

**Table S1.** Comparison of fatty acid contents in soybean leaves by ethephon treatment

Contents <sup>1</sup> (mg/100 g)	Treatment concentration of ethephon <sup>3</sup> (µg/mL)		
	SL1	SL2	SL3
Saturated fatty acids (SFA)			
Palmitic acid (C16:0)	212.30 ± 10.62 <sup>a</sup>	224.80 ± 16.74 <sup>a</sup>	191.20 ± 9.56 <sup>b</sup>
Stearic acid (C18:0)	65.70 ± 3.29 <sup>b</sup>	70.50 ± 4.03 <sup>a</sup>	52.70 ± 2.64 <sup>c</sup>
Arachidic acid (C20:0)	4.80 ± 0.24 <sup>b</sup>	5.30 ± 0.22 <sup>a</sup>	5.00 ± 0.25 <sup>b</sup>
Behenic acid (C22:0)	6.50 ± 0.33 <sup>c</sup>	8.50 ± 0.38 <sup>a</sup>	7.30 ± 0.37 <sup>b</sup>
Lignoceric acid (C24:0)	8.40 ± 0.42 <sup>c</sup>	10.70 ± 0.44 <sup>a</sup>	10.00 ± 0.50 <sup>b</sup>
Total	297.70	319.80	266.20
Unsaturated fatty acids (USFA)			
Palmitoleic acid (C16:1)	31.50 ± 1.57 <sup>a</sup>	32.00 ± 1.60 <sup>a</sup>	21.10 ± 1.06 <sup>b</sup>
Oleic acid (C18:1n9c)	90.00 ± 4.5 <sup>ab</sup>	87.30 ± 3.37 <sup>b</sup>	93.70 ± 4.69 <sup>a</sup>
Linoleic acid (C18:2n6c)	163.50 ± 8.18 <sup>a</sup>	167.40 ± 13.37 <sup>a</sup>	161.50 ± 8.08 <sup>a</sup>
γ-Linolenic acid (C18:3n6)	3.10 ± 0.16 <sup>a</sup>	nd <sup>2</sup>	nd
α-Linolenic acid (C18:3n3)	383.80 ± 19.19 <sup>b</sup>	419.60 ± 40.98 <sup>a</sup>	447.10 ± 22.36 <sup>a</sup>
Eicosenic acid (C20:1)	2.70 ± 0.14 <sup>b</sup>	4.10 ± 0.21 <sup>a</sup>	1.70 ± 0.09 <sup>c</sup>
Eicosatrienoic acid (C20:3n3)	1.90 ± 0.10 <sup>c</sup>	3.80 ± 0.19 <sup>a</sup>	2.90 ± 0.15 <sup>b</sup>
Nervonic acid (C24:1)	2.70 ± 0.14 <sup>b</sup>	3.70 ± 0.39 <sup>a</sup>	2.50 ± 0.13 <sup>c</sup>
Total	679.20	717.90	730.50
Total fatty acids	976.90	1037.70	996.70

<sup>1</sup> All values are presented as the mean±SD of triplicate determination. Means with different letters within a row are significantly different between sample for the same index (p < 0.05)

<sup>2</sup> nd: not detected.

<sup>3</sup> Ethephon treatments at 0 µg/mL, SL1; Ethephon treatments at 150 µg/mL, SL2; Ethephon treatments at 300 µg/mL, SL3.

**Table S2.** Comparison of free amino acid contents in soy leaves by ethephon treatment

Contents <sup>1</sup> (mg/100 g)	Treatment concentration of ethephon <sup>3</sup> (µg/mL)		
	SL1	SL2	SL3
Non-essential amino acids (NEAA)			
Taurine	7.20 ± 0.43 <sup>c</sup>	8.40 ± 0.50 <sup>b</sup>	9.20 ± 0.55 <sup>a</sup>
Urea	79.40 ± 4.76 <sup>c</sup>	158.00 ± 9.48 <sup>b</sup>	304.40 ± 18.26 <sup>a</sup>
Aspartic acid	174.20 ± 10.45 <sup>b</sup>	179.80 ± 10.79 <sup>ab</sup>	189.60 ± 11.38 <sup>a</sup>
Serine	69.20 ± 4.15 <sup>c</sup>	79.20 ± 4.75 <sup>b</sup>	132.80 ± 7.97 <sup>a</sup>
Glutamic acid	65.80 ± 3.95 <sup>c</sup>	88.00 ± 5.25 <sup>b</sup>	132.80 ± 7.97 <sup>a</sup>
Sarcosine	nd <sup>2</sup>	2.40 ± 0.14 <sup>a</sup>	nd
Aminoadipic acid	32.80 ± 1.97 <sup>c</sup>	42.80 ± 2.57 <sup>b</sup>	57.20 ± 3.34 <sup>a</sup>
Glycine	14.60 ± 0.88 <sup>c</sup>	20.60 ± 1.24 <sup>a</sup>	19.40 ± 1.16 <sup>a</sup>
Alanine	116.80 ± 7.01 <sup>a</sup>	90.60 ± 5.44 <sup>c</sup>	108.60 ± 6.52 <sup>b</sup>
Citrulline	3.60 ± 0.22 <sup>b</sup>	6.20 ± 0.37 <sup>a</sup>	6.20 ± 0.37 <sup>a</sup>
α-aminobutyric acid	6.80 ± 0.41 <sup>c</sup>	9.00 ± 0.54 <sup>b</sup>	10.40 ± 0.62 <sup>a</sup>
Cystathionine	4.40 ± 0.26 <sup>c</sup>	6.60 ± 0.40 <sup>a</sup>	5.00 ± 0.30 <sup>b</sup>
Tyrosine	52.80 ± 3.17 <sup>a</sup>	29.20 ± 1.75 <sup>c</sup>	45.80 ± 2.75 <sup>b</sup>
β-alanine	21.60 ± 1.30 <sup>a</sup>	22.80 ± 1.37 <sup>a</sup>	18.20 ± 1.09 <sup>b</sup>
β-aminoisobutyric acid	18.00±1.08	23.40 ± 1.40 <sup>a</sup>	nd
γ-aminobutyric acid	141.00±8.46 <sup>b</sup>	182.20 ± 10.93 <sup>a</sup>	182.60 ± 10.96 <sup>a</sup>
Aminoethanol	8.80±0.53 <sup>b</sup>	7.20 ± 0.43 <sup>c</sup>	10.40 ± 0.62 <sup>a</sup>
Hydroxyproline	0.80±0.05 <sup>c</sup>	1.40 ± 0.08 <sup>a</sup>	1.00 ± 0.06 <sup>b</sup>
Ornithine	1.40±0.08 <sup>c</sup>	1.60 ± 0.10 <sup>b</sup>	2.60 ± 0.16 <sup>a</sup>
1-Methylhistidine	3.20±0.19 <sup>b</sup>	5.20 ± 0.31 <sup>a</sup>	3.40 ± 0.20 <sup>b</sup>
Arginine	141.00±8.46 <sup>b</sup>	82.40 ± 4.94 <sup>c</sup>	192.00 ± 11.52 <sup>a</sup>
Total	963.40	1,047.00	1,431.60
Essential amino acids (EAA)			
Threonine	30.40 ± 1.82 <sup>c</sup>	58.60 ± 3.52 <sup>a</sup>	52.40 ± 3.14 <sup>b</sup>
Valine	115.80 ± 6.95 <sup>c</sup>	126.20 ± 7.57 <sup>b</sup>	166.40 ± 9.98 <sup>a</sup>
Methionine	11.20 ± 0.67 <sup>b</sup>	12.40 ± 0.74 <sup>a</sup>	11.00 ± 0.66 <sup>b</sup>
Isoleucine	62.20 ± 3.37 <sup>c</sup>	71.40 ± 4.28 <sup>b</sup>	82.60 ± 4.96 <sup>a</sup>
Leucine	61.40 ± 3.68 <sup>b</sup>	93.00 ± 5.58 <sup>a</sup>	95.60 ± 5.74 <sup>a</sup>
Phenylalanine	84.00 ± 5.04 <sup>c</sup>	108.60 ± 6.52 <sup>b</sup>	157.00 ± 9.42 <sup>a</sup>
Lysine	58.20 ± 3.49 <sup>b</sup>	33.20 ± 1.99 <sup>c</sup>	68.80 ± 4.13 <sup>a</sup>
Histidine	26.40 ± 1.58 <sup>b</sup>	19.40 ± 1.16 <sup>c</sup>	35.00 ± 2.10 <sup>a</sup>
Total	449.60	522.80	668.80
Total amino acids	1413.00	1569.80	2100.40

<sup>1</sup> All values are presented as the mean±SD of triplicate determination. Means with different letters within a row are significantly different between sample for the same index (p < 0.05)

<sup>2</sup> nd: not detected.

<sup>3</sup> Ethephon treatments at 0 µg/mL, SL1; Ethephon treatments at 150 µg/mL, SL2; Ethephon treatments at 300 µg/mL, SL3.