

Table 1. The free AA accumulation of tender leaves at different stages under treatments in April.

	1d (µg/g FW)			7d (µg/g FW)			14d (µg/g FW)		
	Control	M S	H S	Control	M S	H S	Control	M S	H S
P-Ser	109.77a ± 9.34	123.49a ± 2.58	126.73a ± 3.69	109.41a ± 6.29	93.82ab ± 3.12	80.08b ± 4.08	98.27b ± 5.76	106.86b ± 3.26	136.45a ± 7.31
PEA	30.13a ± 2.02	27.01a ± 0.70	34.06a ± 3.00	21.57b ± 0.62	21.6b ± 0.55	58.2a ± 2.60	16.82b ± 0.03	16.47b ± 1.79	60.31a ± 3.17
Asp	338.85b ± 19.77	331.24b ± 17.31	475.05a ± 11.67	422.15b ± 10.97	467.8b ± 14.86	619.96a ± 17.48	199.65b ± 79.81	350.75b ± 27.64	617.01a ± 4.35
Thr	53.28a ± 0.67	52.31a ± 2.32	57.17a ± 0.91	43.96b ± 1.11	46.7b ± 0.63	67.79a ± 5.26	31.35b ± 3.13	33.67b ± 2.00	64.79a ± 2.86
Ser	111.55a ± 1.97	103.66b ± 0.90	97.65b ± 3.26	86.1a ± 2.67	75.09b ± 1.30	83.63a ± 2.39	84.29a ± 1.93	70.12b ± 3.89	84.98a ± 1.06
Pro	21.49a ± 1.59	19.63a ± 0.92	18.87a ± 0.99	17.64a ± 0.43	14.46b ± 0.30	17.09a ± 0.78	14.24b ± 0.08	10.24c ± 1.46	17.51a ± 0.67
Glu	863.11b ± 22.30	853.49b ± 26.72	955.45a ± 2.31	825.27c ± 11.00	864.11b ± 4.27	970.18a ± 13.34	590.51b ± 13.02	628.64b ± 37.87	875.80a ± 37.25
Gln	653a ± 25.34	579.2a ± 74.70	643.39a ± 34.68	765.39a ± 32.02	557.2b ± 8.27	525.01b ± 65.60	471.92a ± 5.59	369.12b ± 32.60	376.57b ± 10.62
Theanine	3099.67a±175.94	2897.55a±200.57	3127.52a±209.60	2661.1a ± 55.53	2405.8a ± 66.18	2746.24a±192.08	2096.92a±51.32	1955.41a±135.73	2410.45a ±200.8
α-AAA	56.31a ± 1.61	50.08a ± 1.85	51.61a ± 1.94	53.79a ± 0.49	42.59b ± 2.01	42.5b ± 0.78	58.08a ± 0.21	43.88b ± 1.99	42.29b ± 2.9
Gly	19.31a ± 0.81	18.79b ± 0.68	15.6b ± 0.05	12.27a ± 0.83	9.57b ± 0.61	8.46b ± 0.15	10.72a ± 2.14	10.03a ± 0.43	9.42a ± 0.61
Ala	92.33a ± 8.38	84.67a ± 4.35	91.81a ± 3070	82.67ab ± 2.47	80.18b ± 3.13	91.77a ± 3.10	72.03b ± 2.79	66.74b ± 2.35	93.41a ± 2.51
Cit	27.36a ± 1.51	27.42a ± 0.96	25.89a ± 0.26	29.19a ± 3.02	24.18a ± 1.15	24.62a ± 1.19	22.58ab ± 1.00	22.36b ± 1.82	27.06a ± 1.02
α-ABA	9.97a ± 0.56	9.78a ± 0.34	10.31a ± 0.45	9.00a ± 0.57	8.88a ± 0.04	9.98a ± 0.44	7.40b ± 0.14	7.41b ± 0.47	9.95a ± 0.58
Val	13.57ab ± 0.59	12.64b ± 0.50	14.82a ± 0.14	13.29b ± 0.70	13.42b ± 0.25	18.97a ± 1.98	10.86b ± 0.55	11.70b ± 0.55	18.59a ± 0.94
Cys	11.53a ± 0.99	10.75a ± 0.57	10.09a ± 0.40	12.15a ± 0.36	9.06b ± 0.22	8.81b ± 0.37	10.47a ± 0.91	8.87a ± 1.00	7.65a ± 0.33
Ile	2.74b ± 0.25	2.79b ± 0.24	3.80a ± 0.03	2.58b ± 0.41	3.57b ± 0.37	11.21a ± 2.62	1.44b ± 0.09	2.42b ± 0.26	9.26a ± 1.07
Leu	5.06a ± 0.25	4.87a ± 0.23	5.54a ± 0.17	4.48a ± 0.23	4.21a ± 0.18	7.77a ± 1.81	2.50b ± 0.26	2.87ab ± 0.52	6.77a ± 1.31
Tyr	8.52a ± 0.66	8.85a ± 0.63	9.14a ± 0.39	7.66b ± 0.61	7.91b ± 0.24	9.55a ± 0.48	5.86b ± 1.04	6.49b ± 0.40	10.62a ± 0.22
Phe	6.49a ± 0.29	6.30a ± 0.19	5.97a ± 0.27	5.42a ± 0.37	4.78a ± 0.22	4.63a ± 0.29	5.58b ± 0.37	4.69b ± 0.24	11.06a ± 5.28
β-Ala	3.40a ± 0.76	2.49a ± 0.13	3.65a ± 0.90	8.02a ± 5.63	2.09a ± 0.01	4.60a ± 1.41	1.94a ± 0.01	1.56a ± 0.12	19.62a ± 6.82

β-AiBA	4.21a ± 0.14	4.00a ± 0.14	4.37a ± 0.14	4.26a ± 0.09	4.23a ± 0.03	4.10a ± 0.10	4.48a ± 0.11	4.57a ± 0.35	5.01a ± 0.17
γ-ABA	30.42a ± 8.53	32.28a ± 5.27	35.00a ± 5.53	12.47a ± 1.58	17.04ab ± 2.49	23.78a ± 3.23	18.85a ± 3.68	20.52a ± 0.41	27.09a ± 2.08
Trp	83.67a ± 10.80	113.12a ± 9093	84.23a ± 10.93	75.14a ± 21.30	67.36a ± 9.17	75.92a ± 12.17	82.48a ± 19.73	100.62a ± 43.78	82.08a ± 11.55
Orn	105.62a ± 6.85	107.32a ± 1.97	71.84b ± 3.08	70.77a ± 5.94	54.35b ± 2.87	44.12b ± 2.39	62.76a ± 4.17	45.18b ± 1.89	40.89b ± 3.39
His	21.43a ± 2.43	21.33a ± 2.84	26.00a ± 0.71	17.37b ± 0.53	16.57b ± 0.69	28.53a ± 3.44	9.09b ± 0.08	11.55b ± 1.13	28.60a ± 1.96
Arg	283.57a ± 43.23	253.45a ± 25.91	321.67a ± 30.17	295.15b ± 33.06	249.62b ± 2.15	537.31a ± 65.56	173.86b ± 13.40	221.01b ± 19.82	600.52a ± 83.62
Total	6089.69a ± 46.89	5788.41a ± 332.47	6358.91a ± 218.89	5721.02ab ± 115.65	5210.37b ± 99.92	6229.67a ± 280.78	4164.35b ± 28.33	4165.34b ± 226.89	5731.49a ± 197.48

Letters (a, b, c) show significant differences and grouping information comparing different treatments according to one-way ANOVA and Fisher's LSD test at the 5% level. P-Ser, o-Phosphoserine; PEA, o-Phosphoethanolamine; Asp, Aspartate; Thr, Threonine; Pro, Proline; Glu, Glutamic acid; Gln, Glutamine; α-AAA, α-aminoadipic acid; Gly, Glycine; Ala, Alanine; Cit, Citrulline; α-ABA, α-Aminobutyric acid; Val, Valine; Cys, cysteine; Ile, Isoleucine; Leu, Leucine; Tyr, Tyrosine; Phe, Phenylalanine; β-Ala, β-Alanine; β-AiBA, β-Aminoisobutyric acid; γ-ABA, γ-Aminobutyric acid; Trp, Tryptophan; Orn, Ornithine; His, Histidine; Arg, Arginine.