Table 1A The levels of LOD (limit of detection) and LOQ (limit of quantification) for all compounds used in experiment.

compound	LOD mg 100 g^{-1}	LOQ mg 100 g^{-1}
lutein	0.24	0.72
zeaxanthin	0.50	1.50
beta-carotene	4.00	12.00
gallic acid	99.56	298.67
chlorogenic acid	0.40	1.20
caffeic acid	0.40	1.20
p-coumaric acid	4.00	12.00
ferulic acid	1.20	3.60
quercitin-3-*O*-glucoside	17.54	52.63
kaempferol-3-*O*-glucoside	1.75	5.26
myrycetin	0.89	2.67
quercetin	2.11	6.32
quercetin-3-*O*-rutinoside	1.40	4.21
apigenin	2.22	6.67
kaempferol	1.33	4.00
chlorophyll a	4.67	14.00
chlorophyll b	14.20	42.60

Table 2A. The concentration of individual bioactive compounds (in mg 100 g^{-1} of product) in selected herbs from organic and conventional production in 2017, mean values ±standard error

bioactive compounds/experimental combination	basil		bear's garlic		marjoram		oregano		p-value
	organic	conventional	organic	conventional	organic	conventional	organic	conventional	
total polyphenols	1259.9±28.3 c	742.7±78.8 d	1791.1±19.8 b	1754.2±46.2 b	995.8±22.2 d	1222.9±26.5 c	3032.7±35.1 a	980.2±11.4 d	<0.0001
total phenolic acids	388.8±32.1 c	327.5±11.8 c	1332.0±26.6 a	1251.4±48.6 a	467.2±21.6 c	507.7±15.8 b	754.1±21.5 b	437.8±4.3 c	<0.0001
gallic acid	354.9±1.9 c	304.8±13.7 c	1227.8±26.3 a	1088.2±50.2 a	375.1±22.4 cb	431.8±15.2b	695.6±20.8 b	347.4±1.4 bc	0.0001
chlorogenic acid	4.1±0.3 c	0.8±0.0 c	101.4±0.3 a	157.4±2.5 a	1.3±0.1 c	1.3±0.1 c	8.3±0.1 b	8.4±0.7 b	<0.0001
caffeic acid	2.4±0.1d d	2.6±0.2 d	2.8±0.1 d	5.9±0.3 c	8.5±0.2 b	9.6±0.1 a	2.0±0.1 d	10.1±1.2 a	<0.0001
p-coumaric acid	20.8±0.3 d	14.7±1.2 d	N.D.	N.D.	61.9±0.7 a	48.9±1.5 b	36.3±2.4 c	54.1±1.3 a	<0.0001
ferulic acid	6.7±0.1 c	4.6±0.4 c	N.D.	N.D.	20.4±0.2 a	16.0±0.5 ab	11.8±0.8 b	17.7±0.4 a	<0.0001
total flavonoids	871.1±5.5 b	415.2±67.6 d	459.2±6.9 d	502.8±11.7 c	528.6±0.8 c	715.2±14.1 b	2278.6±13.6 a	542.4±15.5 c	<0.0001
quercetin-3-O-rutinoside	9.1±0.1 c	12.2±0.8 b	N.D.	N.D.	10.5±0.4 b	21.2±0.7 a	8.9±0.3 c	19.4±0.2 a	<0.0001
kaempferol-3-O-glucoside	6.4±0.6 d	N.D.	N.D.	N.D.	11.9±0.2 c	321.0±2.3 a	160.2±8.2 b	N.D.	<0.0001
myrycetin	N.D.	N.D.	N.D.	N.D.	116.0±1.3 a	6.9±0.5 c	48.3±0.3 b	103.6±0.3 a	<0.0001
quercetin	7.2±0.1 d	14.9±0.5 c	32.5±0.7 a	23.1±0.6 b	6.9±0.1 e	39.3±0.5 a	15.9±0.1 c	24.1±6.0 b	0.0008
quercetin-3-O-glucoside	824.6±5.7 b	359.9±61.0 d	356.8±6.5 d	427.4±10.2 c	356.1±1.1 d	324.5±11.0 d	2000.7±11.1 a	365.2±21.2 d	<0.0001
apigenin	N.D.	N.D.	69.8±0.4 a	52.3±0.9 b	N.D.	N.D.	N.D.	N.D.	<0.0001
kaempferol	23.8±0.4 b	25.0±0.4 b	N.D.	N.D.	27.3±0.01b	N.D.	44.5±0.4 a	27.9±0.4 b	<0.0001
total carotenoids	23.0±0.3 c	38.2±0.3 a	24.8±0.2 c	27.7±2.6b	24.0±0.5c	40.6±0.3 a	23.1±1.1 c	23.4±0.4 c	<0.0001
lutein	8.4±0.01 d	9.3±0.01 c	17.8±0.01 a	8.8±0.01b	9.7±0.01c	8.4±0.01 d	10.7±0.02 b	7.7±0.01 e	<0.0001
zeaxanthin	1.7±0.01 a	1.7±0.02 a	1.9±0.01 a	1.6±0.01a	1.9±0.01a	1.7±0.01 a	1.7±0.01 a	1.2±0.01 b	0.024
bata-carotene	12.8±0.1 e	12.9±0.1 e	18.5±0.1 b	30.1±2.3a	13.2±0.3d	13.1±0.2 d	15.3±0.6 b	14.5±0.3 c	<0.0001
total chlorophylls	58.0±4.1 f	83.2±4.7 e	204.6±9.3b	505.2±46.1a	120.5±5.8c	91.6±4.5 d	96.7±12.5 d	56.3±3.0 f	<0.0001
chlorophyll b	38.6±3.8 e	62.2±3.8 d	147.7±2.6 b	347.6±31.1a	83.7±5.3c	65.5±2.6 d	63.5±8.6 d	38.1±2.3 e	<0.0001
chlorophyll a	19.5±0.9 e	21.0±0.9 d	56.96.8 b	157.6±15.0a	36.8±1.0c	26.2±0.5 d	33.2±3.9 c	18.2±0.7 f	<0.0001

Data are presented as the mean ± SE with ANOVA p-value; Means in rows followed by the same letter are not significantly different at the 5% level of probability ($p<0.05$); N.S. not significant; (n) number of samples (replications), n=3 (species), n=3 (system); N.D. not detected (below LOD/LOQ)

Table 3A. The concentration of individual bioactive compounds (in mg 100 g^{-1} of product) in selected herbs from organic and conventional production in 2018, mean values ±standard error

	basil		bear's garlic		marjoram		oregano		p-value
	conventional	organic	conventional	organic	conventional	organic	conventional	organic	
total polyphenols	1255.7±33.4 c	762.0±78.0 e	1996.8±24.1 b	1939.6±53.4 b	1022.8±25.6 d	1267.1±27.4 c	3009.3±37.8 a	1003.6±9.1 d	<0.0001
total phenolic acids	436.7±36.8 d	368.2±14.2 e	1528.8±30.5 a	1436.6±55.8 a	507.2±25.0 c	559.3±17.9 c	848.9±24.3 b	476.8±4.1 d	0.0002
gallic acid	407.1±36.6 c	349.6±15.7 d	1408.4±30.2 a	1248.2±57.6 a	430.3±25.7 c	495.3±17.5 c	798.0±23.9 b	398.5±1.6 cd	0.0001
chlorogenic acid	4.6±0.4 c	N.D.	117.6±0.4 a	182.6±2.9 a	1.4±0.0 d	1.4±0.0 d	9.5±0.1 b	9.6±0.8 b	<0.0001
caffeic acid	2.4±0.1d d	2.5±0.2 d	2.7±0.1 d	5.8±0.3 c	8.4±0.2 b	9.5±0.0 a	2.0±0.0 d	10.0±1.2 a	<0.0001
p-coumaric acid	17.2±0.2 d	12.2±1.0 d	N.D.	N.D.	50.6±0.6 a	40.0±1.2 b	29.8±2.0 c	44.2±1.0 b	<0.0001
ferulic acid	5.5±0.1 d	3.8±0.3 e	N.D.	N.D.	16.6±0.2 a	13.1±0.4 b	9.6±0.7 c	14.5±0.3 ab	<0.0001
total flavonoids	819.0±5.1 b	393.8±64.6 e	468.0±6.6 d	503.0±11.1 c	515.6±0.7 c	707.8±13.3 b	2160.4±13.4 a	526.8±13.1 c	<0.0001
quercetin-3-O-rutinoside	7.3±0.1 c	9.8±0.7 b	N.D.	N.D.	8.4±0.3 c	17.1±0.6 a	7.1±0.2 c	15.6±0.0 a	<0.0001
kaempferol-3-O-glucoside	6.7±0.6	N.D.	N.D.	N.D.	12.5±0.2 c	336.5±2.4 a	168.0±8.6 b	N.D.	<0.0001
myrycetin	N.D.	N.D.	13.9±0.3 d	3.2±0.0 e	120.6±1.4 a	7.0±0.5 d	50.2±0.3 c	107.8±0.3 b	<0.0001
quercetin	8.2±0.1 d	17.2±0.7 c	37.9±0.8 a	26.9±0.7 b	7.9±0.2 d	45.8±0.6 a	18.4±0.1 c	28.0±7.0 b	0.0008
quercetin-3-O-glucoside	765.9±5.3 b	334.3±56.6 d	331.4±6.0 d	396.9±9.5 c	330.7±1.1 d	301.4±10.2 e	1858.4±10.3 a	339.2±19.7 d	<0.0001
apigenin	N.D.	N.D.	79.1±0.4 a	59.2±1.0 b	N.D.	N.D.	N.D.	N.D.	<0.0001
kaempferol	31.0±0.5 b	32.6±0.6 b	5.8±0.1 d	16.8±0.1 c	35.5±0.0 b	N.D.	58.3±0.5 a	36.3±0.5 b	<0.0001
total carotenoids	23.6±0.4 c	41.3±0.2 b	25.8±0.6 c	29.1±1.2 b	24.9±0.3 c	42.9±2.8 a	23.9±0.3 c	24.1±0.4 c	<0.0001
lutein	9.0±0.2c	10.1±0.2 b	20.3±0.2 a	9.5±0.3 c	10.5±0.3 b	9.0±0.1 c	11.8±0.4 b	8.1±0.2 d	<0.0001
zeaxanthin	1.7±0.01 a	1.9±0.01 a	1.8±0.01 a	1.6±0.01a	1.7±0.01 a	1.6±0.01 a	1.7±0.01 a	1.2±0.01b	0.027
bata-carotene	13.0±0.1 d	13.1±0.1 d	19.1±0.2 b	31.8±2.5a	13.4±0.3 d	13.2±0.2 d	15.6±0.7 c	14.8±0.3d	<0.0001
total chlorophylls	53.2±3.5 d	74.3±4.1 c	181.6±8.9b	448.7±40.9a	108.1±5.0 bc	82.3±4.1 c	87.6±11.1 c	51.4±2.6d	<0.0001
chlorophyll b	33.8±3.1 e	53.5±3.2 d	125.1±2.1 b	292.3±26.0a	71.5±4.5 c	56.2±2.2 d	54.7±7.2d	33.3±1.9e	<0.0001
chlorophyll a	19.4±0.9 d	20.8±0.9 cd	56.5±6.7 b	156.4±14.9a	36.6±1.0 b	26.0±2.0 c	33.0±3.9 b	18.1±0.7e	<0.0001

Data are presented as the mean ± SE with ANOVA p-value; Means in rows followed by the same letter are not significantly different at the 5% level of probability ($p<0.05$); N.S. not significant; (n) number of samples (replications), n=3 (species), n=3 (system); N.D. not detected (below LOD/LOQ)