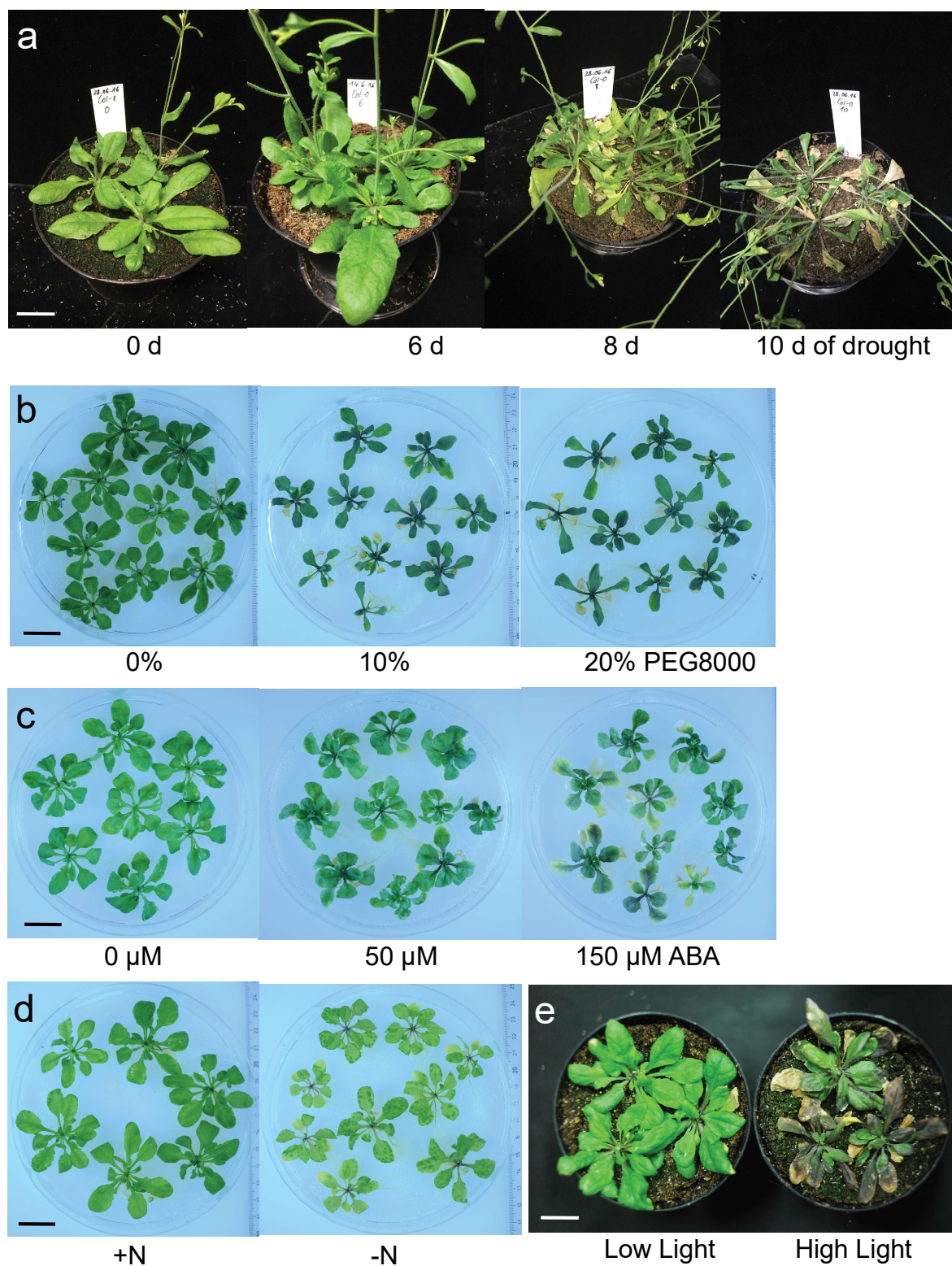


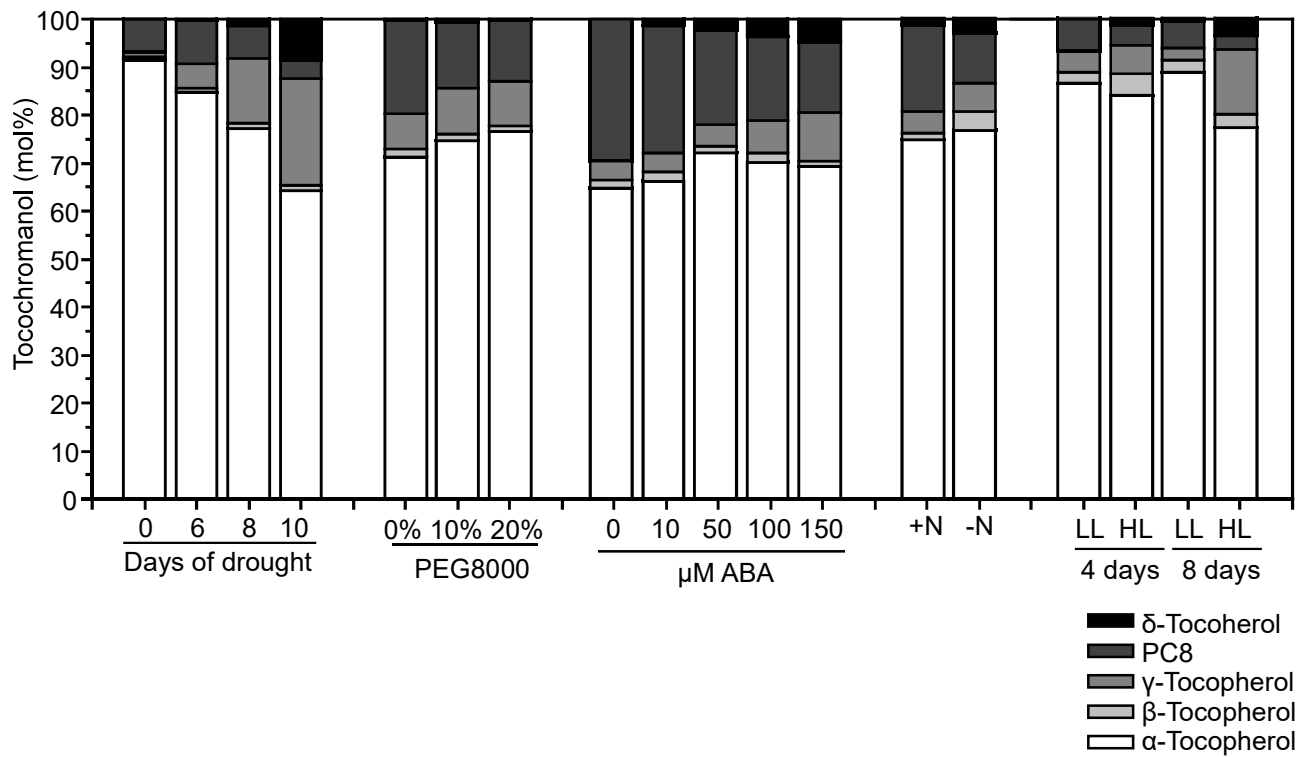
**Fig. S1** Drought and PEG8000 stress have different effects on relative water content, chlorophyll and tocopherol levels.

Col-0 plants were grown on soil under drought (left panels) for up to 10 days, or on medium with 0%, 10% or 20% of PEG8000 (right panels) for 9 days. **a** Relative water content (RWC). The boxes show 25 to 75 percentiles, the squares depict the means and the whiskers indicate the outliers (n=20). Different letters indicate significant differences.  $P < 0.05$ , one-way ANOVA, Fisher LSD.

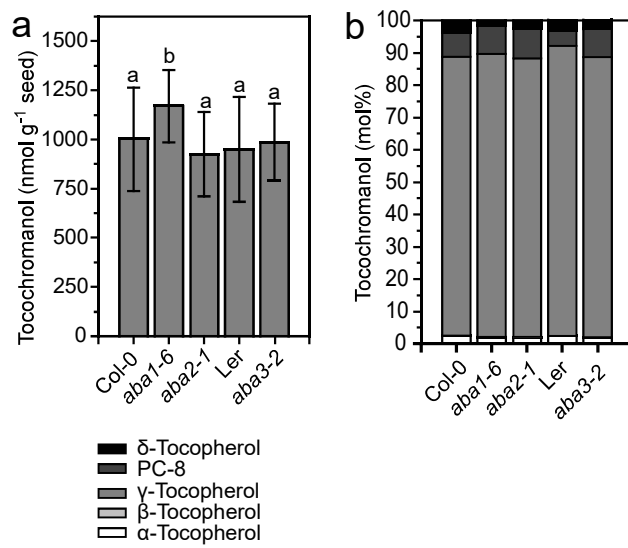
**b** Chlorophyll content. Asterisks indicate significant differences between means of control and stress treatments. \*,  $P < 0.05$ ; \*\*,  $P < 0.01$ , one-way ANOVA, Fisher LSD. (C) Tocochromanol accumulation. Tocochromanol amounts were normalized to the fresh weight (FW, top), dry weight (DW, middle) or the leaf area (bottom). Means  $\pm$  SD, n=20-35. Letters indicate differences.  $P < 0.05$ , one-way ANOVA, Fisher LSD.



**Fig. S2** Arabidopsis Col-0 plants exposed to different abiotic stress conditions. **a** Plants were grown on soil and water was withheld for 0, 6, 8 or 10 days. **b** Plants were grown on MS medium containing 0, 10 or 20% PEG8000 (w/v) for 9 days. **c** Plants grown on MS medium with 0, 50 or 150  $\mu\text{M}$  ABA for 9 days. **d** Col-0 plants grown under control (+N) and N deprived (-N) conditions for 14 days. **e** Col-0 plants grown on soil under low light (150  $\mu\text{mol s}^{-1} \text{m}^{-2}$ ) or high light (500  $\mu\text{mol s}^{-1} \text{m}^{-2}$ ) for 8 days. Bars = 2 cm.



**Fig. S3** Tocochromanol composition of Col-0 plants exposed to abiotic stresses. Distribution of  $\alpha$ -,  $\beta$ -,  $\gamma$ -,  $\delta$ - tocopherol and plastochromanol-8 (PC-8) in leaves of Col-0 plants after drought stress (0, 6, 8 or 10 days), PEG8000 treatment (0, 10, 20 % PEG8000; 9 days), treatment with ABA (0, 10, 50, 100 or 150  $\mu\text{M}$ ; 9 days), N deprivation (+N, -N; 14 days), or high light stress (low light, 150  $\mu\text{mol s}^{-1} \text{m}^{-2}$ ; high light, 500  $\mu\text{mol s}^{-1} \text{m}^{-2}$ ; 4 or 8 days). Bars represent means; n=5-3.



**Fig. S4** Tocochromanols contents and composition in seeds of *aba* mutants

Tocochromanols were measured in seeds of *aba* mutants. **a** Tocochromanol content. **b** Tocochromanol composition. Means  $\pm$  SD; n=6. One replicate equivalent to ~20 mg seeds. Different letters indicate significant differences.  $P < 0.05$  (one-way ANOVA, Fisher LSD).