

Figure S1. Senescence symptoms of arugula leaves after 17 days of storage at 4 °C. Arugula leaves were immersed in a pre-storage dip containing either 100 μM ergothioneine (EGT), 500 μM glutathione (GSH), or no antioxidant, and then stored at 4°C for 17 days. All images are from the same experiment. On the left side and right side are leaves sampled from all three antioxidant treatments on day 0 and day 17 of storage, respectively. Leaves proximal to a white asterisk denote those leaves that had symptoms of senescence and/or quality loss (e.g., one or more of yellowing, browning, translucency, wilting). Scale-bar = 10 cm.

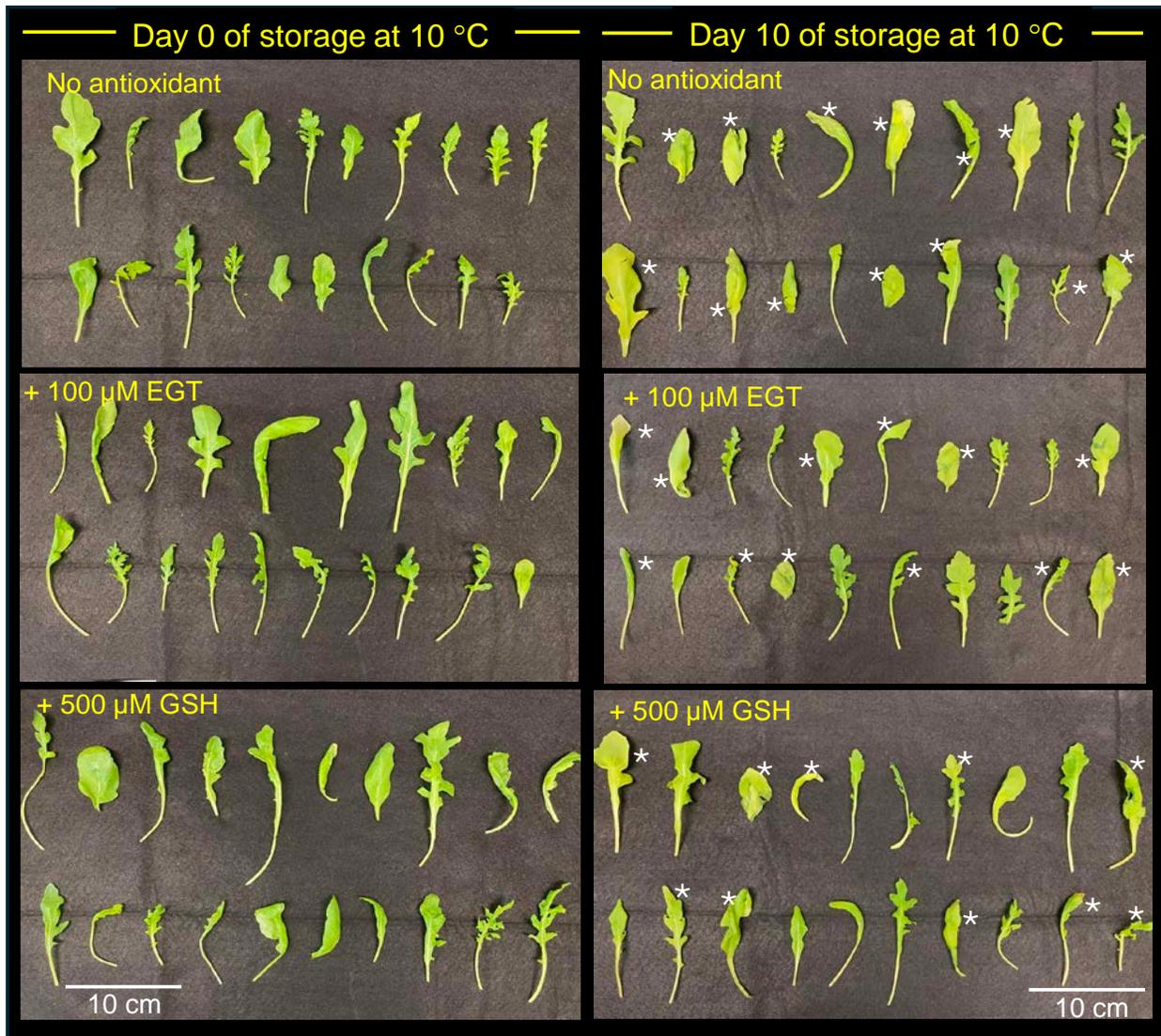


Figure S2. Senescence symptoms of arugula leaves after 10 days of storage at 10 °C. Arugula leaves were immersed in a pre-storage dip containing either 100 μ M ergothioneine (EGT), 500 μ M glutathione (GSH), or no antioxidant, and then stored at 10°C for 10 days. All images are from the same experiment. On the left side and right side are leaves sampled from all three antioxidant treatments on day 0 and day 10 of storage, respectively. Leaves proximal to a white asterisk denote those leaves that had symptoms of senescence and/or quality loss (e.g., one or more of yellowing, browning, translucency, wilting). Scale-bar = 10 cm.

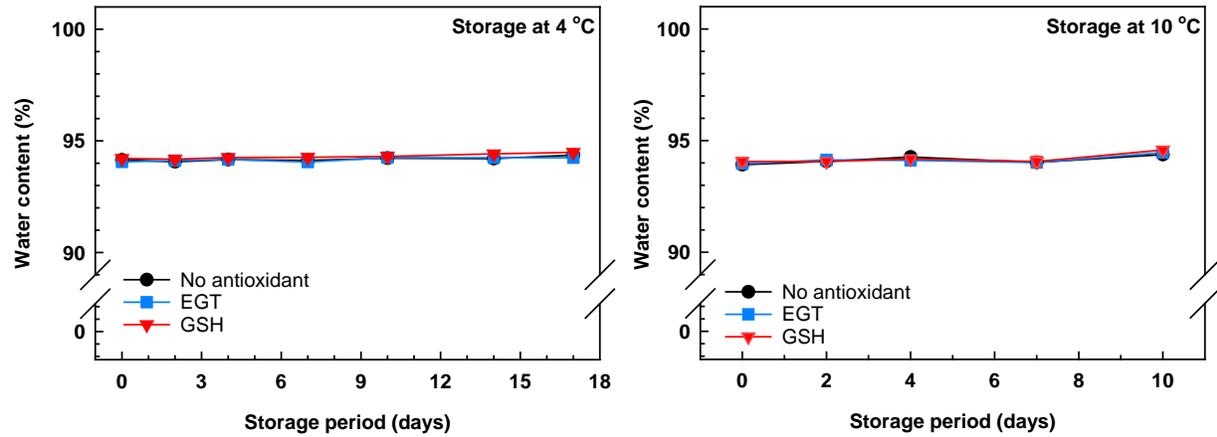


Figure S3. Water content in arugula immersed in a pre-storage dip containing either 100 μM ergothioneine (EGT), 500 μM glutathione (GSH), or no antioxidant, and then stored at 4 °C or 10 °C.

Each datum represents the mean water content \pm SE of three experimental replicates. Plots devoid of statistical lettering represent no significant differences across treatments or their sampling days ($p \leq 0.05$).

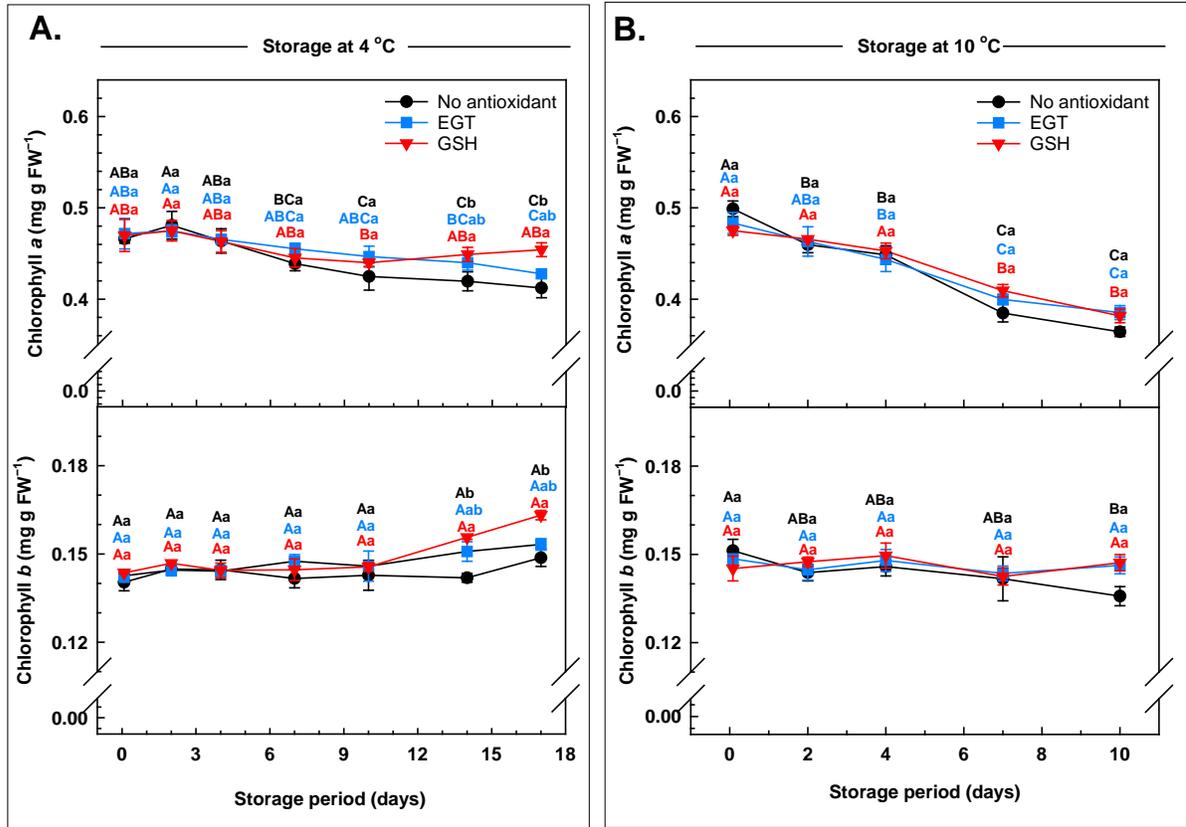


Figure S4. Chlorophyll *a* and *b* concentrations in arugula immersed in a pre-storage dip containing either 100 μ M ergothioneine, 500 μ M glutathione, or no antioxidant, and then stored at 4 °C (A) or 10 °C (B).

All data are expressed on a fresh weight basis. Each datum represents the mean chlorophyll concentration \pm SE of three experimental replicates. Within each plot, uppercase letters denote statistical comparisons within a treatment across the storage period; lowercase letters denote statistical comparisons across the treatments at each postharvest sampling time. Shared letters represent no significant difference between means at $p \leq 0.05$.

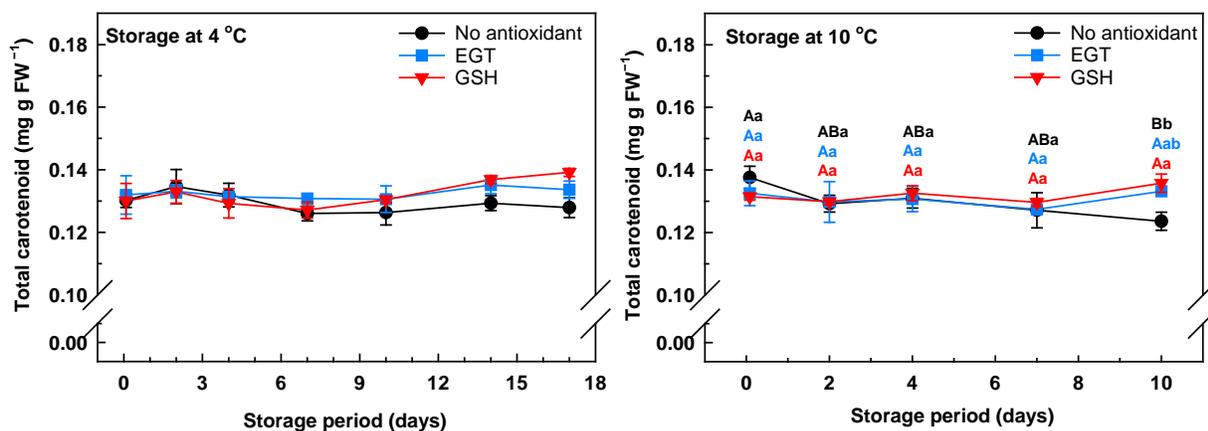


Figure S5. Total carotenoid concentrations in arugula immersed in a pre-storage dip containing either 100 μM ergothioneine, 500 μM glutathione, or no antioxidant, and then stored at 4 $^{\circ}\text{C}$ or 10 $^{\circ}\text{C}$.

All data are expressed on a fresh weight basis. Each datum represents the mean total carotenoid concentration \pm SE of three experimental replicates. Within each plot, uppercase letters denote statistical comparisons within a treatment across the storage period; lowercase letters denote statistical comparisons across the treatments at each postharvest sampling time. Shared letters represent no significant difference between means at $p \leq 0.05$. The 4 $^{\circ}\text{C}$ storage plot is devoid of statistical lettering as there were no significant differences across treatments or their sampling days

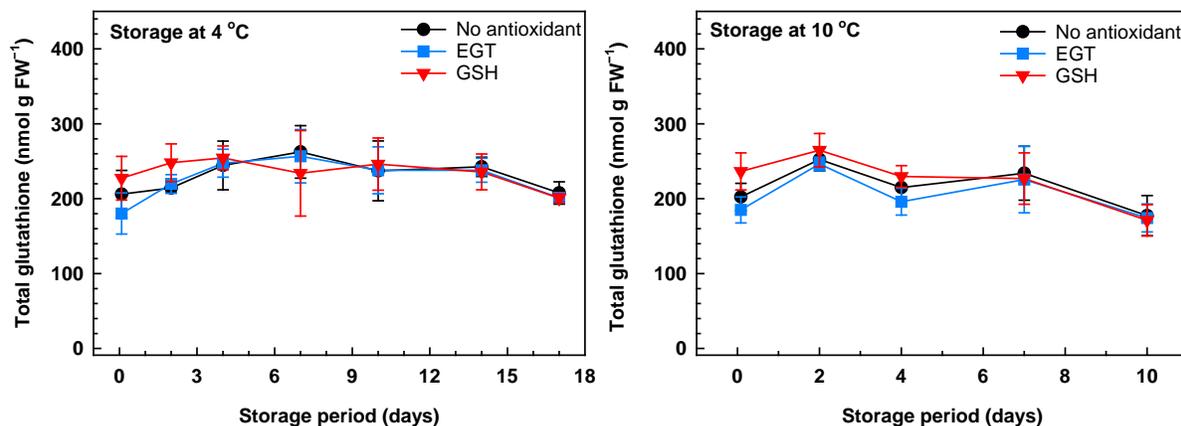


Figure S6. Total glutathione concentrations in arugula immersed in a pre-storage dip containing either 100 μM ergothioneine, 500 μM glutathione, or no antioxidant, and then stored at 4 $^{\circ}\text{C}$ or 10 $^{\circ}\text{C}$.

All data are expressed on a fresh weight basis. Each datum represents the mean total glutathione concentration \pm SE of three experimental replicates. Both plots are devoid of statistical lettering as there were no significant differences across treatments or their sampling days ($p \leq 0.05$).

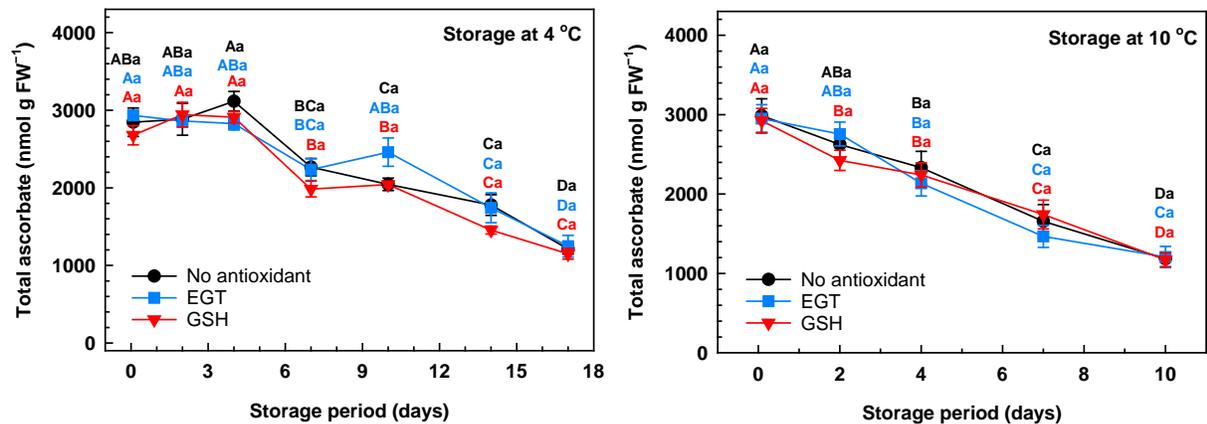


Figure S7. Total ascorbate concentrations in arugula immersed in a pre-storage dip containing either 100 μM ergothioneine, 500 μM glutathione, or no antioxidant, and then stored at 4 °C or 10 °C.

All data are expressed on a fresh weight basis. Each datum represents the mean total ascorbate concentration \pm SE of three experimental replicates. Within each plot, uppercase letters denote statistical comparisons within a treatment across the storage period; lowercase letters denote statistical comparisons across the treatments at each postharvest sampling time. Shared letters represent no significant difference between means at $p \leq 0.05$.