 0.0170
0 w 48	-0.3225	3.201	No	ns	-0.6829 to 0.03037
0 w 72	-0.7275	7.22	Yes	***	-1.098 to -0.3571

PWMRKY053

One-way analysis of variance P value= 0.0009

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	3.866	6.426	Yes	***	1.711 to 6.020
0 w 24	2.159	3.816	No	ns	-0.04556 to 4.293
0 w 48	1.714	2.85	No	ns	-0.4400 to 3.869
0 w 72	3.061	4.989	Yes	**	0.8467 to 5.156

PWMRKY006

One-way analysis of variance P value = 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	1.227	3.454	No	ns	-0.499 to 0.04541
0 w 24	-1.477	4.157	Yes	*	-2.749 to -0.2046
0 w 48	-1.719	4.839	Yes	**	-2.991 to -0.4488
0 w 72	-1.439	4.051	Yes	*	-2.711 to -0.1668

PWMRKY055

One-way analysis of variance ND

PWMRKY007

One-way analysis of variance P value = 0.0025

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	0.1722	0.5429	No	ns	-0.7665 to 1.095
0 w 24	0.2589	1.502	No	ns	-0.3568 to 0.8751
0 w 48	-0.6632	3.716	Yes	**	-1.261 to -0.05958
0 w 72	-0.2267	1.373	No	ns	-0.8529 to 0.3806

PWMRKY072

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	-1.019	1.833	No	ns	-3.329 to 1.291
0 w 24	-1.051	3.884	Yes	*	-1.924 to -0.0780
0 w 48	-3.035	11.77	Yes	***	-3.958 to -2.112
0 w 72	-3.445	13.37	Yes	***	-4.368 to -2.522

PWMRKY069

One-way analysis of variance ND

PWMRKY024

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	2.303	10.09	Yes	***	1.494 to 3.123
0 w 24	2.06	9.024	Yes	***	1.251 to 2.880
0 w 48	0.81	3.529	No	ns	-0.009754 to 1.630
0 w 72	1.352	5.25	Yes	***	0.3819 to 2.021

PWMRKY075

One-way analysis of variance ND

PWMRKY015

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	1.848	8.515	Yes	***	0.8219 to 2.838
0 w 24	0.6867	3.191	No	ns	-0.3105 to 1.687
0 w 48	0.4611	2.265	No	ns	-0.5280 to 1.451
0 w 72	2.904	13.37	Yes	***	1.915 to 3.916

PWMRKY054

One-way analysis of variance ND

PWMRKY070

One-way analysis of variance P value < 0.0001

Bonferroni's Multiple Comparison Test	Mean Diff.	q	Significant? P < 0.05?	Summary	95% CI of diff
0 w 6	1.628	4.551	Yes	***	0.8278 to 2.428
0 w 24	0.6867	3.191	No	ns	-0.3105 to 1.687
0 w 48	0.4611	2.265	No	ns	-0.5280 to 1.451
0 w 72	2.904	13.37	Yes	***	1.915 to 3.916