

Table S1. Characteristics of the stomata in gerbera leaves after 6 weeks of *in vitro* cultivation of shoots depending on the quality of light and the concentration of BA in the medium – two-factor ANOVA analysis.

Light quality	BA (μM)	Stomata				Pore	
		Mean number	Area (μm^2)	Lenght (μm)	Width (μm)	Lenght (μm)	Width (μm)
B ¹	1	22.67±2.31 ab ²	653.72±102.06 cd	31.73±1.98 cd	26.60±3.62 d	19.46±1.36 b	10.61±1.48 c
	2.5	24.00±6.08 a-c	573.97±75.67 bc	30.18±2.47 b-d	24.96±1.59 b-d	16.95±2.09 ab	7.89±1.83 ab
	5	19.33±5.13 a	441.11±31.67 a	25.85±1.13 a	21.49±1.42 a	14.84±1.19 a	9.12±1.24 bc
RB	1	29.33±4.73 bc	578.91±196.41 b-d	28.86±5.51 a-c	25.82±4.51 cd	16.59±2.77 a	10.56±3.09 c
	2.5	27.67±5.51 a-c	457.86±51.59 ab	27.50±3.17 ab	21.51±2.07 a	14.89±1.40 a	8.25±1.33 ab
	5	31.00±2.65 bc	503.17±82.73 ab	28.73±2.99 a-c	22.84±1.89 a-c	16.28±0.85 a	7.67±1.52 ab
R	1	25.00±3.61 a-c	538.50±114.14 a-c	28.52±3.01 a-c	24.06±3.02 a-d	16.59±1.70a	9.36±1.75 bc
	2.5	26.67±6.81 a-c	534.77±76.10 a-c	28.75±2.12 a-c	23.93±2.05 a-d	15.60±1.85 a	8.93±0.72 a-c
	5	42.33±4.51 d	692.47±108.10 d	33.04±4.90 d	26.86±1.73 d	19.45± 4.52 b	13.20±2.25 d
C	1	33.67±2.08 c	481.22±61.55 ab	27.65±1.67 ab	22.63±1.79 a-c	16.97±2.02 ab	7.96±1.33 ab
	2.5	30.33±7.57 bc	478.25±52.64 ab	27.93±1.02 a-c	21.87±2.46 ab	14.95±1.30 a	7.46±1.80 ab
	5	27.33±6.66 a-c	464.23±63.22 ab	28.05±2.60 a-c	21.25±1.07 a	16.13±1.82 a	6.76±1.27 a

¹ B - 100% blue LED light (430 nm); RB - combination of red (70%) and blue (30%) LED light; R - 100% red LED light (670 nm); F1 - control, fluorescence Philips TK-D 36W/54 lamps

² Means ± standard deviations within a column followed by the same letter are not significantly different according to Duncan's multiple range test at $p \leq 0.05$.

Table S2. Data for characteristics of gerbera leaf anatomical structure after 6 weeks of *in vitro* cultivation of shoots depending on the quality of light, tissue thickness in μm .

Light quality	B ¹	RB	R	Fl
Leaf blade tissues				
Total thickness	307.2±74.3 b ²	288.4±67.3 b	235.0±74.4 a	225.4±25.9 a
Adaxial epidermis	19.7±2.8 b	14.0±3.1 a	18.9±4.7 b	18.0±4.5 b
Abaxial epidermis	15.0±2.8 b	11.2±4.4 a	14.1±3.2 b	14.4±2.7 b
Palisade mesophyll	122.4±49.8 b	140.8±66.4 b	90.2±41.5 a	78.9±20.3 a
Spongy mesophyll	150.0±39.2 b	122.4±16.7 a	111.8±38.5 a	110.4±12.6 a
Vascular bundles width	53.9±15.6 b	47.8±20.8 b	46.2±18.8 ab	37.2±7.8 a
Vascular bundles height	60.7±18.4 b	59.0±22.0 b	53.4±22.5 b	40.0±10.7 a
Petiole tissues				
Total thickness	825.9±181.6 a	912.3±63.5 b	830.7±132.9 a	879.6±89.0 b
Adaxial epidermis	44.7±10.2 b	34.8±10.6 a	37.2±7.4 a	44.2±15.5 b
Abaxial epidermis	36.2±13.0 a	35.8±13.5 a	33.5±12.3 a	48.4±11.4 b
Vascular bundles width	110.9±16.3 a	123.4±46.3 ab	126.0±39.4 ab	135.7±32.9 b
Vascular bundles height	130.6±28.6 a	134.0±22.5 a	127.4±28.3 a	168.8±36.0 b

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Table S3. Data for characteristics of gerbera leaf anatomical structure after 6 weeks of *in vitro* cultivation of shoots depending on BA concentration in the medium, tissue thickness in μm .

BA	1 ¹	2.5	5
Leaf blade tissues			
Total thickness	211.7±20.0 a ²	257.2±58.8 b	323.2±73.1 c
Adaxial epidermis	18.9±2.9 b	17.4±5.1 ab	16.8±4.8 a
Abaxial epidermis	13.9±3.1 a	13.5±3.9 a	13.7±3.9 a
Palisade mesophyll	68.5±14.1 a	104.6±38.1 b	151.1±58.0 c
Spongy mesophyll	110.3±14.1 a	119.0±32.4 a	141.6±39.4 b
Vascular bundles width	41.3±14.1 a	42.5±17.7 a	55.1±16.9 b
Vascular bundles height	44.4±17.9 a	47.5±9.6 a	67.8±23.0 b
Petiole tissues			
Total thickness	884.4±113.0 b	869.1±128.9 ab	832.9±139.4 a
Adaxial epidermis	38.3±15.8 a	38.5±9.3 a	43.8±8.9 a
Abaxial epidermis	27.6±12.8 a	41.3±8.6 b	46.5±11.7 c
Vascular bundles width	107.7±24.1 a	117.6±38.7 a	146.7±32.3 b
Vascular bundles height	144.3±25.3 a	136.1±22.3 a	140.2±47.1 a

¹ Different concentrations of 6-benzyladenine (BA): 1, 2.5 and 5 μM

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Table S4. Characteristics of gerbera leaf blade anatomical structure after 6 weeks of *in vitro* cultivation of shoots depending on the quality of light and BA concentration in the medium – two-factor ANOVA analysis; tissue thickness in μm .

Light quality	BA (μM)	Leaf blade					Vascular tissues	
		Total thickness	Epidermis		Mesophyll		Width	Height
			Adaxial	Abaxial	Palisade	Spongy		
B ¹	1	233.2±10.7 bc ²	20.0±2.8 cd	14.0±1.9 bc	85.6±8.6 ab	113.6±7.0 bc	46.8±5.6 a-c	61.9±23.7 b-d
	2.5	295.9±12.0 d	20.6±1.6 d	16.8±2.1 c	103.8±13.1 bc	154.8±17.0 de	62.2±24.1 c	50.9±11.6 a-c
	5	392.4±55.3 e	18.6±3.6 cd	14.1±3.5 bc	178.0±49.5 e	181.7±45.4 f	52.6±8.5 bc	69.3±15.9 c-e
RB	1	219.7±19.3 a-c	16.4±2.6 bc	13.3±5.1 bc	69.6±13.2 ab	120.3±19.4 bc	50.5±20.8 bc	46.9±11.1 ab
	2.5	314.8±36.6 d	13.2±0.9 ab	9.1±1.4 a	158.6±34.0 de	133.8±11.5 cd	31.5±6.3 a	48.5±9.5 ab
	5	330.8±70.9 d	12.4±3.6 a	11.3±5.2 ab	194.1±61.5 e	113.0±13.2 bc	61.4±21.3 c	81.8±22.4 e
R	1	194.3±12.0 ab	21.1±2.0 d	14.0±3.0 bc	59.9±10.5 a	99.3±12.8 b	37.4±10.6 ab	38.0±11.4 a
	2.5	179.2±11.3 a	13.9±4.0 ab	13.1±3.4 a-c	76.5±10.0 ab	75.7±6.4 a	38.9±12.0 ab	48.2±7.6 ab
	5	331.6±40.1 d	21.8±3.3 d	15.2±3.3 bc	134.3±44.6 cd	160.4±15.8 e	62.3±21.8 c	73.9±26.7 de
Fl	1	199.4±5.7 a-c	18.2±2.0 cd	14.1±2.0 bc	59.0±3.1 a	108.1±6.4 b	30.4±5.5 a	30.8±4.1 a
	2.5	238.9±28.0 c	21.6±5.5 d	14.9±3.5 bc	79.6±7.7 ab	111.7±16.5 bc	37.3±5.1 ab	42.6±9.7 ab
	5	238.0±15.8 c	14.3±2.1 ab	14.3±2.8 bc	98.0±20.4 bc	111.4±14.8 bc	44.0±6.3 a-c	46.1±11.2 ab

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Table S5. Characteristics of gerbera petiole anatomical structure after 6 weeks of *in vitro* cultivation of shoots depending on the quality of light and BA concentration in the medium – two-factor ANOVA analysis; tissue thickness in μm .

Light quality	BA (μM)	Leaf petiole			Vascular tissues	
		Total thickness	Epidermis		Width	Hight
			Adaxial	Abaxial		
B ¹	1	1025.4±109.0 e ²	41.4±6.0 bc	22.5±3.6 a	95.4±11.7 ab	146.2±18.2 bc
	2.5	662.2±38.1 a	43.7±11.4 b-d	43.7±6.7 bc	122.0±14.8 a-d	122.5±8.6 ab
	5	790.2±131.9 b	49.0±12.2 cd	42.3±13.4 bc	115.2±9.4 a-c	123.2±44.1 ab
RB	1	892.0±60.0 cd	24.1±5.8 a	20.1±3.7 a	95.7±4.4 ab	127.9±14.8 ab
	2.5	951.4±24.7 de	40.9±9.6 bc	45.0±9.2 bc	90.4±8.8 a	123.5±19.7 ab
	5	893.6±82.2 cd	39.4±7.0 bc	42.4±8.3 bc	184.1±23.4 e	150.7±24.4 bc
R	1	848.2±44.6 bc	32.6±4.0 ab	21.2±6.9 a	109.2±10.7 a-c	139.6±10.5 bc
	2.5	959.9±31.3 de	33.9±4.4 ab	34.1±6.0 b	137.2±62.6 cd	142.7±22.0 bc
	5	684.0±104.1 a	44.9±6.4 b-d	45.4±8.7 bc	131.4±26.8 b-d	99.8±27.6 a
Fl ^a	1	772.0±25.1 b	55.1±20.7 d	46.8±9.4 d	130.2±38.0 b-d	163.6±38.6 cd
	2.5	902.8±51.8 cd	35.5±8.9 ab	42.5±9.5 bc	120.9±35.7 a-d	155.6±20.7 cd
	5	963.9±23.3 de	42.0±8.2 bc	55.9±12.2 d	156.0±13.2 de	187.1±42.9 d

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Table S6. The level of photosynthetic pigments in gerbera leaves multiplied for 6 weeks under different quality of light and different concentrations of BA in the medium.

Light quality	BA (μM)	Chlorophyll <i>a</i>	Chlorophyll <i>b</i>	Carotenoids
B ¹	1	0.78±0.15 ab ²	0.26±0.06 a-c	0.22±0.04 bc
	2.5	0.61±0.07 a	0.21±0.02 a	0.17±0.02 b
	5	0.86±0.15 a-c	0.27±0.05 a-c	0.23±0.03 cd
RB	1	1.09±0.16 c	0.33±0.03 bc	0.30±0.04 e
	2.5	1.14±0.19 c	0.31±0.05 bc	0.31±0.05 e
	5	0.97±0.04 bc	0.30±0.03 bc	0.26±0.01 c-e
R	1	1.11±0.24 c	0.34±0.06 c	0.31±0.04 e
	2.5	1.04±0.19 bc	0.34±0.05 c	0.29±0.04 de
	5	0.94±0.07 bc	0.31±0.04 bc	0.27±0.03 c-e
Fl	1	0.91±0.01 bc	0.25±0.01 ab	0.09±0.01 a
	2.5	0.96±0.18 bc	0.28±0.06 a-c	0.11±0.04 a
	5	0.88±0.09 bc	0.26±0.04 a-c	0.08±0.02 a
Means for light quality				
B		0.75±0.16 a	0.25±0.05 a	0.21±0.03 b
RB		1.07±0.15 b	0.31±0.04 b	0.29±0.04 c
R		1.03±0.17 b	0.33±0.04 b	0.29±0.04 c
Fl		0.92±0.11 b	0.26±0.04 a	0.09±0.04 a
Means for BA				
	1	0.97±0.20 a	0.30±0.06 a	0.23±0.10 a
	2.5	0.94±0.25 a	0.29±0.06 a	0.22±0.09 a
	5	0.91±0.10 a	0.28±0.04 a	0.21±0.08 a

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