

Supplementary Table S1: Enzymatic and non-enzymatic antioxidant system and hydrophilic and lipophilic antioxidant activity in Hass avocado mesocarp stored for 10, 20 and 30 days at 7 °C and at their respective edible ripeness

Antioxidant system/antioxidants/antioxidant activities	Initial	Cold storage (7 °C)			Shelf life – Edible ripeness		
		10 d	20d	30d	10d*	20d*	30d*
Superoxide dismutase specific activity (U/min*mg protein)	2.89 ± 0.57 ^a	2.72 ± 0.53 ^a	2.92 ± 0.77 ^a	2.11 ± 0.41 ^{ab}	1.26 ± 0.23 ^b	1.49 ± 0.30 ^b	1.39 ± 0.32 ^b
Catalase specific activity (mM/min*mg protein)	570.8 ± 161.6 ^{ab}	615.4 ± 168.7 ^{ab}	455.2 ± 49.2 ^a	550.2 ± 112.0 ^{ab}	641.6 ± 197.8 ^{ab}	821.8 ± 205.5 ^b	736.2 ± 179.4 ^{ab}
Peroxidase specific activity (U/mg protein)	15.61 ± 2.89 ^{cd}	13.89 ± 2.89 ^{bc}	19.48 ± 2.80 ^d	15.93 ± 3.97 ^{cd}	9.08 ± 1.42 ^{ab}	7.21 ± 1.54 ^a	6.61 ± 2.74 ^a
Total phenolic compounds (mg AGE/g, DW)	0.75 ± 0.05 ^{ab}	0.62 ± 0.08 ^a	0.76 ± 0.10 ^{ab}	0.78 ± 0.06 ^{ab}	0.73 ± 0.17 ^{ab}	0.83 ± 0.21 ^{ab}	0.99 ± 0.13 ^b
Total carotenoids (mg β-caroteno/100 g, DW)	2.91 ± 0.27 ^{ab}	3.50 ± 0.94 ^{ab}	2.90 ± 0.66 ^{ab}	2.52 ± 0.39 ^b	4.54 ± 1.18 ^a	3.90 ± 1.76 ^{ab}	3.47 ± 0.17 ^{ab}
α-Tocopherol (μg/g, DW)	73.42 ± 12.93 ^a	73.83 ± 7.74 ^a	70.69 ± 7.63 ^a	60.40 ± 5.11 ^a	80.92 ± 9.58 ^a	77.75 ± 16.49 ^a	72.25 ± 5.63 ^a
β-Tocopherol (μg/g, DW)	23.32 ± 2.76 ^a	23.80 ± 5.02 ^a	24.70 ± 2.93 ^a	24.31 ± 3.14 ^a	26.58 ± 5.10 ^a	28.93 ± 4.25 ^a	28.31 ± 4.16 ^a
γ-Tocopherol (μg/g, DW)	1.72 ± 0.35 ^{bc}	2.00 ± 0.14 ^c	1.75 ± 0.42 ^{bc}	0.91 ± 0.19 ^a	1.52 ± 0.42 ^{abc}	1.29 ± 0.68 ^{abc}	1.13 ± 0.34 ^{abc}
Hydrophilic antioxidant activity (μmol TE/g, DW)	16.10 ± 0.99 ^a	13.95 ± 1.82 ^a	16.24 ± 2.08 ^a	16.07 ± 1.86 ^a	15.57 ± 4.33 ^a	14.02 ± 3.53 ^a	15.11 ± 3.48 ^a
Lipophilic antioxidant activity (μmol TE/g, DW)	4.12 ± 0.35 ^b	3.40 ± 0.44 ^{ab}	3.61 ± 0.42 ^{ab}	3.17 ± 0.52 ^a	3.15 ± 0.32 ^a	3.16 ± 0.53 ^a	3.18 ± 0.45 ^a

Values of each row correspond to the mean value of five independent determinations (five avocados) ± standard error (n = 5). Different lowercase superscript letters in the same row indicate significant differences (p < 0.05) determined by a Tukey test. (*) Correspond to ready to eat fruit (edible ripeness) subjected to ripening at shelf life conditions after 10, 20 and 30 days of cold storage.

Supplementary Table S2: Specific polyphenol oxidase activity, lipoxygenase and TBARS values in avocado var Hass stored for 10, 20 and 30 at 7°C and at their respective shelf maturity

Antioxidant system/antioxidants	Initial	Cold storage			Shelf life – Edible ripeness		
		10 d	20d	30d	10d*	20d*	30d*
Polyphenol oxidase specific activity (U/mg protein)	7.97 ± 2.48 ^a	10.96 ± 2.67 ^a	11.62 ± 4.45 ^a	25.76 ± 6.93 ^b	34.39 ± 8.40 ^b	26.00 ± 5.70 ^b	23.75 ± 6.75 ^b
Lipoxygenase specific activity (U/mg protein)	0.27 ± 0.18 ^{ab}	0.14 ± 0.06 ^a	0.18 ± 0.02 ^a	0.25 ± 0.06 ^{ab}	0.14 ± 0.12 ^a	0.25 ± 0.09 ^{ab}	0.25 ± 0.03 ^{ab}
TBARS (mg MDA/kg)	4.84 ± 0.43 ^a	4.89 ± 0.45 ^{ab}	5.78 ± 0.40 ^{ab}	5.66 ± 0.62 ^{ab}	7.18 ± 0.59 ^c	6.06 ± 0.96 ^{bc}	8.62 ± 0.53 ^d
Browning (%)	N.D.	N.D	N.D	N.D	0.76 ± 0.89	4.13 ± 1.69	5.11 ± 2.62

Values of each row correspond to the mean value of five independent determinations (five avocados) ± standard error (n = 5). Different lowercase superscript letters in the same row indicate significant differences (p < 0.05) determined by a Tukey test. ND = Not detected. (*) Correspond to ready to eat fruit (edible ripeness) subjected to ripening at shelf-life conditions after 10, 20 and 30 days of cold storage.

Supplementary Table S3: Pearson correlations (r) between evaluated tests

	SOD	CAT	POD	TPC	TC	α - Tocopherol	β - Tocopherol	γ - Tocopherol	PPO	LOX	TBARS	H- AOX	L- AOX	Browning
SOD	1													
CAT	-0.3789	1												
POD	0.6966	-0.6072	1											
TPC	-0.2739	0.2495	-0.3233	1										
TC	-0.2603	0.0264	-0.3707	0.1435	1									
α - Tocopherol	-0.1198	0.0735	-0.3397	0.0554	0.7825	1								
β - Tocopherol	-0.3430	0.3496	-0.5213	0.7076	0.4823	0.4834	1							
γ - Tocopherol	0.3961	-0.3501	0.2650	-0.5246	0.3138	0.4742	-0.2153	1						
PPO	-0.6275	0.1601	-0.5281	0.1635	0.3677	0.1504	0.2843	-0.2625	1					

LOX	-0.088	0.0329	-	0.3870	0.0715	0.1786	0.3429	-0.1044	-	1				
			0.0369						0.0385					
TBARS	-	0.1715	-	0.4689	0.2136	0.0616	0.3350	-0.2883	0.5685	0.0549	1			
	0.5636		0.5706											
H-AOX	0.1345	0.0376	0.1148	0.6404	0.0902	0.0667	0.5422	-0.2918	-	0.2302	-0.0679	1		
									0.0292					
L-AOX	0.4941	-	0.3775	-	0.1654	0.2875	-0.1247	0.5300	-	0.3552	-0.3353	0.0774	1	
		0.4158		0.1641					0.2844					
Browning	-	0.3859	-	0.5587	0.0173	-0.1637	0.3858	-0.4925	0.4674	0.2706	0.5982	0.0034	-	1
	0.5588		0.5715										0.3277	

Where: SOD: Superoxide dismutase, CAT: catalase, POD: Peroxidase, TPC: Total phenolic compounds, TC: Total carotenoids, PPO: Polyphenol oxidase, LOX: Lipooxygenase, TBARS: substances reactive to thiobarbituric acid, H-AOX: hydrophylic antioxidant activity, L-AOX: lipophilic antioxidant activity.